END 2014

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EDUCATION
AND
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PROCEEDINGS

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BRIEF CONTENTS

FOREWORD

Dear Colleagues,

We welcome you to the International Conference on Education and New Developments 2014, taking place in Madrid, Spain, from 28 to 30 of June, 2014.

Education, as an important right in our contemporary world, began since we exist. Knowledge and skills were passed by adults to the young, and cultures began to extend their experiences through various forms. Schools and academies were formed since the most ancient civilizations. Although between innumerous difficulties, these experiences were capable to teach us how to develop better formative effects and to turn education a generalized and global right. Formal education and other educational practices are used by all of us in the constitution of the human being, in the way one thinks, feels and acts. One of the most important contributions resides in what and how we learn through the improvement of educational processes, both in formal and informal settings.

This international conference seeks to provide explore the processes, actions, challenges and outcomes of learning, teaching and human development. Our goal is to offer a worldwide connection between teachers, students, researchers and lecturers, from a wide range of academic fields, interested in exploring and giving their contribution in educational issues We take pride in having been able to connect and bring together academics, scholars, practitioners and others interested in a field that is fertile in new perspectives, ideas and knowledge. We counted on an extensive variety of contributors and presenters, which can supplement our view of the human essence and behavior, showing the impact of their different personal, academic and cultural experiences. This is, certainly, one of the reasons we have many nationalities and cultures represented, inspiring multi-disciplinary collaborative links, fomenting intellectual encounter and development.

END 2014 received over more 292 submissions, from 40 different countries, reviewed by a double-blind process. Submissions were prepared to take form of Oral Presentations, Posters, Virtual Presentations and Workshops. It were accepted for presentation in the conference, 83 submissions (28% acceptance rate). The conference also includes a keynote presentation from the distinguished Professor Hanna David, Tel Aviv University (Emerita), Israel, to whom we express our most gratitude.

This volume is composed by the proceedings of the International Conference on Education and New Developments (END 2014), organized by the World Institute for Advanced Research and Science (W.I.A.R.S.) and co-sponsored by the respected partners we reference in the dedicated page. This conference addressed different categories inside the Education area and papers are expected to fit broadly into one of the named themes and sub-themes. To develop the conference program we have chosen four main broad-ranging categories, which also covers different interest areas:

• In **TEACHERS AND STUDENTS**: Teachers and Staff training and education; Educational quality and standards; *Curriculum* and Pedagogy; Vocational education and Counseling; Ubiquitous and lifelong learning; Training programs and professional guidance; Teaching and learning relationship; Student affairs (learning, experiences and diversity; Extra-curricular activities; Assessment and measurements in Education.

• In **PROJECTS AND TRENDS**: Pedagogic innovations; Challenges and transformations in Education; Technology in teaching and learning; Distance Education and eLearning; Global and sustainable developments for Education; New learning and teaching models; Multicultural and (inter)cultural communications; Inclusive and Special Education; Rural and indigenous Education; Educational projects.

• In **TEACHING AND LEARNING**: Educational foundations; Research and development methodologies; Early childhood and Primary Education; Secondary Education; Higher Education; Science and technology Education; Literacy, languages and Linguistics (TESL/TEFL); Health Education; Religious Education; Sports Education.

• In **ORGANIZATIONAL ISSUES**: Educational policy and leadership; Human Resources development; Educational environment; Business, Administration, and Management in Education; Economics in Education; Institutional accreditations and rankings; International Education and Exchange programs; Equity, social justice and social change; Ethics and values; Organizational learning and change.

The proceedings contain the results of the research and developments conducted by authors who focused on what they are passionate about: to promote growth in research methods intimately related to teaching, learning and applications in Education nowadays. It includes an extensive variety of contributors and presenters, who will extend our view in exploring and giving their contribution in educational issues, by sharing with us their different personal, academic and cultural experiences.

Authors will be invited for inclusion of their extended works for InScience Press book "Education Applications & Developments".

We would like to express thanks to all the authors and participants, the members of the academic scientific committee, our sponsors and partners and, of course, to our organizing and administration team for making and putting this conference together.

Hoping to continue the collaboration in the future,

Respectfully,

Mafalda Carmo
World Institute for Advanced Research and Science (WIARS)
Conference and Program Chair

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KEYNOTE LECTURE

THE GIFTED DISABLED STUDENT IN THE REGULAR AND THE SPECIAL CLASSROOM

Professor Hanna David
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Abstract

The term "special education" is used, in most cases, for the education of children with learning disabilities, emotional problems, behavioral difficulties, severe physical limitations, or difficulties related to low cognitive abilities. "Gifted education", on the other hand, is used for educating the more able, children with high learning ability or special talents, creative children or children who had achieved highly in school-related or any other area, such as chess, music, painting, etc.

However, many gifted children belong to both categories. Some suffer from problems or irregularities not related to their giftedness, such as all kinds of learning disabilities, e.g. dyslexia, dyscalculia, dysgraphia or AD[H]D, or physical limitations, such as hearing loss, blindness, or paralysis. Some have to deal with issues directly or indirectly connected to their giftedness. For example: social acceptance has to with conforming to the class norms, speaking about subjects considered age-appropriate, or being careful not to use "high level" vocabulary. A gifted child might find it difficult to participate in activities he or she has no interest in, not expressing feeling or ideas because they might seem odd to the peers, or thinking before using any rare or unconventional word or expression. A gifted child who is bored most or even all the time in the class might adopt behaviors such as abstention from class activities, daydreaming or becoming the "class clown" and disturbing the teachers with a variety of voice-making, making jokes at others' expense or even at the teacher's. Such behaviors – not necessary a result of the child's giftedness but related to it lead, in many cases, to labelling the child as "badly adjusted", "socially misfit", "isolated", or the like.

In this keynote I intend to describe the social and the educational difficulties the gifted child has to deal with in the regular as well as in the gifted classroom and present techniques which might help overcoming them. I will present in detail four case studies, two of boys and two of girls, all gifted with either learning disabilities or emotional problems, and the successful interventions adopted until reaching reasonable results.

Brief Biography

Hanna David (née: Ehrenstein), PhD was born in Jaffa in 1952 to a father immigrating to Israel from Vienna in 1938, and Hungarian mother, a survivor of Auschwitz. The second in a 4-child family she had insisted on starting nursery school at the age of 13 months, together with her 13-months older brother, and since then showed deep interest in public speaking, making friends and initiating social intercourses; somewhat later she started reading and has not stopped since. At age 15 years she became a youth-writer of "MA'ARIV LA'NOAR" – the youth edition of the then most published daily Israeli paper, which had led her to publishing of Hebrew and English short stories, and translating to Hebrew, mainly from German. At age 18 she graduated from the Ultra-Orthodox girls' high-school in Ramat Gan and started her mathematics, physics, Hebrew literature and high-school teaching certificate studies at the Hebrew University in Jerusalem. In 1975 she received her MA from the Jewish Theological Seminary in New York, and soon afterward started her family. Hanna David received her PhD, "magna cum laude", in educational psychology (minors: didactics of mathematics and education) from Ludwig Maximilians Universität, München, She worked at the Tel Aviv University between 1976 and 2004.

Dr. David's interest in giftedness started when she was 11, with the birth of her brother who, like all males in the family, was gifted. While still in high school she became an expert of accelerated teaching for Ultra-Orthodox boys whose parents wanted them to get "secular" education in addition to the religious one they received in school. Teaching and counseling the gifted became Hanna's recognized expertise in 1995, when she started teaching the course: "the gifted child in the regular classroom" at the Talpiyot Teachers' College in Tel Aviv. Since then she has taught in 5 other high education institutions, including the MA counseling program ot the Ben Gurion University, and instructed many students in the fields of gifted education, developmental psychology, cognitive psychology and educational psychology.

In the last 20 years, Prof. David has become a popular counselor for gifted students, with or without disabilities; a known expert of gifted education in Israel and abroad, an often invited lecturer in national and international conferences and meetings; an expert evaluator for the European commission, and a prolific writer of 12 books and over 140 articles.

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Authors will be invited to propose extended contributions for
"Education Applications & Developments" - A book edited by Mafalda Carmo
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STUDENT PERCEPTION OF TEACHERS' NATIONAL COUNCIL FOR THE ACCREDITATION OF TEACHER EDUCATION AND CALIFORNIA COMMISSION ON TEACHER CREDENTIALING DISPOSITIONS

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Abstract

The purpose of this quantitative study is to identify what relationship, if any, exists between (a) teachers' perception of their own moods and behaviors that align with National Council for the Accreditation of Teacher Education's (NCATE) teaching dispositions and California Commission on Teacher Credentialing (CCTC) standards within the classroom and (b) their students' perception of teachers' moods and behaviors that align with NCATE teaching dispositions and CCTC standards within the classroom. This study focused on students in Grades 9 through 12. This study also examined whether students' academic achievement, as measured by their course grades, affects students' perception of their teachers' in-class moods and behaviors. The study gathered self-report data about (a) students' perceptions of the teacher's dispositions based on students' observations of teacher behavior in the classroom and (b) teachers' self report about their own dispositions. These dispositions are conceptually equated with teacher attitudes and are based on the NCATE dispositions. The Student Perception Survey created by the researcher was used to gauge the students' perception of particular dispositions observed within the classroom setting. The National Council for the Accreditation of Teacher Education dispositions state there are certain attitudes and behaviors teachers should use in the classroom, which align with the dispositions measured by the Student Perception Survey. This method was selected to assess the relationship between (a) the NCATE dispositions as indicated by current observable moods, attitudes, and behaviors as perceived by students, and (b) student grades. The results of the study suggest that the disposition of belief of a student's ability to learn is being accurately perceived and being displayed by the teachers in the classroom. The findings also suggest that although the students like their teachers, the students perceive that their teacher's treatment as unfair whether it be toward themselves or other students, therefore the disposition of fairness is not being accurately displayed in the classroom.

Keywords: student perception, dispositions, fairness, NCATE, belief.

1. Introduction

NCATE (2008) defines dispositions as "professional attitudes, values, and beliefs demonstrated through both verbal and non-verbal behaviors as educators interact with students, families, colleagues, and communities" (National Council for the Accreditation of Teacher Education, 2008). Those verbal and non-verbal behaviors, because of the aforementioned reasons, not to mention any personal issues that an educator might have, could possibly be factors that affect quality of teaching or quality education in the classroom (Kozol, 2007). Students may perceive teachers' verbal and non-verbal behaviors either positively or negatively, which might affect students' ability to learn. Teachers' interactions with students, therefore, affect the student's aptitude to focus on current issues, such as the concepts they are to learn or their education in general (Wong et al., 2002).

NCATE (2008) made it the responsibility of each state to create additional dispositions based on the states own laws and regulations. Therefore in 1997, California Department of Education, along with the California Commission on Teacher Credentialing, created the California Standards for the Teaching Profession (CSTP).

The purpose of these standards is to "represent a developmental, holistic view of teaching, and are intended to meet the needs of diverse teachers and students in California" (California Commission on Teacher Credentialing [CCTC], 1997, p. 3).

The problem, therefore, is if educational organizations throughout the United States are accurately evaluating teachers based on the NCATE dispositions. Furthermore, are educational organizations determining whether they are utilizing NCATE and state teaching and educational standards effectively in order to create an organization that is fair and driven by student need. More specifically, are organizations reviewing the NCATE dispositions for the teaching profession and the effectiveness of those dispositions within the classroom, with the aim of increasing the quality of education for students.

2. Objective

The purpose of this quantitative study was to identify what relationship, if any, exists between (a) teachers' perception of their own dispositions and behaviors that align with NCATE teaching dispositions and CCTC standards within the classroom, (b) their students' perception of teachers' dispositions and behaviors that align with NCATE teaching dispositions and CCTC standards within the classroom at ABC School, and (c) whether students' academic achievement, as measured by their course grades, relates to students' perception of their teachers' in-class dispositions and behaviors. This study focused on students in Grades 9 through 12 at ABC School.

3. Design

This study used a quantitative method to examine what impact, if any, teachers' dispositions have on students' academic engagement and achievement. The survey was conducted at one point in time and included teachers with 3 or more years of teaching experience and students in Grades 9 through 12. The tools that were used are the Teacher Disposition Survey and the Student Perception Survey created by the researcher to measure verbal and non-verbal representations of fairness and belief that every child can learn. Two data sources were used: self-report survey and archival data (student grades).

3.1 Research Questions
The following research questions guided the research for this study:
1. What are teachers' perceptions of their own in-class disposition at ABC School, as measured by the Teacher Disposition Survey which aligns with National Council for Accreditation of Teacher Education (NCATE) teaching dispositions and California Commission on Teacher Credentialing (CCTC) standards?
2. What are students' perceptions of their teachers' in-class disposition at ABC School, as measured by the Student Perception Survey, which aligns with NCATE teaching dispositions and CCTC Standards?
3. Is there a relationship between (a) teachers' perceptions of their own dispositions as measured by the Teacher Disposition Survey and (b) students' perception of their teacher's disposition as measured by the Student Perception Survey?
4. Is there a relationship between average students' course grades and their perceptions of teachers' dispositions as measured by the student grades from ABC School and the Student Perception Survey?

4. Methods

This was a quantitative study using the Teacher Disposition Survey and the Student Perception Survey, which was created by the researcher. The Teacher Disposition survey was created based on the two primary dispositions from the NCATE, fairness and the belief that every child can learn. This is a 32-item self-report

measure about verbal and non-verbal factors that a student may perceive or the teacher may exhibit within the classroom setting. Using the Likert scale, both surveys contain questions about fair treatment, unfair treatment, belief in the students' abilities, and student-perceived dispositions of the teacher.

The table created by the researcher shows the statements from questions 1-15, which focused on positive forms of classroom fairness, alignment with NCATE teaching dispositions, as well as alignment with the standards of the CCTC (1997) and NCATE (2008). Therefore, for this study, the Student Perception Survey and the Teacher Dispositions Survey was used to measure the extent to which both teachers' perceptions and students' perceptions of in-class teacher actions align with both CCTC Standards and NCATE teaching dispositions.

The table created by the researcher also shows the connection between the NCATE, CCTC Teaching dispositions, and the Teacher Disposition Survey and Student Perception Survey. The connection is shown in the descriptive subscales through the terms that show emotional states. The terms such as *enthusiastic, proud*, and *confident* were used to describe those demonstrated classroom dispositions and emotions that should be consistent with fairness and belief that all students can learn.

The term *fairness* was connected to terms such as *validity, ethics,* and *morality*; unfairness has been linked to injustice, dishonesty, partial or biased treatment (Davies, 2010; J. E. Helms, 2006; Kane, 2010; Xiaoming, 2010). Further studies have determined that fairness is critical to grading practices (Gordan & Fay, 2010), testing procedures (Lizzio, Wilson, & Hadaway, 2007), as well as learning and motivation (Chory-Assad, 2002).

5. Results

Research question 1. What are teachers' perceptions of their own in-class disposition at ABC School, as measured by the Teacher Disposition Survey, which aligns with NCATE teaching dispositions and CCTC Standards as measured by the 32-item Teacher Disposition Survey? The data set for this research question was drawn from the Teacher Disposition Survey created by the researcher. According to the 4 subscales, the mean scores were Fairness, $M = 4.06$, Belief $M = 4.34$, Verbal/non verbal dispositions, $M = 3.92$ and the total scale $M = 4.11$. The highest self-rated item was belief with a mean of 4.34.

The highest rated item among the teachers was item 16, "I care about my students success" ($M = 4.89$). Items 20, 21 and 23 were tied with a mean of 4.56, "I praise or otherwise give recognition to my students when they do well," "I do not allow any students to mistreat other students," and "I show my students that I care." The lowest rated items were item 13, "I treat some students unfairly" ($M = 1.89$, reversed scored) and item 10, "I sometimes find myself ignoring certain students" ($M = 2.33$).

The lowest rated subscale was perception ($M = 3.92$). This subscale included eight items. The highest rated was item 31, "I like being a teacher" ($M = 4.78$) and item 32, "I like my students" ($M = 4.78$). The lowest rated item within this subscale was item 29 ($M = 1.89$; reversed score), "I sometimes take my emotions out on students" and Item 26 ($M = 2.11$), "I tend to be angry or hostile at times."

Research question 2. What are students' perceptions of their teachers' in-class disposition at ABC School, as measured by the Student Perception Survey, which aligns with NCATE teaching dispositions and CCTC Standards? The data set for this research question was drawn from the Student Perception Survey created by the researcher. According to the 4 subscales, the mean scores were fairness, $M = 3.80$, belief $M = 3.82$, perception, $M = 3.73$ and the total scale $M = 3.79$. The highest self-rated item was belief with a mean of 3.82. There were 10 questions students answered dealing with belief that the students can learn.

The highest rated item among the students was item 10, "I believe my teacher ignores me" ($M = 4.15$.) The results show that the students agreed that with the

statement. When students perceive the Teachers are available to help them it builds positive teacher student relationships.

The lowest rated item within the Belief Subscale for Students was item 13, "I believe the teacher treats some students unfairly" (M = 3.50) and item 19, "My teacher makes sure I understand the lessons" (M = 3.63). The findings suggest that students may feel that teachers do not always take their time when addressing students or making sure the student understands the lesson.

The lowest rated subscale from the student survey was perceptions (M = 3.73). The highest rated items within the perception subscale was item 11, "I don't feel comfortable to speak in class" (M = 3.89). Also rated highly was item 30, "I like my teacher" and item 31, "my teacher seems to like being a teacher" (M = 3.87 for both). The data set suggests that the perception of the teacher is one that is positive in that the teacher is likable and they like their job. However, the data set shows that the students do not feel comfortable speaking in class.

The lowest rated item in the perception subscale was item 29; "My teacher takes his or her emotions out on students" (M = 3.29). The findings of this item suggest that some students felt the teacher displayed certain emotions in class and some did not. These emotions could have been positive or negative emotions however student could perceive them either way.

Research question 3. Is there a relationship between (a) teachers' perception of their own disposition as measured by the Teacher Disposition Survey and (b) students' perception of their teacher's disposition as measured by the Student Perception Survey? For research question 3, in addition to descriptive statistics, Pearson correlation analysis was applied to examine possible relationships between teacher's perception of their teaching dispositions and student's perception of the teachers' verbal and non-verbal behaviors and how they relate to the NCATE teaching dispositions. For scale 1, fairness showed a significant negative correlation (r = -.18, p = .001).

The findings for scale 1, fairness, suggests that although teachers perceive themselves as fair the performance of fairness toward the students may not be exhibited within the classroom. Therefore, the teacher's in-class performance of fairness does not align with NCATE or CCTC disposition of fairness.

For scale 3, perceptions, correlations showed that there was a positive significant correlation between the teacher's disposition and the student's perception of the dispositions (r = .17, p = .002). The findings suggest that the student's perception of the teacher was positive and that verbal and non-verbal behaviors are being exhibited within the classroom, which is aligned with NCATE and CCTC teaching dispositions.

Total 4 score showed that there was no significant relationship between the teacher's total score and the student's total score (r = -0.03, p = .64).

Research question 4. Is there a relationship between average students' course grades and their perceptions of teachers' dispositions as measured by the averaged students' course grades and the Student Perception Survey? For scale 1, fairness, student grades were significantly higher when they had a higher fairness score (p = 0.04), had a higher perception score (p = 0.03) and a higher total score (p = .05). When the students thought the teacher was fair, the students performed better.

Additional findings show a correlation between Grades 9 to 12 showed that students in higher grade levels produced higher student survey scores. The additional findings suggest that with age come wisdom and a more mature understanding of their role as a student in the teacher-student relationship.

6. Discussion and Conclusions

The findings imply that although they like their teachers, the students perceive teachers treatment as unfair whether it be toward themselves or other students. As

stated previously in the literature review, perception   Teven (2008) states, "Perceived caring is an interpretation of another person's communication behavior" (p. 435). If the teachers are exhibiting verbal and non-verbal behaviors that (a) are not aligned with NCATE teaching dispositions or (b) aligned with CCTC standards then students do not perceive caring. Therefore, student achievement is affected.

The findings also imply that teachers believe in their students and their abilities. The findings of this study confirm literature that certain practices exhibited by teachers in a classroom setting may affect the student's ability to achieve. For future teachers, it is imperative that current educational leaders take steps to stress not only the importance of being knowledgeable but also creating positive relationships with their students. Specific courses should be dedicated to the dispositions not just curriculum and pedagogy.

This study further supports research that advances the importance of student perception in educational practices. Efforts should be made to address the issue of fairness early in a student's educational journey to prevent further destruction of the educational system and society.

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AREAS THAT NEED TO BE IMPROVED IN PRESCHOOL TEACHER CANDIDATES' ACTIVITY PLANS FOR PRACTICUM COURSE

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Abstract

Practicum courses at the senior year of the preschool teacher training programs are essential to transfer theoretical knowledge into practice. Although the theoretical part of the preschool teacher training program applied in every education faculty in Turkey is mostly standard and prepared by the Higher Educational Council, there are differences related with the school characteristics, classroom teacher and the course advisor's expectations from the teacher candidates. In this study, daily activity plans prepared by the senior students of the preschool teacher education program from five different universities located in Ankara are analyzed by content analysis in terms of variables such as selected outcomes, activity types, materials, group activities, developmental areas focused and assessment methods. These variables not only show the instructional planning skills of the teacher candidates but also their teaching philosophy, creativity, interdisciplinary transfer and child care philosophy. It is expected that, by finding out these areas to be strengthened, both the theoretical and the practical dimensions of the teacher education will be improved.

Keywords: preschool teacher education, practicum courses, daily activity plans.

1. Introduction

The aim of this study is to analyze the daily activity plans of the teacher candidates attending the senior class of the preschool teacher education programs of different universities. Because of the unique characteristics of early childhood education such as working with young children, play based curriculum and constructivist approach, practicum experiences play a great role in the training of the preschool teacher candidates. Practicum aspect of teacher preparation is the main focus because teaching skills are mainly observed with the implication of the theoretical knowledge. Transferring the theory into practice is the main purpose of the practicum courses in teacher training programs and plays a great role in observing the practice of the prospective teachers before they begin their career. Their teaching philosophy, understanding of creativity in developing the activities, how to plan and assess the activities properly and follow children's learning and so many other qualifications of teaching emerge in the daily activity plans.

2. Method

In this qualitative study, thirty daily plans prepared by thirty preschool teacher candidates from five different universities located in Ankara are analyzed by content analysis. Regarding the purpose of the study, the themes emerged also appear to be in relation to the qualifications expected from a preschool teacher. Although none of the themes were predetermined before the analyses the themes and the sub themes were highly consistent with the analyses of the two researchers that conducted the study. The two researchers are professors in the preschool teacher education program and experts in the field therefore reliability and validity issues were also met by their independently conducted analyses of the daily plans. After their separate analysis

themes and the codes were also reviewed cooperatively in order to reach agreement. After agreeing on the codes and their reference points, similar codes were gathered under subthemes and themes accordingly.

3. Results and Discussion

Results are categorized according to the eight themes emerged from the data analysis and some quotations that refer to the related theme are given accordingly.

3.1. Problems in teaching the concepts
Issues in planning active learning
"Paint these glasses with these colorful sugar colors and draw flowers on them"
Issues in developing appropriate learning environment
Giving concepts with wrong connections or misconceptions
"Bring food and refreshment photos and let's classify them according to their tastes"

3.2. Fail to support creativity
Planning highly structured activities
"let's paint these fruits and vegetables according to their colors"
"we will make snakes with these newspapers, now make groups two by two…"
"guide the children to pick up the puppets and play the dialogs…."
Manipulating the child to get expected results
"where do we get inoculated in order not to get sick?"
"now let us find who will finish the worksheet first?"
Lack of art and drama activities

3.3. Fail to design activities to learn how to compete in a rightful way
Lack of win and win activities
"children are made to jump on their one feet and the one who jumps hıgher wins…"
Planning mostly individual activities where there is only a winner
"the play goes on till there is only one children left standing while the others are waiting at the corner.."
Planning activities that awards the expected results not the alternative endings

3.4. Unclear or unnecessary instructions and content in the activities
Not using age appropriate instructions in the plans
Using very personal or unclear statements that makes hard to understand by other reviewers
Not giving enough detail to make the activity understood by everyone
"do some activities with children about how to be more polite and kind…"
Giving unnecessary expressions that are already the teacher's responsibility
"Teacher comes and begins the day by greeting the children…"
Filling the plan with unnecessary daily routines
"after the lunch time all the children wash their hands before coming to the playground…"
"get prepared to play in the garden with children and go outside inline…"

3.5. Activities that does not match with the selected outcomes
Incompatible outcomes and activities
Expecting unrealistic outcomes

3.6. Not taking the daily plan as a whole and lack of a natural flow
Missing to have a theme that connects the activities
Not using a natural flow between the daily routines or activities

3.7. Using only one type of material or activity
Lack of planning alternative ways to reach the same outcomes
Planning activities just for one type of material or use
"making cows with papers to visualize the story…"
Repeating the same stereotyped activities more than necessary
"draw pictures after the story, playing popcorn to gather the children, painting the flowers and cut them…"

3.8. Issues about the assessment
Not age appropriate assessments
"what was the name of our play? (asking to the five and a half years old children)
"did you like the play?, did you like the story?..."
Inconsistency between the outcomes and the assessment method (outcome is related with learning and naming different tastes of food and the assessment activity is to paint the apple pictures)
Not encouraging alternative solutions or their thinking process

4. Conclusion

There are lots of other examples that refer to the emerged themes and the number of those quotations can easily be increased. Those eight themes emerged summarize the areas need to be supported and improved for better teaching skills of the teacher candidates who participated by giving their daily plans to the study. Other than the results given, having very rare parent involvement in daily plans and lack of science activities such as experiments were also other additional areas to be improved. Moreover, although the student centered activities are encouraged and the theoretical knowledge that supports is given in theoretical lessons, practicum plans that are analyzed mostly include teacher centered activities.

In conclusion, prospective teachers must learn to address the problems of practice and meet the unpredictable learning needs of the children. They should also learn from practice, as well as to learn to practice (Darling-Hammond, 2006).Teacher education programs need not only to provide teachers access to more knowledge and but also help the prospective teachers to learn how to inquire into their work. In addition, they should have the opportunity to observe both the good examples in action and learn from their practice.

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REASONS BEHIND THE SELECTION OF THE PRESCHOOL TEACHER EDUCATION AS A PROFESSION

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Abstract

Teacher candidates' motives for selecting teaching as a profession play a crucial role for their success and satisfaction in their career as it is for every profession. Selection policy of the teacher candidates to the program and the factors affecting the demand for the profession are current topics in determining the areas to be improved in teacher training system, especially for preschool teacher education programs. This study aims to identify the factors influencing prospective teachers' career choices and to reveal if their career choice perceptions change after entering the program. Data about these factors are gathered through a structured questionnaire including both close and open ended questions and analyzed descriptively by content analyses. Participants were teacher candidates from various universities who attended the Preschool Teacher Education Student Congress hosted by Baskent University.

Keywords: preschool teacher education, teacher candidates, motives for teaching profession.

1. Introduction

Motivation is what moves us to do something, including beginning a new career or initial teacher education course. Further, motivation involves energy and drive to learn, work effectively and achieve potential. It also plays a large part in the interest and enjoyment of study (Martin, 2003). The aim of this study is to determine the motives for selecting preschool teacher education programs. It is important to know the reasons affecting their career choices in order to understand the motives for selecting this profession. Perceptions and expectations about the profession are also related to their understanding about the qualifications needed to be a teacher.

In terms of teaching and teacher education, motivations may, therefore, determine what attracts individuals to teaching, how long they remain in their initial teacher education courses and subsequently the teaching profession, and the extent to which they engage with their courses and the profession.

2. Method

Data gathered through a structured questionnaire developed by the researcher which included both close-ended and open ended questions were distributed at a student congress for preschool education hosted by Baskent University (*9th Preschool Education Student Congress, 8-9 May 2014, Ankara)*.

Participants were 107 teacher candidates from 18 different universities attending the preschool teacher education program. A descriptive content analysis was conducted to classify the responses and construct the subthemes of the results. Majority of the participants were female (81) where only 26 of them were males, and they had graduated from a wide variety of high schools all over the country. Top three high schools were Vocational Teaching High-Schools, Vocational High-Schools for Girls and Anatolian High-Schools. Questions included in the questionnaire were as follows:

What was your ranking of the progra m in the list required for national universit y entrance exam?
What / who affected your ranking mostly?
What are the reasons behind your ranking?
Are you satisfied with your selection and why or why not?
Are the reasons behind your se lection ha ve changed after ente ring the program?
Can you consider teaching as a satisfying career? Why or why not?
Can you describe the requirements of being a teacher in your own words?

3. Results

Results are categorized according to the themes emerged from data analyses.

3.1. Ranking of the program

Among the 107 participants, 35 of them responded that they put the preschool teacher education program at the top of their ranking when they had the university entrance exam (higher education candidates can select 30 program they want in this required list). 19 of the participants gave the answer that they listed this program as their top three choices while 11 participants indicated that this program was their last three choices in the ranking list (Rest of them put this choice in the middle ranking of the list).

3.2. Reasons behind the ranking

The most popular answer given to this theme was to love children and feeling suitable for the profession (33) and perceiving themselves as easy to communicate with little children (21).The convenience of finding a permanent position as a teacher in the government schools and "employment guarantee" (30) were the other most frequent answers given for the motives behind their preferences (Table 1).

Other reasons were related with the comfort of the working environment, loving to take care of little children, believing the significance of this profession, and having additional score which serves as an advantage to enter the program because of the high school they graduated from. Some types of Vocational High Schools encourage their graduates to continue in related Higher Education Programs by giving additional points in the university entrance exam. In addition, some of the interesting answers were such as, " I believe I can do this job", " to be comfortable in the future years", and "easy working hours".

Table 1. Reasons behind the ranking

Perceptions	#
To love children and feeling suitable for the profession	33
Convenience of finding a permanent position	30
Perceiving themselves able- to - communicate with little children	21

On the other hand, ones who mentioned that they were influenced by someone or something when choosing the program gave the answer "parents" (24) mostly. Other interesting answers were, "a film I watched" or "my friends were planning to be a teacher too".

3.3. Satisfaction with their selection and reasons for losing their motives

This theme was the least answered one in the questionnaire (Table 2). Ones who answered were mostly described themselves as satisfied with their selection and felt positive about the education they were having (15). Participants who indicated that

they had changed their mind and felt more positive about the profession were mostly gave reasons about the change in their understanding the significance of the field and felt important for the future generations (23).

However, rest of the answers were (17) indicated that they changed their idea after entering the program. Some interesting quotations for this theme were: " not so prestigious", "not as easy as it was to find a permanent position" or " I thought it was much easier to be a preschool teacher", "there are lots of requirements and expectations from teachers", " it is a hard work to be a good teacher". In addition, there is a majority of answers showing that they were not sure or haven't decided yet (13).

Among the reasons they gave to change their mind, "low economic status of being a teacher" and "lack of respect to the preschool teachers" were the most common ones.

Table 2. Satisfaction with their selection and reasons for losing their motives

Perceptions	#
Satisfied with their selection	15
Felt more positive about the profession	23
Changed their mind in a negative way	17
Have not decided yet	13

3.4. Teaching as a career

Participants' self-perceptions about the teaching profession in general was mostly positive and indicated they felt the significance of the profession. They got aware of the requirements and the expectations from a teacher especially after entering the program and that changed their mind both in positive and negative ways. They mostly define the profession as "satisfying morally but not have the status it deserves".

4. Discussion and Conclusion

Initial or entry motivation to become a teacher is, however, just the first step in becoming a teacher. Once a teacher candidate enters an initial teacher education program, what sustains or enhances that motivation plays an important role in their success in their future career. Further, what sustains or enhances commitment to teaching in terms of the value placed on teaching as a profession and intended retention in that profession is also significant to investigate to improve the teacher education (Darling-Hammond, Chung, and Frelow, 2002)..

Research has demonstrated that not every individual is similarly motivated to teach but that there are some motivations commonly expressed by those considering a career in teaching. Findings in this study showed that multiple motivations to be teachers centered on one's love for future students, capabilities, likes and dislikes such as including their future work, working conditions and how both fit with their personal lives. Together these intrinsic and extrinsic motivations have potential implications for student teacher recruitment, retention and professional learning. Therefore, if higher education began to attract candidates to initial preschool teacher education and then to the teaching profession, it may be of value to appeal to the range of factors that attracted them to teaching as a profession and their initial or entry 'motivations to teach.

In conclusion, this study provides an understanding of what attracts those aspiring to be preschool teachers, how their motivations change after entering the program.

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106.

STUDENTS' PERCEPTIONS ABOUT PURPOSES OF ASSESSMENT

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Abstract

Measures of students' achievement are crucial in the learners' lives and since these measures are determined by teachers' assessment practices which in turn are influenced by the teachers' perceptions about assessment, the need to research teachers' and students' perceptions about assessment becomes essential. This qualitative study is part of a doctoral dissertation carried out at a Bachelor of Arts in English Language Teaching (B.A. in ELT) in Mexico that aimed at researching several aspects about assessment using a mixed mode approach. This qualitative part of the research focused on finding out Brown's (2004) perceptions about purposes of assessment of two groups of students from the last year of instruction of the four year B.A. in ELT program. Brown identified four major perceptions teachers hold which are that assessment is used to: a) improve teaching and learning, b) make schools accountable, c) make students accountable and that, d) assessment is irrelevant to the work of teachers and students. The methodology for this case study used the focus group interview to collect data. The issues of question design, standardization, sampling, number of groups, level of moderator involvement, and group size were carefully planned following Morgan (1996) suggestions. Data was analyzed using the four major perceptions as the framework for analysis. The study was successful in providing an in-depth view of the students' thinking about assessment and assessment purposes. An issue that surfaced was the need to consider a variety of indicators in addition to assessment results to judge school quality such as teacher research, the quality of the school administration, and students' performance in out of class activities (students' community projects). These participants who are studying to be teachers believed in the importance for assessment to be closely integrated with teaching and in accordance to students' needs. Interesting insights were the view of assessment as a collaborative enterprise in which the teacher's role is that of a guide and part of a team. Negative perceptions related to traditional tests and unclear teachers' assessment criteria. This research aims to contribute to the literature in the area of perceptions about assessment. It also hopes to interest higher education teachers and teacher educators in listening to the students' voices about assessment. Moreover, the study also presents information about a context that has been largely unexplored, that of a B.A. in ELT in Mexico.

Keywords: students' perceptions, perceptions about assessment, student-teachers' perceptions, purposes of assessment, focus group methodology.

1. Introduction

This study was conducted in Sonora, Mexico, a state that borders the United States. Because of its geographical situation, the citizens and the government are aware of the importance of being proficient in the English language. Although there are a number of bilingual schools, these are accessible only to those of high socio-economic status. Therefore, two language policies are being implemented by the state government education authorities to promote the study of English. The first one is an ambitious program in which English is being taught in most of the state elementary schools. And the second policy mandates that state university students enrolled in the new and revised programs must have at least an intermediate level of English (B1 from the CEFR) before receiving their degree. Therefore, the problem of not having enough teachers of English have caused that many of our students from the Bachelor of Arts in English Language Teaching (B.A. in ELT) are employed by schools as teachers of English at early stages of the program. This context has implications for this study

since the participants are students learning to be teachers but at the same time have some experience as teachers.

Teachers' perceptions about assessment influence their classroom assessment practices and these measures of student assessment have a great impact on students' lives. Brookhart (2003, p. 5) states that "Most of the information that students have about their learning—and what that means about the subject, about themselves, and about their future—comes from classroom assessment." Teachers need to be aware of their students' perceptions in this area since students' future and their identity is at stake. Moreover, investigating students' perceptions about assessment is crucial since "teachers' expertise is frequently sought and utilized in different assessment projects, but the voices of the test-takers are rarely heard" (Erickson and Gustafsson, 2005, p. 23). Although these authors refer to standardized testing, this situation also applies to classroom-based assessment where the teachers have to measure their students learning and at the same time form self-directed students capable of long life learning, as Brookhart (2004) states. Therefore, because of the great importance of assessment, there is the need to research the students of the B.A. in ELT's perceptions about assessment, particularly for two reasons. The first reason is for the teacher educators of this program to listen to their student voices and become aware of their thinking about assessment. And the second is that as some of these students are already teaching, the need to research their perceptions becomes crucial. However, as assessment is a massive area, this study limits its research to perceptions about assessment purposes based on Brown's (2004) classification.

2. Brown's (2004) Classification for Assessment Purposes

In the literature about purposes of assessment in education, researchers have identified a variety of assessment purposes. However, these purposes have been defined and interpreted in a variety of different ways. Furthermore, these purposes have different meanings, and the conceptual boundaries are not always clearly identified between either the purposes and functions of tests; or between types of tests and their uses. In considering the reasons for this apparent fuzziness, it is worth noting that much of the discussion that appears in the research studies has been at a theoretical level and until recently little empirical work had been undertaken to probe users' views of assessment purposes. One of the first studies to do this was a major questionnaire-based study of New Zealand teachers' conceptions of assessment undertaken by Brown (2004) in which four major perceptions about assessment were identified. These perceptions are that assessment: a) improves teaching and learning, b) makes students accountable for learning, c) makes schools and teachers accountable and, d) is irrelevant to the work of teachers and the life of students (p.305).

Brown's three first purposes seem to summarize Weeden, Winter and Broadfoot's (2002) understanding of the functions of assessment for learning. The diagnostic and formative functions are summarized in the *improving teaching and learning* purpose while the summative and evaluative functions seem to correspond to the *student accountability* and *school accountability* purposes, respectively. In addition, Black and Broadfoot's (1982) *diagnostic* and *reporting* purposes are also included in Brown's *improving teaching and learning*, and *making students accountable* purposes, respectively. Although, Newton (2007) warns about grouping important discrete assessment purposes into smaller categories, most of his 18 uses can also be summarized under Brown's (2004) purposes of assessment. Therefore, Brown's study and the conceptualizations of assessment around which it is based are highly relevant to the aims of the present study and will serve as basis for this research.

3. Aims and Methodology

As the study aimed to elicit in-depth information on the topic of perceptions of assessment purposes and to explore students' thinking about assessment, a qualitative

approach was used. To do this, focus groups were conducted. The focus group is defined by Powell and Single (1996, p. 499) as "a group of individuals selected and assembled by researchers to discuss and comment on, from personal experience, the topic that is the subject of the research." Gibbs (1997, p. 2) adds that focus groups are particularly effective to gain insights into "beliefs, attitudes, feelings experiences and reactions in a way which might not be feasible using other methods, for example observations, one-to-one interviewing, or questionnaire surveys." The weaknesses as well as the strengths of focus groups reside in the ability of the moderator to successfully focus the interaction to generate relevant data (Morgan, 1996). Two focus group sessions with two groups of students were organized and a handout was devised with four statements each addressing one purpose of assessment. These statements were the following: a) teachers use student assessment results as feedback to improve the process of teaching and learning, b) assessment results (grades, pass/fail) place the responsibility for learning on the students, c) assessment results are the best indicators of school quality and d) assessment is bad and unfair for the student.

3.1. Participants

The participants were ten volunteers from the eighth semester of instruction, which is the last semester of the program. The participants were five students from the morning group (Group 1) and five students from the afternoon group (Group 2). To provide anonymity, the students will be regarded as Student 1, Student 2, etc. The focus groups arrangements were designed to reflect the composition of the groups so that the students would be at ease and willing to discuss issues with each other. The participants were young adults who are already teaching as explained in the introduction section of this paper. Therefore, they are students and also student-teachers. The morning focus group consisted of four females and one male student while the afternoon group comprised three females and two male students.

3.2. Methods of data analysis

The focus groups data was audio-recorded, transcribed and analyzed using the four questions about the assessment purposes as a framework for interpretation. The focus groups were carefully planned so as to take into account the issues of standardization, sampling, number of groups, level of moderator involvement, and group size which are raised by Morgan (1996). Standardization refers to asking the same questions in order to contrast and compare findings across groups while sampling refers to selecting the right composition of subjects depending on the research aims. In this study the participants were volunteers who were chosen at random from the same classroom to avoid already set roles in groups who normally work together. The number of groups suggested is four to six. Level of moderator involvement refers to the degree of moderator control over the groups and it is related to the number of questions and timing, with more questions requiring more moderator involvement. In the case of the present study, the environment was comfortable and as the four questions were in written form, the moderator was able to be unobtrusive and neutral. The size of the group also contributed to this relaxed environment since there were five students in each group thus, making it easier for shyer students to contribute.

4. Results of the Focus-Group Sessions

4.1. Teachers use student assessment results to improve teaching and learning

Both groups were well aware of the importance of the role of feedback in improving teaching and student learning. Student 2 in Group 1 expressed "Of course teachers use the results to know what they need to improve, what the students don't understand or what they already know". Group 1 also debated whether the assessment

results were a partial measure of students' achievement as Student 4's comment suggested "it is a partial measure because not everything can be assessed with a number". In her view, using assessment results only to allocate the grade provided incomplete information because they were discussing the grades they received formed by a combination of achievement and non-achievement factors. In Group 2, the students differed as to whether some or all of the teachers used assessment results as feedback. In this regard, most of the students agreed to a certain extent that the teachers use assessment results for feedback to improve the curricula, methodology and the course content as well as to identify students' needs. The exception was Student 1 who believes that some teachers use these results just to grade.

4.2. Assessment results places the responsibility for learning on the students

The discussion of this statement provided some interesting insights into students' perceptions of their role in assessment. Students 1 and 4 thought that teachers' attitude was a factor involved in whether students felt responsible for their learning. Student 1 added students' age as another issue for taking such responsibility. Student 3 believed that the teachers had assessment criteria of their own which Student 2 implied was sometimes not made clear. Students 5 and 2 expressed that the responsibility for learning was clearly shared by the students and the teacher. In relation to Group 2, Student 2 believed that assessment results were mainly the student's responsibility and it was the teacher's role to provide an "objective" assessment. However, in the end, he agreed with the other students that the responsibility was shared by the teacher and students. What emerged from this interchange was the students' perception of assessment as a collaborative enterprise in which the teacher's role is that of a guide, helper and part of a team.

4.3. Assessment results are the best indicators of school quality

Students 1 and 2 from Group 1 agreed that assessment results were the best indicators of school quality while Group 2 completely disagreed with the statement. Both groups were conscious of the problems of only using summative assessment results as measures of school quality and identified other issues which should be taken into account. These issues were the need to include ongoing assessment, project work, research, and to consider other factors such as the school administration and out of school students' performance. In this context, it should be noted that state university students in Mexico are required to carry out what is called "social service" in the community. In this case of trainee English teachers, students in their last semesters of instruction give free English lessons to designated lower level government workers, students in rural areas and poor neighborhoods. Their perceptions about tests as unreliable measures of student knowledge and performance emerged.

4.4. Assessment is bad and unfair for the student

Students 1 and 2 disagreed with the statement while the rest of the students seemed to think that whether assessment was perceived as "bad" or "unfair" depended on teachers and students' expectations. Student 5 also thought that students needed to take a self-directive role in asking for feedback. Students 2 and 3 perceived that they had been receiving formative assessment from some of their teachers on this program when stating "we've been lucky" and were conscious that in other fields formative assessment might not be implemented. The views expressed by Student 3 reflected the perception of the students' active role in the assessment process because he was given the opportunity to change the criteria used to assess presentations and to negotiate grading schemes which were perceived as a positive practice. Group 2 also agreed that assessment was not bad or unfair, but emphasized the need for assessment to be closely integrated with teaching and of an appropriate type and level of challenge according to students' needs. If these conditions were not met, the

assessment would be unfair as when assigning a "too difficult" task, (Student 3) or "asking for an academic essay for the next day" (Student 4). The perceptions stated by Students 3 and 4 are consonant with Struyven's, Dochy's and Jansen's (2005) findings that students believe assessment is unfair when it involves an unreasonable workload.

5. Conclusion

The study was successful in finding the perceptions about assessment purposes of the participants in this study. The focus group discussions provided rich insights into these future teachers' thinking. They agreed to a certain extent with the proposition that teachers use assessment for improving teaching and learning but also perceived that some teachers only use it to assign a final grade. The students thought that the responsibility for learning should be shared by the teachers and students. A noteworthy finding concerned the school accountability purpose where both groups suggested alternative indicators for evaluating school quality such as students' performance, students' community projects, teachers' research and the quality of the administration. Although the students stated that assessment was not bad or unfair, they also expressed that assessment could be unfair when assessment was not closely integrated with teaching, unrelated to students' needs or required an unreasonable workload. This research does not intend to generalize since it is a qualitative case study, but hopes to contribute to the existing body of theory about assessment in higher education. Firstly, it provides insights into the cognitive processes of students who will be future teachers of English in relation to assessment practices. Secondly, the study provides an educational context that has been largely unexplored, that of a Bachelor of Arts in English Language Teaching in Mexico.

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A CRITIC ON MEASUREMENTS OF READING ABILITY/ASSESSMENT TOOLS AND A MODEL DESIGN FOR ASSESSMENT OF READING

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Abstract

There are many measurement tools related to reading skills. Reading scales are an important part of this measurement tools. Before treatment, many procedures of validity and reliability are made. Unfortunately only using these scales does not give enough data for evaluating reading performance. In this study we use some metacognitive reading scales for prepare a metacognitive reading form and then take Rasch's assessment and analysis. The study was conducted with a group of seventy five students and three experts took part in the evaluation students' metacognitive reading performance. Assessment model which was developed in this study leads to more reasonable and comprehensive results about student's metacognitive reading performance.

Keywords: reading skills, metacognitive reading, assessment and Rasch model.

1. Introduction

Reading is a complex activity and through movements of the eyes and voice organs. Reading is an understanding effort of mind (Özbay, 2006). Reading is very important in terms of human development and being human and society is depend on reading (Tural, 1992: 125).

Importance of reading has increased by diversification reading materials with emerging technologies and information (Çifci, 2010: 114). Many measurement tools are based on the power of reading which are used in selection and placement process (Cemiloglu, 2009: 132) and so evaluating of reading came still more important than former periods.

The most frequently applied individual skill is reading comprehension. The reading skills are being redefined several times by changing in World and society's expectations and metacognitive reading is a complex skill which is belong to advanced reader (Özbay and Bahar, 2012: 158).

Metacognitive reading involves the cognitive function and control with using a conscious way (Lucangeli and Cornoldi, 1997). Prediction, planning, inspection and evaluating are sub dimensions of metacognitive reading and metacognitive reading scales.

Many scales measure metacognitive reading but using only a scale is not enough for determining real reading performance. Because all scales assumes that answers are correct. Nevertheless, concept of answering (timing, place and physiological and psychological states) ignore when evaluating. Attitudes, personal characteristics, motivation and many other factors affect the response scale. It is evident to all that although there are many factors affect responding reading, they are not considered in evaluation.

Many statistical operations are performed to provide a –*convergent*- reality. But any operation cannot fix insincere/false answers' affect. Besides, a lot of people cannot

evaluate their performance in a healthy way. According these ideas, in this study aims to give or advise a model of assessing metacognitive reading as using Rasch's Model.

2. Design and Method

This study is concluded in three steps:
a) Preparing a metacognitive reading assessment form,
b) Implementation,
c) Evaluating.

Before the preparing a form, participants were selected. This study's participants are 75 undergraduate students who are attending Turkish education program in third class. Their ages range between 21 and 23. The number of female students is 40, the number of male students is 35. Their socio-economic status and academic achievements are similar.

Participants have already received the courses of "Reading Education" and "Turkish Teaching Methods-1" before the study.

Analyzing of measurement results two theories are referred: Classic Testing Theory and Latent Variables Theory (Berberoğlu, 1988). Rasch Analyzing Model is a kind of implementation of the Latent Variables Theory.

Rasch analysis assumes that the probability that a person will affirm an item or category within an item is a logistic function of the difference between the person's ability and the difficulty of the item, and only function of that difference (Elhan and Atakurt, 2005: 47).

Using Rasch analysis people can obtain to free of errors data besides consideration of the scorers assessment's range.

In this study to evaluate metacognitive reading skills in Rasch analysis a form is developed. This form is based on Karatay (2009)'s "A Metacognitive Awareness Inventory of Reading Strategies" (32 variables) and Bahar's "A Scale of Candidate Turkish Teacher's Reading Achievements" (23 variables).

Reliability and validity process of Karatay's scale is renewed and combined Bahar's scale after all items are converted to question. Rasch analysis form has been produced by five point Likert as "completely successful", "largely successful", "partially successful", "much less successful", and "unsuccessful". Three Turkish education experts evaluate students reading performance by this form which include 55 questions.

3. Findings

For ensure conformity of the data which is used in analysis between model, 5 % or less of standardized values should be bigger than + / - 2 or equal to 2; less than 1 % of standardized values must be 3 or bigger. (Linacre, 1993). In this study, total data's standardized values 0.047 % are bigger or equal 3; 0. 02 % are bigger than +/- 2. So it can be said that model and data conformity is formed in this study.

The most successful student is O47; most unsuccessful students is O32 in this study. Coding P2 scorer is given most scarce notes. P3 has given highest notes. But also their notes were close.

Most difficult metacognitive reading skill is M47 (judge47); most easy skill is M48(judge48).

Quality of reading activities are examined in terms of the usage levels for students metacognitive reading strategies and the standard error of the logit values are founded 0,27. Cause of the all measurements contained a certain amount of measurement error, 0,27 's a very low error.

Reliability coefficient 0.96 is at Rasch analysis. This implies that the evaluation is reliable. In addition, it has been confirmed, that there is a difference between

students' metacognitive reading strategies hypothesis (x2 = 508.9 df = 26, p = 0) with this amount.

The relevant statistical values are observed at Rasch analysis of internal and external surfaces. This is expected that both of the values 0.6 and 1.4 (Wirght, & Linacre, 1994). Relevance internal values have been valid for 37 students, three students exceeded the limit eligibility with higher performance and 35 students' performance was under the lower values.

All together results, suggest that, 38 students have no expected performance level about metacognitive reading. According to the analysis 50% of students are below the expected level. These results proved that the Rash analysis' results are more reliable and it can be said gives an outside perspective.

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REQUIREMENTS TO BE ABLE OF POSING RIGHT DIDACTIC PROBLEMS

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Abstract

Problem posing is one of the didactic competences that should master a teacher. This study wants to know the aspects which are necessary to be able of posing right didactic problems. The sample studied consists of 30 pre-service mathematics teachers. The first aim we have to clarify is what a right didactic problem is; we determine some agreed criteria reached from students' beliefs and after reading some experts' opinions. The second aim we have to seek is how and when these criteria are used effectively by the students. In order to test these purposes, we observe if there are changes in their previous ideas of what a right didactic problem is, after thinking over their characteristics. Knowledge and criteria's use to choose and create right didactic problems are two ideas related to the didactic analysis competence of teaching and learning mathematic processes and with the problem solving competence. In this study we have evaluated their problem solving and didactic analysis competences, and their relationship. All the data collected have been obtained thanks to written record tools (worksheets with tasks proposed, student productions, moodle records, class diary). We conclude they modify their previous ideas about what a right didactic problem is after establishing criteria and thinking over them. We observe that in order to improve a proposed problem the following aspects have to be considered: criteria to describe what a right didactic problem is, knowledge to solve it, a mathematical activity analysis of the solution. Despite of all students can pose problems, if they have not a good didactic analysis technique and a high degree of mathematical competence; they can't use effectively the right didactic problem criteria. We conclude the main requirements to pose right didactic problems include mathematics competence and two types of tools: descriptive tools and valuation tools. The first ones are used to detect the mathematical activity of the resolution, and the second ones can be studied from the preparation of a list of essential features.

Keywords: teacher competences, didactical suitability, posing problems, creating problems, pre-service mathematics teacher.

1. Introduction

Talking about the specific steps that lead the students to the answer is the most frequent in Problem Solving, and not talking about the analysis of the information and the mathematical resources uses which are useful to solve the problem. These resources stimulate their intuition and creativity. The mathematics teacher has to consider creating problems as an important task. Finding good questions is such important as finding their answers. Teacher's responsibility consists of organising the didactic problem situations carefully. Teacher has to be conscious about his students' knowledge: the consolidated one, the one which is in construction and the one which is coming.

2. Framework

Problem Posing is a wide concept that is usually related to the creation of a new problem. Problem Posing helps mathematical thinking and improves the achievement of mathematical basic concepts. Moreover, it generates a flexible thinking and improves the Problem Solving skill. Rowland, Huckstep and Thwaites (2003) consider

that teachers should work in developing Problem Posing competence, at least in problem statement's reformulation for adapting it to an educative purpose.

Malaspina (2011) has established some characteristics of a good problem from the didactic point of view: solution seems to be reachable; it enables the intuition of a solution or the conjecture of one; it makes easy to carry out some verifications in order to accept or reject conjectures; the resolution seems to be useful or interesting; it facilitates the establishment of mathematics connexions; it is easy to know intuitively the problem's consistence; it makes easy the use of logical relations before the mechanical algorithms applications; it makes easy the creation of new problems modifying others.

Creating problems is a complementary task of problem solving because it stimulates creativity, it contributes to precise situations, language and concepts, propositions, procedures and arguments (Mallart, 2008). For these reasons, posing problems has to be a practical activity worked by the students too. They have the opportunity of generalizing, making connexions with all of their knowledge, finding contexts and modifying situations. Other studies have found a relation between the skills of posing problems and solving them (Ellerton, 1986; Silver, Cai, 1996; Cai, Hwang, 2002; Verschaffel, Van Dooren, Chen, Stessens, 2009).

3. Methodology

The sample studied consists of 36 pre-service mathematics teachers who are studying the part of the mathematics education related to geometry.

Students have to elaborate individually a list of characteristics which describes good problems for them and they have to pose 2 problems and solve them. After reading expert's opinions (Xavier de Mello, 2000; Malaspina, 2011), the class analyzes the lists of all and distinguishes 4 groups creating a new list. With this tool, they have to review their own two problems and justify whether their problems are good or not. In case of not good problems, they have to modify them or create others in a justified way.

4. Conclusions and Prospectives

The student who is competent in doing right didactical analysis and has a list of criteria about what a good problem is, he is able to apply this list in an efficient way. If the student doesn't have a good technique to do didactical analysis and doesn't have a certain mathematical skill, in spite of having a good list of criteria, he won't be able to apply it efficiently. Because of these reasons, the main requirements to pose good problems are, in addition to mathematical skill, two kinds of tools: descriptive ones and evaluative ones. The first ones are to detect the mathematical activity that appears during the problem's resolution. The second ones can be dealt through the elaboration of the list of essential characteristics.

The experience carried out in this research, as Tichá and Hošpesová (2013) proposes, let the students be introduced in the teacher's world because they have to pose problems, modify them and evaluate the procedures of the resolutions. The tasks of creating and modifying problems can help future teachers to improve their mathematical analysis technique.

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BUILDING AFFECTIVE SCHOOL ENVIRONMENT - AN EFFECTIVE APPROACH TO PREVENTING ANTI-SOCIAL BEHAVIOURS IN ELEMENTARY SCHOOLS

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Abstract

One of the most important factors that should be fostered in a good school is students' self-esteem, as this is the key of their success further in life. Research shows that low self-esteem is often the reason for antisocial behaviours such as drug and alcohol abuse, bullying, aggressiveness, and that supporting healthy self-esteem can be a protective factor in working with youth.

The Institute For Developing Personal Quality started to implement the Building Affective School Environment (BASE) program in Slovenia in 1999. To implement the program we trained over 1.000 mentors: teachers, councelors, social and health workers etc. The program produced impressive results in increasing students responsibility and motivation for learning, improving interpersonal skills, decreasing antisocial behavior and violence in schools.

Mentors, using the program with over 20.000 pupils in Slovenia, report:
- less discipline and social problems – 47%
- improved interpersonal relationship among peers – 68%
- increased willingness for cooperation among students – 74%
- increased motivation for learning – 84%
- the school climate improved, which was followed by improvement of staff self-esteem.

The program is designed to be implemented on the school wide level and includes didactical materials for systematic work with students, parents and teachers. With over 30 years of research behind it, the program provides manuals and teaching materials for elementary and secondary school students, with supplementary materials for teachers, administrators and parents. Assessment instruments also accompany the program.

The results of the program implementation after 10 years showed improvement in all aspects of school activities: student interest in school and after school activities rose, less discipline and social problems were registered and the number of students at risk dropped for 50%; the school climate in general improved which was also followed by the improvement of staff/teachers self-esteem.

Presently this program is being implemented by mentors throughout the country. We expect to bring new information and examples of good practice to your conference.

Keywords: BASE.

1. Introduction

Parents and communities today have very different expectations for schools than they did just a few years ago. It wasn't so long ago that educators and communities accepted the fact that a high percentage of students would never finish school or continue on with their education. Today, however, schools are expected to create conditions where every child completes his education and becomes a life-long learner. Furthermore, schools are expected to achieve this objective without reducing educational standards! This means that major changes will need to be made in our schools and instructional practices.

Today's youth face a far different and far more competitive world than their parents and grandparents. With unlimited information at their fingertips and extraordinary opportunities waiting to be tapped, they must possess a body of knowledge that is both broad and deep. They must know how to think critically, to solve complex problems, to work in teams and adapt to rapidly changing technology. They must be lifelong learners to keep up with the body of knowledge which now doubles every two or three years. This requires individuals who possess healthy, high self-esteem. The major criterion for judging schools use to be based solely on the achievement level of their students. Today, however, schools are being asked to take on a much greater responsibility—creating productive citizens who achieve their full potential and contribute in positive ways to their community.

Society has always valued the qualities of initiative, self-motivation, self-confidence, self-worth, and feelings of competence, qualities essential to effective human functioning, so this is not new. What is new is that we now know that individuals are not born with those qualities—they are developed when certain conditions are established at home and at school.

Thirty-five years ago a project was initiated to create such schools—schools where students felt good enough about themselves that they were motivated to achieve their full potential rather than engage in deviant behaviors. The result was a successful model found to significantly reduce discipline problems and other deviant behaviors. This program, has now had over 15 years of research behind it and is being implemented throughout the world in a variety of countries and cultures.

This comprehensive model is designed to meet children's social and emotional needs by addressing the need for a sense of security, a sense of identity, a sense of belonging, a sense of purpose, and a sense of personal competence. Research has documented that when children's basic needs are met, there is little need to act out for attention, power, revenge or frustration. By creating schools that meet these social and emotional needs schools can reduce the incidence of truancy, discipline problems, teenage pregnancies, dropouts, drug and alcohol abuse, stress and depression and the percentage of students achieving success in school.

1.1. Sense of Security

The sense of Security is fostered by treating young people with respect and establishing environments where individuals know what is expected of them and where they feel safe and protected. This means having clear rules, regulations and expectations and enforcing them in a consistent manner without intimidating or degrading students. Students are led to understand the consequences for their actions to encourage them to take responsibility for the decisions they make. Students also identify those situations that cause them to feel fearful or insecure and brainstorm ways of dealing with those situations. This is all done in a supportive rather than a punitive environment.

1.2. Sense of Identity

The sense of Identity is stressed because we all tend to behave in ways that are consistent with how we see ourselves. Efforts to develop a positive identity require that students feel secure and accepted or loved by those adults with whom they work. They need to feel that they are worthy of respect so having a teacher, a parent or grandparent, or someone that really cares is important in developing that sense of personal significance and worth. Those who receive constant criticism or rejection tend to see themselves as not lovable and are apt to alienate or reject others before they themselves are rejected. Unfortunately, research documents that we tend to provide three times as much criticism as we do positive feedback. As a result, students find ways to criticize and put others down to bolster their own self-image. This is the basic cause of teasing, put-downs, anti-social behavior and classroom disruptions.

In the identity component students receive honest feedback based on reality to enable them to identify their strengths and weaknesses and consider how they might capitalize on their strengths. Positive recognition or praise is important, but it needs to be earned and not given out lavishly without justification. Major emphasis is given in this component to the development of communication skills by sharing personal feelings, learning how to listen, and expressing oneself effectively. The object is not to have them feel they are better than others, for that is egotism, but to achieve a realistic acceptance of themselves.

1.3. Sense of Belonging

The sense of Belonging or connectedness is the third element, for there is a basic human need to feel that we belong, to feel accepted and supported by others. This sense of belonging is of great significance since feeling rejected by others is perhaps the greatest detriment to self-esteem, especially for adolescents. We all want to feel that we belong, to feel accepted and supported by others. We need to feel that we are part of a group of peers or an organization that is larger than ourselves. Being a member of a winning team or a special organization is one way of providing this feeling. Studies of adolescents who commit violence to their classmates indicate that one common factor is that all of these individuals felt alienated from their peers. Hence, schools need to provide opportunities for students to understand and connect with others. Students need to be taught the social skills that enable them to work cooperatively and in harmony with others. Many educators have found that providing students with opportunities to be of service to others is not only a great way for them to feel valued and appreciated, but it also tends to result in higher motivation and achievement.

1.4. Sense of Purpose

The fourth element of this model involves building a sense of Purpose. Having a sense of purpose or intention comes about when one's effort is directed to what is perceived to be significant or important. Thus, young people need to see the relevance of what they are studying and direct their efforts to achieve specific goals. This has proven to be one of the major reasons for lack of student motivation and a primary reason for dropping out of school. Most have no vision of the future that they are willing to work towards. Parents and teachers can contribute to this sense of purpose by helping young people create visions of what they want to achieve or what kind of person they wish to become. It is here that parents can contribute significantly to the process by helping their children develop a set of personal values to live by. A sense of integrity develops when individuals are clear about their values and see the value of behaving in ways that are consistent with those values.

1.5. Sense of Competence

The fifth element is developing the sense of Personal Competence. This is a critical aspect of self-esteem and motivation. Personal competence comes about as individuals make progress toward their goals. Teachers can assist in this step by pointing out options and possible ways of achieving the goals that have been set and allowing students to select the means they feel would be most effective for them. As they begin to make decisions for themselves and learn how to use resources available to them to achieve their goals and successfully accomplish what they set out to do, they grow in the sense of personal competence. Throughout this process the teacher's role is to help students evaluate the choices they have made, provide encouragement, support and feedback. An important aspect of achieving feelings of personal competence is taking time to celebrate success and giving recognition to what individuals have accomplished. When they can acknowledge what they have achieved and the growth they have made individuals grow in personal effectiveness and self-esteem. This creates the opportunity to repeat the process for they are apt to feel more

secure; their sense of identity becomes more positive, and they become more open to tackle new challenges and the stimulation of worthwhile goals. They thus become more internally motivated, see multiple ways of solving problems, and become less dependent upon others to solve problems for them. They typically demonstrate more initiative in taking command and control of their lives and become self-actualized, productive individuals, able to work harmoniously with others.

2. Conclusions

Founded on these principles the BASE program has proven to be highly successful model in enabling both students and adults to achieve at remarkably high levels of functioning. Research studies have documented that schools following this model have increased attendance and academic achievement, and have reduced teenage pregnancies, drug abuse, motivated students to become lifelong learners, and reduced discipline problems by 30-50%, proving that we can make a difference in how individuals function.

Schools introducing this model need to become warm, caring inviting places to be—places where both students and staff feel supported by one another. This requires that administrators model the same kinds of behavior with staff that teachers are expected to model with their students. It cannot be achieved if the school is administrated under an atmosphere of fear and lack of respect. This then often requires training not only of the staff but of the administrator. Consultant training and classroom materials are available to facilitate this training and instruction through the Institute for Developing Personal Quality in Slovenia. Assessment instruments for students and staff can also be provided.

References

Our BASE model was presented at numerous conferences and seminars:

- January 2003 – STUDY GROUPS OF SCHOOL COUNSELORS presentations for High School Counselors in schools all over Slovenia, in cooperation with the National Education Institute
- September 2003 - TEACHERS' COMPETENCES: SELF-EVALUATION OF ONES OWN COMPETENCES, International Conference I-Probe Net, Comenius, Brdo pri Kranju, Slovenia. Our program was evaluated as the best presentation.
- April 2004 - INTERNATIONAL CONFERENCE: POVERTY AND SOCIAL EXCLUSION / INCLUSION, organized by the National Youth Burro in Portorož.
- September 2004 - SELF-EVALUATION IS A DIALOGUE, International Conference I-Probe Net, Comenius, Graz, Austria
- October 2004 - University of Rijeka, Faculty of Philosophy in Pula, Croatia: SCHOOL WITHOUT UNSUCCESSFUL PUPILS
- November 2004 - SCHOOL COUNSELING FACING THE CHALLENGES OF EUROPEN UNION, Organization of School Counselors of Slovenia, Žalec
- November 2004 - THE FUTURE OF YOUTH POLICY, National Youth Buro, Čatež
- November 2004 – National Conference of elementary school principles, Portorož, presentation of a good practice – Elementary School Beltinci, programs chosen by the Ministry of Education
- November 2004 – National Conference of secondary school principles, Portorož, presentation of a good practice – High School Kočevje; programs chosen by the Ministry of Education
- December 2004 - Conference on Primary Prevention, Poljče, Ministry of Health, Office for Drugs
- March 2005 - World Conference of the SEAL organization, Liverpool, Great Britain
- April 2005 - International Meeting of Teachers (Comenius), Viseu, Portugal
- May 2005 – 2nd International Conference on the New Role of the Teacher, LEARNING FOR THE FUTURE, Prague, CZ
- April 2006 – National seminar on SELF-ESTEEM AS A SOLUTION TO REDUCING ANTI-SOCIAL BEHAVIOURS for DUGA, Sarajevo, Bosnia

- April 2006 – National seminar on SELF-ESTEEM AS A SOLUTION TO REDUCING ANTI-SOCIAL BEHAVIOURS for the Croatian National Education Agency, Zagreb, Croatia
- June 2007 – 11th EFTC European Conference on Rehabilitation & Drug Policy, SELF-ESTEEM AS A SOLUTION TO REDUCING ANTI-SOCIAL BEHAVIOURS, Ljubljana, Slovenia

The activities and programs of our Institute were often presented in newspaper articles, radio and TV interviews. We were also invited to present our work for students at the University of Ljubljana.

GAUGING TEACHER KNOWLEDGE OF ENGLISH LEARNER PEDAGOGY IN THE ELEMENTARY SCIENCE CLASSROOM

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Abstract

This quasi-experimental study examined 4th and 5th grade teachers' knowledge of English Learner pedagogy before and after teaching an eight-week science curriculum unit. Treatment teachers taught a version of the curriculum with embedded educative curriculum features—notes to the teacher suggesting scaffolds for English learners (ELs). Comparison teachers taught the same unit but this version did not have the EL instructional features. A researcher created measure was used to gauge teachers' knowledge of EL pedagogy. Teachers who had access to the educative features learned more scaffolds for ELs and were able to apply them across a wider range of language domains (vocabulary, reading, writing, discourse).

Keywords: teacher learning, english learner, science.

1. Introduction

Understanding teachers' pedagogical knowledge about meeting the needs of English learners (ELs) has grown in focus given the rising numbers of ELs across the United States and the poor performance by this population in various subject areas, particularly science. Once considered a regional concern of gateway states, such as Arizona, California, Texas, Florida, and New York, meeting the needs of ELs has become a national concern as record growth of ELs sweeps through an increasing number of states in the South, Midwest, and Northwest (National Clearinghouse for English Language Acquisition; 2009). Georgia, for example, experienced a 246% increase in the EL population from 1997-2008, while states like Nevada, Nebraska, North Carolina and Indiana all had more than 200% increase during the same time period (Batalova & McHugh, 2010).

ELs are also among the most academically vulnerable students in schools today (Wong-Fillmore & Snow, 2000). In science achievement, in particular, English language learners score significantly below their native English-speaking peers. The 2009 National Assessment of Educational Progress data shows only 33% of fourth grade ELs scored at or above basic level for science compared with 76% of native English speakers (National Center for Educational Statistics, 2010). Moreover, this achievement gap between native speakers of ELs is persistent. The average science scores of eighth- and twelfth-graders identified as being ELs did not change significantly between 2005, 2009, and 2011, remaining markedly below those of native English speakers (National Center for Educational Statistics, 2012).

Supporting teachers in providing effective content-area instruction to ELs will undoubtedly require multi-faceted, ongoing professional development. In this paper, we share our effort to develop an instrument to gauge teachers' knowledge about meeting the needs of ELLs during science instruction. While there is significant understanding about what scaffolds support ELLs, little is known about teacher understanding of these scaffolds.

2. Literature Review

Teachers need support in developing the knowledge base required for content-area instruction. Having deep and flexible conceptual understanding in science is critical to effective teaching (Borko & Putnam, 1996). Yet, Rich and flexible conceptual understanding is not enough; teachers must have knowledge of the subject matter as well as pedagogical content knowledge—knowledge linked to how that subject is taught (Schulman 1986). Moreover, to foster learning in science for Els, teachers need to have an understanding of what serves as obstacles for Els as they attempt to access content and what might mitigate these obstacles (Bunch, 2013; Shanahan & Shea, 2012). Several instruments have been utilized to gauge teacher's knowledge of EL pedagogy.

Teemant, Wink and Tyra (2011) utilized the previously validated Standards Performance Continuum (SPC) (Doherty, Hilberg, Epaloose, & Tharp, 2002) to test the effects of coaching on elementary grade teacher use of sociocultural instructional practices. This observation instrument includes a rubric that scales the Center for Research on Education, Diversity and Excellence (CREDE) five standards for effective pedagogy (Joint Productive Activity, Language and Literacy Development, Contextualization, Challenging Activities, Instructional Conversations) found to be present in teacher practice that maximizes student achievement. One of these practices included attention to teachers' use of language.

Shanahan and Shea (2012) utilized a teacher interview to gauge scaffolding strategies implemented by teachers during science instruction. The questions probed shifts in teacher knowledge as a result of the professional development that was delivered about EL pedagogy. Teachers responded to question such questions as "Have you been able to incorporate [EL strategies] into your classroom? If so, how? If not why not? Tell me about the language learning components? What can you tell me about how language development can be integrated with science or math?" Results captured through this instrument illustrated improved understanding of not only a diverse set of strategies to support Els, but a rational as to why the strategies were important as well.

3. Methods

The current study explores how a measure that is constructed with multiple choice and open response items can add to the knowledge base of approaches to gauge teacher knowledge of EL pedagogy. Such a measure may be less time intensive than existing measures and may provide a wider picture of teacher's understanding of EL pedagogy, as they have to apply it to a scenario that is unfamiliar to them. In the following section we describe findings utilizing this measure to capture teacher learning from a curriculum with these type of educative features available.

3.1. Study Overview

The study gathered evidence of teacher learning from educative curriculum materials about EL pedagogy embedded into a science unit. Teachers of ELs at grades four and five implemented an 8-week science unit with 36 teachers implementing a curriculum with the educative features and 24 implemented the same curriculum without the features. A pre and post English Learner Pedagogy measure was administered and utilized to capture if teachers in the treatment condition acquired additional knowledge about how to address the needs of ELs than comparison teachers.

3.2. Participants

The participants in this study were 60 fourth and fifth grade teachers from districts serving a high percentage of ELs. Participation requirements included teaching a self-contained class with at least 20% ELs and agreeing to teach the science unit.

Teachers had varying degrees of experience working with ELs, but all had at least 10 years of teaching experience.

3.3. The Science Curriculum

Teachers taught a 40-session unit that included attention to science and literacy. The treatment unit included a teacher guide, a set of 9 related science books for students, investigation notebooks for students, and a kit of materials to support the firsthand investigations. The curriculum focused on important space science concepts and approaches that scientists use to learn about the universe. The features embedded in the curriculum included approaches to making the science content more accessible for ELs. In the teacher guide, the lefthand page of every two-page spread offers step-by step procedures for implementing the core instructional sequence. The righthand page of each spread includes a series of optional activities, including assessment opportunities and extension activities, and it includes a series of recommendations for implementation like accommodations for ELs.

3.4. English Learner Pedagogy Assessment (ELPA)

The ELPA measure contains 32 multiple-choice items and 24-short answer response items. To guide the development of items, we utilized the literature review previously conducted (Cervetti, Bravo, Hernandez, Duong, 2008). Both item types present teachers with a fictional 4th grade classroom scenario with diverse learners, including beginning and early advance ELs. The scenario asks teachers to assist the teacher in making the best instructional decisions for making science instruction more accessible for ELs. The assessment includes items that consider instructional supports for ELs during science lessons where ELs are required to understand science vocabulary, read, write, and talk science.

4. Results

Both teachers in the comparison and treatment condition gained in knowledge over time, $F (1, 60) = 7.07$, $p < .03$. Table 1 below illustrated these findings.

Table 1. Pre/Post Multiple Choice Teacher Knowledge

Test	Treatment		Comparison	
	Mean	SD	Mean	SD
Pre Test	14.40	.94	14.33	.70
Post Test	16.80	1.14	15.90	.85

While both groups represented gains from pre to post test, the treatment group had stronger gains than the teachers in the comparison group. Treatment and comparison group teachers began at a very similar space in terms of knowledge of EL pedagogy, but treatment teachers did learn additional scaffolds to support ELs as a result of exposure to the educative features in the curriculum materials.

5. Discussion and Conclusion

The purpose of this research was to examine teacher's pedagogical knowledge concerning meeting the needs of ELs in science and if the educative curriculum features could influence this knowledge base embedded within the science unit. The ELPA measure allowed us to capture the growth in teacher knowledge that derived from the intervention curriculum.

The treatment teachers who taught the curriculum with the educative curriculum features acquired additional knowledge of EL strategies than teachers in the comparison group. Assisting teachers with not only understanding the scaffolds that mitigate the cognitive and/or linguistic load of the science task for ELs seemed to provide "just in time" professional development for teachers and consequently made for

the EL strategy to become more salient for them. Moreover, having a rational as to why the scaffolding strategy would be particularly effective, made for more enduring understanding on the strategy for the treatment teachers. For example, in a session where students participate in a whole group share of key findings, the following EL scaffold is suggested:

> "Scaffolding Language through Linguistic Supports. Making language comprehensible for ELs is critical for the acquisition of English.The language they hear should be above their current level of English proficiency but scaffolded in particular ways. Ask yourself the following questions to be aware of how you can make your speech more accessible to ELs:
> - Do you speak slower and enunciate words when English language learners ask for clarification?
> - Do you decrease your use of idioms when speaking to beginning level English language learners?
> - Do you provide appropriate wait time for EL response?

Such reminders to teachers helped them reconsider their language use in a heavily teacher directed science session. The treatment teachers also possessed knowledge of a wider range of scaffolding strategies than the comparison teachers. The comparison teachers were likely to call on strategies that utilized materials or tools such as graphic organizers, videos and kinesthetic activities. The treatment teachers constructed response items that varied strategy use. One treatment teacher states the following after given the scenario that Mai, one of the students in class, is having trouble comprehending the text they have read:

> "Ms. Hansen can front load the activity by giving Mai lots of background material. Graphic organizers can help Mai keep track of what planets are and let Mai discover if Pluto meets the criteria. Mai needs to practice her ideas in a safe setting to lower the apprehension she may feel about talking to her peers."

In this response, the treatment teacher gives varied strategies to support Mai and the strategies range in the various scaffolding strategies that have been found effective for ELs, including the visual representation of concepts and considerations for affect. While the treatment teachers did perform better on the measure than the comparison classroom, it was clear that there were some challenges teachers in both groups faced. The strategy of utilizing the students' native language and building independent language/concept learning was not as accessible for teachers. Moreover, teachers seemed to have stronger knowledge of which scaffolds best addressed the needs of ELs when it came to vocabulary and reading, less so was the case for writing and discourse. We posit a progress variable in teacher knowledge that unfolds in some fashion similar to the figure below.

Figure 2. Progress Variables: English Learner Pedagogy
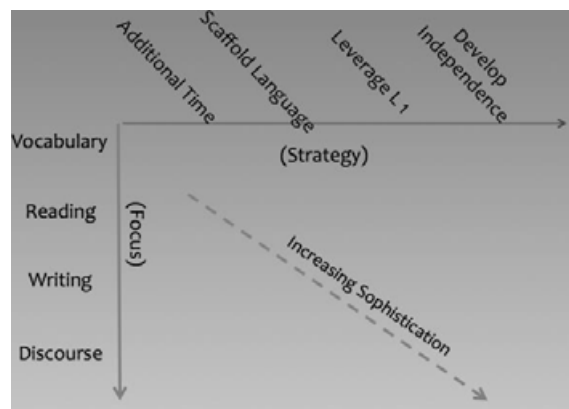
It is not surprising that the teachers in the current study varied in their knowledge base of EL instructional strategies. Researchers found that teachers' decisions about whether and how to implement EL instructional suggestions were shaped by personal and contextual factors, such as teachers' knowledge of ELs' native language (Lee, Maertin-Rivera, Penfield, LeRoy & Secada, 2008) and feelings of efficacy in teaching ELs (Jimenez-Silva, Olson, Jimenez-Hernandez, 2012), as well as administrative support (Gándara, Maxwell-Jolly & Driscoll 2005).

Considerations for future research based on the current study results suggest a need for studying the impact of face-to-face professional development for teachers in comparison to the educative feature approach to professional development taken. ELs are likely to be enrolled in classrooms where teachers receive little support to meet their needs (Gándara et al., 2005). The "just in time" version of professional development may be helpful for developing teacher's knowledge base of EL pedagogy. This may prove especially helpful for teacher in new states where the EL population is on the rise.

A key finding from the study was the documentation of a progression of teacher knowledge of the various types of EL scaffolds—Providing Additional Time→Scaffolding Language→Leveraging ELs Primary Language→Developing Independence. Similarly, it is clear that certain language domains are easier to scaffold for than others—Vocabulary→Reading→Writing→Discourse. Discourse scaffolds were more difficult than all other domains. This may offer evidence for a focus of EL professional development that is offered to teachers of ELs.

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IMPACT OF JOURNALISM EDUCATIONS ON MEDIA PERFORMANCE AND JOURNALISM PRACTICE IN TAIWAN

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Abstract

While there has been considerable debate throughout the country about the journalism profession focused on the education and training of journalists (Denies & Merriall, 1991), it is a topic rarely researched. Educators within the academic community argue that media performance and journalistic practice are the key criteria to properly prepare students to fulfill the professional journalist's role, and as such insist that this preparation come primarily from journalism education. In this paper, we examine the extent which the educators' role is considered essential in journalism education, and how this role affects students' actual media performance and practice. Several salient points are presented for analyzing journalism education programs to identify key issues of debate on the performance of professional journalists and their effect on educators' attitudes/opinions.

The research was conducted qualitatively with journalists and educators through interviews designed to investigate how media performance and journalistic practice are affected by teachers' attitudes/ opinions—and in which ways. The study results revealed that an individual educator's attitudes and opinions on news concepts such as "news public," "news value," and "news ethics" in current media environments has a major impact on students' views towards these concepts. The findings also present a general outline of factors that influence educators' impact on journalism education (rather than practical skills training) in Taiwan's competitive journalism media landscape.

Keywords: journalism education, journalism profession, educator, teaching, learning.

1. Introduction

The research was conducted qualitatively with journalists and educators through interviews designed to investigate how media performance and journalistic practice are affected by teachers' attitudes/ opinions—and in which ways. We selected and interviewed four professors from two universities who are teaching journalism at two universities. One university, based in northern Taiwan, is ranked number one in journalism; the other is a private university located in south Taiwan. Each university provided two educators for a total of four educators. These four journalism educators each represented an area of media expertise: print, TV, radio, and Internet.

We next selected and interviewed four working journalists who were taught by the four educators from these two universities. The four Taiwanese journalists currently work in their respective areas of media expertise: print, TV, radio, and Internet. Using qualitative analysis, we identified the correlation between educator and journalists (who were taught by these educators) in the importance of educators' attitudes and opinions (along with their impact on media performance and journalistic practices) towards journalism education in Taiwan.

This study results are thus revealed that an individual educator's attitudes and opinions on news concepts such as "news public," "news value," and "news ethics" in current media environments has a major impact on students' views towards these concepts. The findings also present a general outline of factors that influence educators'

impact on journalism education (rather than practical skills training) in Taiwan's competitive journalism media landscape. In this paper, we proposed to examine the extent which the educators' role is considered essential in journalism education, and how this role affects students' actual media performance and practice. Several salient points are presented for analyzing journalism education programs to identify key issues of debate on the performance of professional journalists and their effect on educators' attitudes/opinions or others related on education in Taiwan.

1.1. Role of Journalist in Taiwan Media Environment

Taiwan's media environment had changed dramatically in recent years in concert with the country's political and cultural liberalization. Taiwan now grapples with many of the resulting free press related problems faced by other developing countries in the digital age, including an oversaturation of content of questionable quality. According to the Educational Fubon Fund and Hiroshi Advertising Yearbook, Taiwan's media consumption is 0.3 hours per day for print newspapers and magazines, 2.3 hours per day for Internet, and 3.7 hours per day for TV (Sources: Educational Fubon Fund, 2009; Hiroshi Advertising Yearbook, 2010). The debate criticizing news content has engulfed growing audiences both among the general public as well as academia. This debate has focused on how media monopolies have resulted in less programming content variety as well as lower quality in professional journalist performance. Taiwan's ranking of 47 among 200 countries in journalistic freedom (Reporter Without Borders, 2005) is reflected in a mere 1% of Taiwanese expressing trust in their media (Central news, 2006). As a result, the journalism profession in Taiwan is now being forced to face an increasingly chaotic and challenging media market.

A 2006 survey of journalists showed some shocking statistics: only 5% of journalists feel their reporting is reaching their intended audience, a mere 0.9% feel their news is reported objectively, 69% feel they are reporting issues of insignificance to society, and 50% experienced the heavy hand of political influence on their reporting. Such statistics shed light on the many contradictions, dilemmas, and challenges educators face in training those who will assume the professional journalist role – one which purportedly should serve the public interest. It would appear that reforms in the education and training of journalists holds at least part of the answer to meeting the myriad of challenges educators face in improving Taiwan's journalism standards.

It would appear that reforming the system of educating and training journalists holds at least part of the answer to the challenges Taiwan's educators face in improving journalism standards.

1.2. The definition of profession journalist

Defending freedom of speech, highlighting democratic values (media democracy balloon), and presenting diverse views on controversial issues. Performing these positive pubic duties requires establishing clear standards for professional journalists in every country. Meeting the many challenges of establishing the proper skill sets for professional journalist has also evolved along with developments and advancements in print, photography, radio, and television technologies. Being able to follow, let along understand, these diverse technology trends in each country's media market is a daunting new challenge today's professional journalists now face. Coupled with this new challenge is the age-old challenge faced by professional journalists: Accomplishing objective and accurate reporting by sifting through sources to verify information indispensible to fulfilling the ethical professional journalist mission – determining what's "real" and what's of "news value" to the public. The role of professional journalist requires meeting this challenge head-on regardless of the country's cultural climate and political influences. How the

journalism profession throughout the country should best meet this challenge has been the subject of considerable debate. (Denies & Merriall, 1991).

1.3. University-based Journalism Education in Taiwan

In Taiwan's higher education, journalism departments that focus on developing and establishing training programs and qualification standards for journalists should be distinguished from media, film and communication departments. Reflecting the rapidly changing media market's impact on higher education policy, in 1991-2000, the number of communication departments increased from only one in 1994 to seven departments currently.

From Weng, Shieu-Chi's survey, it shows mass communication ranks first at 23 departments (32.9%), new communication technology ranks second at 13 departments (18.6%), journalism ranks third at 12 departments (17.1%), followed by all others at only 6 departments. (Weng, Shieu-Chi, 2001; Appendix 4) Because the lines that distinguish journalism vs. communication majors in Taiwan are somewhat blurred, with some exceptions, similar training, tools, and technologies for developing educational course content are increasingly incorporated into both curriculums. (Cushion, 2007)

1.4. Curriculum design for professional journalist

The following example provides a curriculum sample from two universities: It shows the journalism department's curriculum is more centered on journalism training for different media while in contrast, the communication department's curriculum is more diverse spanning and integrating elements of several majors including communication, media and culture. (Department of Journalism, National Chengchi University; Communication Department, Nan Hua University)

As mentioned above, in Taiwan, National Chengchi university is one of the pioneers whose curriculum design is followed by other universities, with each curriculum's degree of customization based on the institution's academic culture and educational background of its teachers. Most university teachers do in fact have a journalist background, however, journalism departments in universities located in major urban centers tend to hire current practicing journalists as teachers; this benefits students by giving them first-hand accounts of journalist practices. Although rural universities tend to be staffed with teachers who also have a journalism background, many are not current practicing journalists. As a result, teachers at rural universities generally do not have the same level of first-hand knowledge or information as their urban-based peers, although they generally do an adequate job of teaching in the classroom. Such differences in teacher training and backgrounds undoubtedly impacts both the curriculum and level of student motivation.

1.5. Educators' attitudes/opinions impact on journalism profession

Instructor attitudes are cognitively based depending on each teacher's evaluation or views of people, things, activities, and experiences. In fact, during the learning process, attitudes are often expressed by teachers and students as subjects and objects, where teacher and student behaviors mutually impact on one another. In addition, teacher attitudes towards fairness in education are subject to differing student interpretations because each student is an individual and each teacher has his/her own unique background, characteristics, experiences, and expectations.

Educators recognized the problems that commercial pressures were placing on journalistic practices, and prescribed higher standards and universal professional values for individual journalists, and a more cohesive intellectual project for journalism educators, as a solution. (Macdonald, 2007) For being an educator of journalism

professions requires not only practical technical skills like writing, editing, and news reporting, but it also requires a theoretical understanding of journalism's ethical responsibility to serve in society's best interest as a citizen journalist.

2. Method

The research was conducted qualitatively with journalists and educators through interviews designed to investigate how media performance and journalistic practice are affected by teachers' attitudes/ opinions—and in which ways. We selected and interviewed four professors from two universities who are teaching journalism at two universities. One university, based in northern Taiwan, is ranked number one in journalism; the other is a private university located in south Taiwan. Each university provided two educators for a total of four educators. These four journalism educators each represented an area of media expertise: print, TV, radio, and Internet.

We next selected and interviewed four working journalists who were taught by the four educators from these two universities. The four Taiwanese journalists currently work in their respective areas of media expertise: print, TV, radio, and Internet. Using qualitative analysis, we identified the correlation between educators and journalists (who were taught by these educators) in the importance of educators' attitudes and opinions (along with their impact on media performance and journalistic practices) towards journalism education in Taiwan.

3. Discussion & Result

Teacher impact ideology and concept of news: The definition of a professional journalist is divided into two categories. Defined first are theory and ethics based on professional values and public responsibilities. Defined second are technical skills such as writing and reporting. The findings identified here focus more fundamentally on news value and news ethics, and they correlate closely with the resulting analysis of journalism qualifications. Here, three out of four journalists interviewed agreed that journalism qualifications related to the concept or knowledge of news were clearly impacted by their teacher's attitudes/opinions.

Views of professionals on news values and instructor impact: On the other hand, ethical reformists focus on "professional values" as a stalwart against the demise of journalism as a profession. Promoting professional values such as "news ethics" is crucial in journalism education because of Taiwan's highly competitive media market. One often cited criticism of journalism training in Taiwan is that while many reporters and editors do learn about media ethics and values in their education and training, after landing a job, many lose their insistence on maintaining moral values or downplay ethic considerations when faced with the media environment's real-world pressures of intense political influence and fierce business competition. In fact, maintaining news value in the public interest in such a highly competitive media environment is not very easy and requires the utmost level of professional integrity and quality. In practice, most policies related to news value are directed by management, rather than journalists, in media organizations; this reality contradicts the core concepts of news value that many journalists have learned in class as students.

Impact of teachers on professionals' news ethics: Proponents of higher professional standards do not address fundamental problems that the media industry's profit orientation poses for promoting news value that's in the public interest. Critics have pointed out that journalism education often falls short and does a disservice to both journalists and the public by failing to equip students with professional journalist training in Taiwan is shaped by integrating cultural, political, and social forces and is influenced by a

sense of public duty and standards of ethical performance. Although autonomy, independence, and morality are words often used to describe qualities desirable in a professional journalist, unfortunately, many Taiwanese media organizations are mainly driven by market forces to focus on delivering larger and larger audiences to more and more advertisers, and this can undermine newsroom employees' sense of autonomy and independence. This reality raises serious questions about journalism education's effectiveness to strengthen and influence journalism standards in the country.

Education/curriculum impact on professional performance: Journalism education in Taiwan mainly focuses on teaching practical skills; therefore, most universities hire working journalists to teach, and this emphasis on practicality reflects both positive and negative teaching attitudes and viewpoints. The case study method is often cited as an effective teaching tool for instilling knowledge and educating students in a highly practical way. To believe that improving professional and ethical standards alone can solve journalism's current "crisis of credibility" is extremely problematic in Taiwan because this belief pays inadequate heed to relevant structural conditions. Many critics have pointed out that the ethical reformists' belief that professional standards alone can improve journalistic practices is overly idealistic. Several salient points were presented to analyze journalism education programs, to identify key issues of debate on professional journalist performance, and to identify the effect of such issues on educators' attitudes/opinions towards journalism education in Taiwan.

4. Conclusion

This study has examined the role of journalism educators in shaping media performance and practice. Educators and working journalists agree that while the attitudes and opinions of educators are certainly influential, political and business interests, and the competitiveness of the media market, may have a greater impact. As a result, journalism educators often focus on teaching practical subjects as well as the communication skills needed to influence supervisors. Journalism practice is often reshaped by an organization's corporate and supervisory culture. Educators are thus challenged to instill ethical and professional values that will sustain journalism integrity and independence, and to balance the public service mission of journalism against the forces of the market and commercialism.

The hiring of professional journalists as instructors and the use of the case study method have proved effective in teaching practical skills. Many universities now prepare students through on and off-campus internship programs that provide not only skills training tools but also connect campus classroom learning to the real media world. Undeniably, education still plays a crucial role in teaching students the basic concepts of professional journalism. All the journalists interviewed credited their teachers with relating classroom activities to the real world and shaping their perceptions of the profession, its mission, and responsibilities. However, the daily working environment and organizational culture limit the extent to which journalists can uphold the values they learned in school.

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TEACHER EDUCATION AND PROFESSIONAL DEVELOPMENT IN A PUBLIC SCHOOL SETTING

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Abstract

This manuscript presents results of a constructive-collaborative intervention-research on teachers' and administrators' formative processes in the context of a professional development program. The construction of the program proposal and its conduction occurred 'with' and 'for' teachers and administrators from a public elementary school located in a socially excluded area in the outskirts of Presidente Prudente, a mid-sized city in São Paulo State, Brazil. Sponsored by CNPq (Brazil's National Council for Scientific and Technological Development), it involved researchers from two universities (one public and one private). Researchers, schoolteachers, and school administrators got together at the school on a weekly basis to carry out proposed activities and assess results as shown in teachers' and administrators' practices, student learning, and family involvement in the school. The main data-collecting tools were written narratives, interactive conversations, and a questionnaire. In keeping with the adopted theoretical framework, this study regards teacher learning as an on-going process influenced by beliefs, conceptions, and knowledge of diverse natures. Also, teachers and school administrators are believed to need support for their professional development. Moreover, school-university partnership proposals for continued teacher education are considered most fruitful when focused on the school and the demands indicated by its teachers and administration. This article is based on the research results relating to text-production teaching and preparation of teachers and administrators to put into effect a democratic-participative mode of school administration. It highlights the teachers', school administrators', and researchers' collective construction of new professional knowledge, the importance of in-service continued education to promoting professional development, and the potential of professional development programs constructed 'with' schoolteachers and administrators for successful completion, building learning communities, and changing the school culture.

Keywords: *teacher education, professional development, text production, school administration, collaborative research.*

1. Introduction

The school is the privileged locus of education; it is thought of as a space in which rights are secured. Thus, it is vital to regard societal demands as parameters for the development of school activities. Notwithstanding, professional preparation should not be seen as capable of providing people with a fixed body of knowledge to be employed throughout their careers. It is necessary to devise and conduct basic preparation aimed at promoting professional flexibility and adaptation taking into account the challenge of overcoming inequalities.

In light of this situation, schools cannot remain stable and teach merely the basics, i.e., the 3 Rs (reading, writing, and arithmetic); they must address the preparation of citizens for life in a democratic world, for peace, and for respect and care for the environment and diversity. Moreover, students have to be prepared for life in a changing world. On the other hand, this scenario demands that teachers be citizens of the world in the sense that they should be prepared not only professionally, but personally, socially, and culturally, i.e., as contributors to social change.

Yet, teachers still have to master teaching contents and adapt what they know to their students' knowledge and development level. Teachers should be able to select the best pedagogical examples, illustrations, and resources to stimulate their students' interest. They should also know how students learn and what they've already learned in order to use this information to devise activities and materials that promote their learning and contribute to attaining goals established by the school.

Given the complexity of this task, it is fundamental that schools promote their staff's (especially teachers and administrators) continued education so as to meet and exceed the demands placed by society in general, since these stakeholders are responsible for teaching how to learn new models from new perspectives.

For this reason, we are in favor of a democratic-participative mode of school administration that:

> […] based on the organic relationship between the principal and the participation of team members. It highlights the importance of seeking common goals set by all. It advocates collective decision-making. On the other hand, once decisions are collectively made, it encourages all team members to participate in the work, allowing for coordination and systematic review of operationalization of deliberations (Libâneo, Oliveira, & Toschi, 2003, p. 325).

Several actions can be developed in democratic-participative school administration. It is important to bring together all school stakeholders when analyzing alternatives, making decisions, and bringing to fruition the most adequate solutions to challenges found in the school setting. Nevertheless, this process should take into account that:

> […] both solutions and decisions require some procedures, such as collecting data and information on the situation in question, identifying problems and their possible causes, searching for viable solutions, defining activities to be implemented, and assessing the effectiveness of adopted measures (Op. cit., 2003, p. 400).

Moreover, Libâneo and colleagues (2003) indicate that it is equally necessary to *learn research methods and procedures* that can contribute to solving school problems, which in turn result in administrators producing knowledge about their work. The steps to a research activity are:

> […] identify a problem or issue through discussion, observation or action-reflection-action practices; define ways and means of finding the required information and data, e.g., interviews, questionnaires or a literature review in order to assess whether the actions in question have produced the expected results; analyze the data to identify problems and demands, thereby supporting the action-reflection-new action process; and propose intervention actions (Op. cit., 2003, p. 401-402).

Bearing in mind this democratic-participative mode of administration, we began work at the school in question by observing the importance that the administration make decisions about problems and issues existing in the institution by bringing together the school team members to identify, analyze, reflect, decide, and implement solutions to daily challenges.

In this way, we began the construction and development of a professional development program at an elementary school in a socially excluded area in the outskirts of President Prudente, a mid-sized city in São Paulo State, Brazil. This process was supported by CNPq (Brazil's National Council for Scientific and Technological Development) and involved researchers and graduate and undergraduate students from two universities (one public and one private) and

teachers and administrators from the school in question, who got together once a week at the school to conceive and carry out proposals and assess results in process.

Firstly, we established institutional bonds and began eliciting demands from the schoolteachers and administrators. As to the teaching of Portuguese, teachers answered a questionnaire whose answers informed the development of professional preparation workshops addressing theoretical-methodological aspects with the purpose of reflecting on the teaching of a mother tongue. These workshops were conducted at the school.

We began the work with the school administrators on the topics that came up during participative planning. At first, they pointed to violence and school-family partnerships as challenges that had been indicated by the community as a whole through discussion and observation of daily school practices. From this initial diagnosis, a questionnaire was conceived and later given by the school administration, under the researchers' supervision, comprising eight open-ended questions involving the issues diagnosed initially, whose goal was to learn what each school stakeholder (students, parents, staff, faculty, and administration) knew and thought about these issues.

After collecting the data, a study group comprising representatives from each segment of the school (parents, staff, faculty, and administration) and the university (researchers and graduate and undergraduate students) was formed. The goal of this group was to chart and analyze the collected data and examine theoretical frameworks that could assist in understanding the elicited issues and in developing intervention proposals to overcome the problems identified. Participants met on a weekly basis at the school; the meetings were audiotaped or filmed and later transcribed.

We believe that the group work, regarding both Portuguese teaching and preparation of administrators and faculty, could be characterized as continued education, understood as an "extension of initial teacher education, aimed at in-service theoretical and practical professional improvement and the development of a broader general culture, in addition to professional practice" (Libâneo, 2001, p. 198).

Thus, continued education becomes an occasion for providing the participants with constant professional learning prospects, not as resulting from information accumulation, but as an opportunity to rethink their practices and construct new knowledge, a process enabled by study, reflection, discussion, and sharing of different experiences.

2. Teaching of Text-Production

This section presents conceptions of the ten participating teachers, who work with elementary school children on language, reading, text production, and textual cohesion and consistency, since these conceptions guide their teaching of reading and writing. The data presented in this article relate to responses obtained through a questionnaire containing six questions on theoretical concepts relating to the teaching of a mother tongue.

According to the concepts voiced by the majority of participants, language is a "mode of communication," a structuralist perspective (Sassure, 1969) in which language is seen as a set of symbols that combine among themselves according to some given rules to produce and transmit a message to a receptor.

Language can be defined as a "mode of communication," an "expression of thought" or a "way of interaction." These three concepts are not mutually exclusive; each concept carries its own theoretical and methodological implications.

As regards the concept of language, four subjects had already established the relationship between code and the social group that uses it to establish verbal interaction, but some still associated this concept to the writing code only.

According to Saussure (1969, p. 22), *langue* is "the social component of language, exterior to the individual, who can neither create it nor change it; it only exists in virtue of some kind of contract established among community members."

With respect to the concept of reading, most participating teachers still viewed reading as a decoding process. This perception has to be expanded since decoding without understanding is a futile and tedious activity. In this sense, Koch and Elias (2007) affirm that there are reading conceptions that may focus on the author and the text in addition to the author-text-reader interaction. Hence, each reading conception is correlated to a different conception of language, subject, and text.

Likewise, Marcuschi (2008) emphasizes that textualization is established from the author-text-reader relationship. Marcushi (2008) views the text as process and product, whose interchange involves a linguistic setting (co-textuality) and a communicative situation (contextuality).

On the whole, the concept of text expressed by these teachers is associated to content-related aspects. It is possible to notice in their answers the recurrence of terms that emphasize this content-related character; words such as *idea*, *information*, and *message* are frequently used.

On the topic of textual consistency, although it can be observed that some concepts are incomplete, the research subjects did mention the importance of the text displaying some concatenation of ideas, meaning, textual ordering, and maintenance of meaning. Some teachers did not respond and two of them emphasized the importance of grammatical structures to promoting textual consistency. In complement to their responses, it should be noted that consistency is that which provides the text with textuality and that consistency is established by a process of interaction among author, text, and reader.

As for textual cohesion, some misconceptions are noteworthy: one teacher mentioned that textual cohesion had to do with errors in verbal and nominal agreement, whereas another referred to 'textual triggering.' Two teachers did not respond. The other concepts mentioned relate to *organized ideas* and *linked ideas*. Here, too, there is a need to expand the concept; it is important that text-production teachers master textual cohesion mechanisms (semantic and syntactic connections), which structure the text and promote its consistency.

3. School Administration: Notes for Overcoming Everyday School Challenges

Working with the school administration was a unique moment; it was then that they, along with faculty, staff, parents, and researchers were able to start thinking about the diagnosis established and how best to provide all those who responded to the questionnaire with feedback and indications of intervention proposals. This led the participants to jointly draw up an educational project to overcome or mitigate two challenges brought forth at previous meetings: violence and school-family partnership.

In light of democratic participative school administration, there was an overall agreement that it was essential "to ensure participation of the entire school community, since projects imposed by the principal and/or pedagogical coordination are often not legitimized by the group and, as a result, doomed to failure" (Franco, 2009, p. 173).

The study group was important in that it enabled reflection and analysis of data collected through the questionnaire so as to coordinate the development of the educational project from proposals presented by each segment. At meetings, we experienced opportunities to rethink our practices as education professionals and as parents, constructing new knowledge by means of study, reflection, discussion, appraisal of different viewpoints, and conception of preliminary versions of the project, which was discussed, improved, and sanctioned by the school team. These meetings constituted opportunities for teamwork involving the school administration, faculty, staff, families, and university researchers and students toward the implementation of collectively made decisions.

The project comprised several actions, e.g., a theater group, indicators of action for collective living, student valorization and encouragement, continued education for everyone (faculty, administration, and staff), strengthening of school-family partnerships through dialog with the latter, family involvement in planning and assessment of school activities and actions, organization of workshops and lectures about issues indicated by parents, and supervising students' daytrips. Needless to say that challenges emerged as a result of dealing with a group so diverse, but we have worked from the standpoint of respect for differences and participation open to all group members.

4. Final Remarks

Regarding the teaching of text production the study results point to participants' lack of text production knowledge; the text is not understood as the locus for interaction between author and reader. By the same token, the conception of language that guides the participating teachers' work has a monological basis, which does not promote actions and effects of meaning amongst interlocutors, according to the communicative situation.

With regard to working with the school administration and faculty, it was observed that the following is necessary for the school to successfully perform its social function: well-prepared teachers with qualified initial and continued education, enabling them to understand clearly their goals and contents; content-specific methodology so as to provide learning conditions and enable constant evaluation, i.e., prepare and develop their teaching plans critically; collective construction of the Political-Pedagogical Project, aimed at decentralizing and democratizing the process of making pedagogical, legal, and organizational decisions; search for increased participation of school stakeholders; significant role of school principal and coordinators in promoting collective and collaborative work; availability of adequate working conditions so that all school personnel can perform their tasks successfully; democratic administration, enabling participation of the community in school activities and actions, among others.

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EDUCATING FOR INCLUSION AND DIVERSITY. TEACHERS' ATTITUDES AND CULTURAL REPRESENTATIONS ABOUT HOMOSEXUALITY

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Abstract

School is a cultural, symbolic and relational context characterized by several cultural patterns of diversity and inclusion. The Italian cultural context is characterized by a long tradition of educational policies and legislations in support of diversity in school (eg. Laws on school integration in 1977, the closing of special schools and special classes, starting from 1971). However, despite the Italian educational system has a feeling for the diversity and the inclusion, homosexuality in school is still a very thorny and controversial topic.
The paper, starting from a theoretical and comparative perspective, on one hand, aims to provide a representative profile of the teachers' attitudes and representations about homosexuality; on the other hand makes it clear the need to provide a permanent space of education to differences at school.

Keywords: homosexuality, teachers' attitudes, inclusion, homophobia, education.

1. Homophobia at school: an educational emergency (?)

"Exists homophobia and those who have these attitudes must contend with their own conscience". Then a leap in the dark, a jump of eleven floors. Thus wrote in a letter a homosexual. In recent years, the news has been invaded by episodes of suicide about sexual orientation. Many other suicide attempts were foiled.

The news report and scientific literature confirm that the place where they are born and reinforce the sentiments of homophobia is the school setting. Why?

School is a complex system, is not only a place where students learn concepts and contents, it is something more: it is the place where they not only learn to discover who they are, but also who they could be. The years during which a student attends school coincide with the years of the transformation of personality and identity. Adolescence is a complex stage bringing with it the typical discomforts of this age: rapid change of the body, identity crises, conflicts with parents and the adult world, dependence and identification with more influential people and marginalization of the weakest people.

School is a cultural, symbolic and relational context characterized by several cultural patterns of diversity: it is the place where intransigence towards homosexuals grows or becomes weak. It's, in fact, represents one of the contexts where homophobic behaviors can be expressed with greater ease (D'Augelli et al., 2006) and, especially, homophobic victimization and intolerance's attitudes are pervasive and begin in the early school years (Mallon, 2001; Plummer, 2001). It represents the context where students can to spread their wings or they can to interiorize a kind of self-devaluation and self-invalidation (Rigliano et al., 2012).

The National School Climate Survey conducted by GLSEN (Gay, Lesbian & Straight Education Network) in USA in the 2011 shows that schools are often unsafe learning environments for LGBT students. More than two thirds of the students in survey reported feeling unsafe at school because of at least one personal characteristic, with sexual orientation and gender (Kosciw et al., 2012).

European Union Agency for Fundamental Rights (FRA) during 2013 has produced the EU LGBT survey. The data are not encouraging: "2 out of 3 LGBT

respondents were hiding or disguising being LGBT at school. At least 60% personally experienced negative comments or conduct at school because they were LGBT while over 80% in every EU Member State recall negative comments or bullying of LGBT youth at school" (FRA, 2013).

The situation about the homophobia in Italy becomes more complex.

The surveys on youth carried out by the IARD research institute show that a large majority of young people believed that Italian society stigmatizes homosexual experiences.

According to research conducted by Prati et al. (2010) in Italy, 1 gay or lesbian adolescent out of 5 has suffered over the past year, attacks, insults or harassment because of their sexual orientation.

Quite similar is the survey on homophobic bullying in Italian schools conducted by Arcigay (Prati, 2010) that clearly reveal a situation in which LGBT people being insulted, derided, ostracized or physically attacked in the presence of schoolmates and teachers.

In 2009 ISTAT started the first pilot survey on gender and sexual orientation discrimination. Data shows that in Italy 24% of LGBT persons have been or are discriminated at school or university because of their sexual orientation. There are not equivalent data referring to experiences of trans persons in schools and universities.

The Office for the Elimination of Racial Discrimination (UNAR) started a similar project in four regions in Southern Italy in 2011. The research confirms the previous researches and shows how the south of Italy is more backward.

Since 2010 UNAR has created a Contact Center in order to help the victims of homophobia: several recent cases of bullying and homophobia in the educational environment have been reported and intercepted. In these cases, UNAR provides support to school heads through focused awareness and education initiatives (UNAR, 2013).

Italian Ministry of Education (MIUR) has launched an awareness initiative on LGBT themes during the International Day against Homophobia (instituted in Italy since 2007) on 10 May 2012, as it issued a specific circular to all scholastic institutes where it highlighted the role of schools in establishing integration communities that recognize differences and the importance of combating any form of discrimination, included homophobia.

In addition, for some years, in Italy, like in USA, was born the "It Gets Better Project" (in Italy "Things Change") the first website created to combat homophobia and bullying through the sharing of stories. Various celebrities tell their story to plead the cause.

But things are actually changing? The Italian culture is changing? The Italian school is changing? Which way…

The answers are complex and include several cultural and contextual variables. Change is in progress, but without claiming victims.

In compliance with the provisions of the European Union for oppose homophobia in School, UNAR published in 2014, a trilogy of books entitled "Educating for diversity in school". The handbooks were drawn up by the Institute of Cognitive-Behavioral Therapy AT Beck (2014).

In Italy has burst an media storm: the handbooks have never been delivered to the schools while the initiative against homophobia have been blamed for "homosexual propaganda" and "risk of pedophilia".

Yet, as we saw, the researches speak for themselves. In Italy homophobia is an educational emergency. Who does not see is doubly blind.

International scientific literature clearly shows the main consequences for students subjected to harassment about homophobia: absenteeism, early exit from school, internalized homophobia, eating disorders, school results less satisfactory, insulation, a lower degree of personal well-being and a greater risk of suicides (Takács, 2006; FRA, 2009).

At school we never talk about homosexuality and homophobia looks like a taboo.

This silence, produces an absence of positive role models that encourages marginalization, isolation and the feeling of being the only one on Earth (Graglia, 2012).

The research conducted in school contexts have shown that small actions are sufficient (even a few hours) for students, to change opinions, perceptions and beliefs about homosexuality and transsexuality (Batini, 2011). Similarly, short training pathways, for teachers, show similar levels of effectiveness (Batini, 2014).

2. Teachers' attitudes and representations about homosexuality

Recommendation CM/Rec (2010) 5 of the Committee of Ministers of the Council of Europe to Member States on measures to combat discrimination on grounds of sexual orientation or gender identity affirms that:

> "member states should take appropriate legislative and other measures, addressed to educational staff and pupils, to ensure that the right to education can be effectively enjoyed without discrimination on grounds of sexual orientation or gender identity".

Schools should be a safe place for all students regardless of their sexual orientation or their gender identity. The main challenge of the school is the fight against systematic aggressions of which are object LGBT people and in promoting respect so allow young people to build their own sexuality and identity gender in a favorable environment and respectful. To achieve this objective it is necessary that teachers and other professionals who work in schools receive training that enables them to understand the real situation lived by LGBT minors and gives them the means to detect and respond against aggression and discrimination. In addition to the regular training courses, these arguments should be systematically incorporated into training of teachers and their teaching, because respect for diversity and an environment free from homophobic and transphobic violence must be prerequisites for all educational institutions.

But teachers are not immune to prejudices and stereotypes about diversity and in particular about homosexual sexual orientation.

Teachers, indeed, are carriers of cultural patterns of diversity and homosexualy. They influence the cultural patterns of students and, in particular, with their own attitudes they can encourage or discourage exclusion towards the homosexual person. No teacher can refrain from these issues. Even teachers' silence is a message: tacit approval. Teachers also should be aware of the responsibility/power of their gaze. Their body becomes a message.

It's essential that teachers identify and stop any homophobic behavior: no matter how small or insignificant it may appear.

Teachers often feel alone and unprepared to deal issues about homophobic bullying and discrimination towards LGBT student (Batini, 2011). When teachers are involved, their actions can be ineffective or even have an impact opposite (Takács, 2006; Coll-Planas, 2011).

In Italy, unlike what happens in other countries, educational actions against homophobia and in support of education to differences do not have a precise and well outlined identity.

Some actions against LGBT discrimination in education are inserted in human rights area or in inclusion area. In others, in equal opportunities area (D'Ippoliti & Schuster, 2011).

Often these training activities are promoted by the LGBT associations rather than by the Ministry of Education or by the appropriate offices.

Research shows in Italian culture that teachers' competences are completely inadequate and incomplete (Batini, 2014; Lasser & Tharinger, 2003). The most

common attitude is the heteronormativity: denial and disestablishment of non-heterosexual behaviors (Wyatt et al., 2008).

In school heterosexuality is taken for granted and actively promoted by means three ways: social control by the peer group, teachers' attitudes and teaching plan (Saraceno, 2003).

The recent survey carried out by Batini and Fucile (Batini, 2014) draws a picture of educational emergency: teachers are represented by their students as little open to differences and still far from seeing homosexuality like a normal variant of human sexuality. Research confirms that in fight against homophobia and in the promotion of a culture of diversity and inclusion are far ahead the new generations. Unfortunately, many teachers don't represent for their students positive role models.

As claimed by Pietrantoni and Prati (2011), the possibility of having a support from friends, teachers or parents for the homosexual person is a protective factor, but as claimed by Lingiardi et al. (2005) homophobia manifests itself predominantly in Italy with an attitude of "don't ask, don't tell": conspiracy of silence.

3. How to fight against silence?

Exploration of teachers' cultural patterns does not confirm postmodern process of deconstruction underway in the cultural and scientific perspectives, but rather conservative and traditionalist cultural patterns and triumph of the politically correct attitudes: homophobia is in the DNA of our social, religious and political traditions (Lingiardi, 2012).

The entire cultural context appears plagued by an "diversityphobic epidemic": silence and cultural blindness of educational institutions (and their families) help to set up a fertile ground where proliferate harassment, bullying, negative attitudes against the homosexual persons.

Homophobia is an invisible culture who feeds on ostentation, the concealment and attitudes politically correct. It is as a blanket which covers what happens below: does not hinder the movements underlying but the important that is do not talk about and that they do not become public issues (Graglia, 2012).

How to fight against silence? With the voice, with the culture of difference, information and problematization. A common mistake, in fact, is to think that homophobia is born in cultural dark, where light of culture does not shine.

Intransigence towards the different, and, in this case, against homosexuals can arise and even can be legitimized by culture. This is what happens often in educational settings.

The "diversityphobia" develops as a social metastasis, there where the dogmatic and a-problematic thinking is the master. The culture of diffidence, therefore, will have to change in the culture of differences.

Understand that homosexuality and heterosexuality, as stated Graglia (2012) have artificial boundaries disorients and generates crisis.

The National strategy to prevent and contrast discrimination on grounds of sexual orientation and gender identity 2013 – 2015 promoted by UNAR with relation to the area of "Education and Instruction" has recognized the following operational objectives and measures that could factually be implemented: data collection and monitoring activities, training and information and awareness.

Teacher training should be geared towards "realization of innovative training activities and refresher courses intended for school heads, teachers and scholars on non-discriminatory issues, particularly on LGBT theme and on homophobic and transphobic bullying" (UNAR, 2011).

In this direction several researchers have drawn up activities and operational exercises (Montano & Andriola, 2011), theoretical practical handbooks (Prati et al. 2010), tools for analysis (Graglia, 2012) and pathways planning and pedagogical action

(Batini, 2011, 2014) against homophobia and in support of promotion of differences and diversity at school.

Handbooks, educational paths for students and training programs for teachers are ready (for several years). It is now up to school move towards change.

The teachers' attitudes represent both a thermometer that indicates this change, and but also lever that can propel it.

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CLOUD HOSTING BROADENS RESTAURANT SIMULATION APPLICATION AND IMPLEMENTATION

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Abstract

This paper discusses the challenges and accomplishments of redeveloping a total enterprise simulation, namely the simulation for profitable restaurant operations – PRO Simulation, from a dedicated server – client based application to a web based cloud hosting server application. The server – client based simulation was completed in 2008 by two professors at Ryerson University after five years in development. The simulation has been well received at Ryerson University and is being used as a 6 week component in the fourth year capstone Revenue Management course in the University's four year Bachelor of Commerce degree program. It has also been well received by the hospitality related business community in the restaurant sector and has been presented in a two to three day seminar environment. It has recently been added as an annual component of a multi-brand and multi-unit full service Canadian restaurant chain's management development training program, as well as being piloted for a professional sports player association educational training program for young retired professionals seeking future career directions.

Evaluations and assessments in both the university academic program and the hospitality industry business seminar environment have been extremely positive and the results of these assessments and evaluations were documented in several papers presented at conferences and published in conference proceedings.

To broaden the utilisation of the developed software presented a challenge of implementation and support due to the requirements of the server – client based application. In response to many enquiries from colleges and universities to use the developed application other alternate delivery mechanisms were explored.

The paper reviews the programming adjustments necessary to convert the server – client based application to a web based cloud hosted application, both at Ryerson University through the conversion of the application for delivery on the virtual application web based platform developed by, and for, the university, as well as the programming adjustments necessary to convert the application to a commercially hosted cloud service.

The process was completed in December 2012 and the Ryerson virtual application program was implemented in the winter 2013 semester Revenue Management course. The first College application has been distributed and both European & Southern Hemisphere versions of the software are being completed for distribution in Summer/Fall 2014.

Keywords: technology, teaching, computer, simulation, cloud.

1. Introduction

In September 2003 the development of the simulation for profitable restaurant operations – PRO Simulation was begun in response to the perceived need for an interactive simulation to replicate the operating decisions of a restaurant and address the challenges faced by the learning and training needs of the restaurant sector. Over the next ten years the development of the simulation evolved from a server-client, hard wired, router based, location dedicated, interactive simulation, to an on-line cloud hosting based, remote access interactive simulation. In the process this educationally based training and teaching software became available for use and distribution at the

university and college program level, as well as the corporate training level, on a world-wide basis. This paper traces the developments and the road taken by the simulation to reach the position it is in today. It also discusses the future developments and potential for using simulations in unconstrained environments. The cloud portals are the infancy of such developments.

2. History of PRO Simulation Development

The 21st century organization requires that management educators teach students how to learn and apply that knowledge constructively. Classrooms using active learning techniques are best equipped to coach these skills. Simulations have been seen as an effective training vehicle providing a dynamic and vibrant alternate to the traditional lecture and case study modes of teaching. (Martin & McEvoy, (2003).

The simulation method allows for active application of knowledge or skills to solve a problem. (Martin & McEvoy, 2011) Based on this premise the simulation for profitable restaurant operations was developed from 2003 – 2008, blueprinted in excel spreadsheet format and programmed in the Microsoft visual studio environment. The documentation file is in CHM Help Format (ie.chm) and contains HTML files. The program language is CS – C Sharp.

Simulations that deal with the entire organization, provide a balanced number of decision variables in marketing, production (operations) and finance, and thus require the strategic integration of several subunits for organizational performance. These are termed total enterprise or top management games. These simulations use manuals, computer scoring, and print outs to convey the nature of the environments in which participants operate (Keys & Wolfe, 1990).

The simulation for profitable restaurant operations is such a total enterprise simulation. It is designed to replicate the operation of a restaurant over a six year time period. By networking up to ten teams in one of five scenario cities it focuses on the competitive nature of the restaurant business, emphasizing profitability. A year may take from 25 minutes to 2 hours to process and teams (usually groups of 2 or 3) operate the restaurant in competition with the computer and the other participating teams. The simulation is turn based and the virtual restaurant provides the illusion of running a real restaurant with full menu and operating control, as well as complete integrated results and financial statement output. The unique restaurant data dashboard rates and ranks each restaurant on an annual basis and leads the participants/students to the high level learning outlined in Bloom's Taxonomy of Educational Objectives. (Bloom, B.S. (Ed.), 1956).

As the program was developed the networking environment was established and comprised a dedicated router hard wired to a series of laptop (or desktop) computers through which the program was activated and run. The program operated through a server linking an instructor interface with a series of team (client) interfaces. The turn based program consisted of a series of team inputs, which when completed were gathered by the instructor, processed and returned to the teams as a series of results in reportable output format. These output formats replicate all of the reports needed to operate and evaluate a restaurant, from weekly and monthly sales to monthly balance sheets, income statements and cash flow statements, as well as operational reports enabling performance to be evaluated, e.g. on-line customer surveys and in-house customer and staff comments.

3. Challenges of implementing PRO Simulation outside of a dedicated network

By 2009 the development, application and testing of the simulation was successfully completed. It was included as part of the fourth year capstone revenue management course at Ryerson University. A course that all students must take before they graduate with their four year Bachelor of Commerce degree.

It had been successfully launched in the corporate training market having been presented in intensive seminar format for a chain of six restaurants in the Toronto area. It was also successfully piloted to a professional sports alumni association. It was used in seminar format as an exposure to the restaurant business for professional athletes close to, or already in, retirement, who were interested in pursuing a career in the restaurant business. It was also embedded in the leadership development program of a fifty unit, multi-brand, chain restaurant operator, as the second of three training modules to evaluate the suitability of high performing departmental managers for full restaurant manager responsibilities. It is currently in its fifth year in this program.

As pressure mounted to make the simulation program available for use and distribution outside of the developer's control it became apparent that the ability to support a server-client, router based network simulation was limited and fraught with difficulties.

4. Challenges of distributing a failsafe simulation product in a College/University or Corporate environment

The difficulties associated with making the simulation program available in the college/university and corporate market were related to the infrastructure in which the simulation program would have to operate. Compatibility with many different computer environments and the ability to negotiate and work in environments of intense security checking were the major challenges to be faced. Ryerson University is similar to most universities in their dedication to the provision of effective information, computing and communication services across a university consisting of more than 100 undergraduate and graduate programs and servicing almost 40,000 students. The Computer and Communications Services (CCS) department provides and administers these services at Ryerson University.

A close working relationship was developed with CCS in order to install and operate the simulation program using the server-client, router based network system. Compatibility with the existing university hardware structure had to be ensured, followed by the security mechanisms such as firewalls, network anti-virus and anti-spam systems. Working within the constraints of the multiple security mechanisms proved extremely challenging since the interactive nature of the simulation activity meant that the security mechanisms were constantly intervening or monitoring the program application. This was expected to be a major challenge to the distribution of the simulation program to users in many different computer environments. These challenges were applicable to the corporate sector as well as the college and university sectors.

5. Enter the Cloud

Wikipedia describes cloud computing as a phrase used to describe a variety of computing concepts that involve a large number of computers connected through a real-time communication network such as the internet. It says that the term "the cloud" is essentially a metaphor for the Internet. (Wikipedia). Any service that is on a remote server and the end-user has access over a high-speed internet can be called a cloud service.(Binoy Xavier, 2010) Public cloud computing refers to computing facilities owned and operated by companies that use them to offer rapid access to affordable computing resources to other organizations or individuals (esience.washington.edu/get-help now/understanding-cloud-computing-research-and-teaching. n.d.).

The ability to dispense with the router and wired network of the developed simulation, for a wireless remote network via the cloud, was a very attractive proposition. Using the services of the Jonah Group, our technical support partners, the PRO simulation program was converted, from a router based wired network system to a remote access cloud based system. The cloud computing facilities are used as a

platform onto which the software application and support services can be deployed more inexpensively.

Cloud computing is provided on demand and served over the Internet from shared data centers that exploit enormous economies of scale. In an academic setting, rather than purchasing a dedicated server to house software applications, or providing clusters of computers and a space for a laboratory, outsourcing to remote computing facilities in the cloud is an attractive alternative. There are no idle facilities as the user only pays for what they use. In effect students and instructors can use their own personal computers in a regular classroom to access the simulation software and system administration is not needed to support the software application. In a commercial corporate environment executive education, using the simulation software, can be deployed in a similar manner. (esience.washington.edu/get-help now/understanding-cloud-computing-research-and-teaching. n.d.)

The cloud system application selected by PRO Simulation uses the Amazon community-provided OS image, a pre-configured Windows 2003 R2 AMI created by the Cloud Controllers for the Amazon Elastic Compute Cloud (Amazon EC2). This is a web service that provides resizable computing capacity in a virtual internet-hosted environment. Amazon EC2 instances are virtual computers controlled by a simple web interface and running on proven geographically redundant infrastructure software. Amazon EC2 instances reduce the time required to obtain and boot new server instances and make it easy to reduce and expand server capacity as requirements change. Amazon EC2 charges only for resources that are actually used. When not needed, server instances can be shut down and can hibernate offline for indefinite periods of time. (Jonah Group, 2012) There are multiple service providers in the market place.

The PRO Simulation application suite consists of two applications, instructor and team. Both instructor and team applications also require a local network-shared directory of data files to be installed and configured manually. The simulation needs icons for "Pro-simulation_Instructor.rdp" and "Pro-simulation_Team.rdp" to be installed on individual computers. When the icons are launched they are password protected and the security and stability of the application suites is maintained by an administrator account. (Jonah Group, 2012)

6. Future Developments and Next Steps

Cloud computing offers a low barrier to entry for educators and corporate trainers wishing to use simulation software in their course or training program. System administrators only need to provide wireless internet in the building and a simple interface for participants to connect to it. They do not need to manage multiple computers and firewalls to protect their systems and software. The key advantage to cloud computing is elasticity. Cloud computing allows an assigned group of computers to scale up quickly on request from any location that has internet access. Further, cloud computers are virtual machines that are unconstrained in their capabilities and can be monitored and serviced by the software IT support team. (esience.washington.edu/get-help now/understanding-cloud-computing-research-and-teaching. n.d.)

The developments in technology and the economies they generate have already made it economical for users to have their own dedicated cloud. At Ryerson University they have such a cloud; it is the Virtual Application (Vapps) system. This system provides secure access to licensed software applications from anywhere there is an internet connection. Using Vapps software applications can be accessed without having them installed on the computer's local hard drive. These applications reside on a server and are accessed by logging into the Virtual Applications website. The economies and flexibility arising from this are enormous. As technology continues to develop, this facility will become economical for more and more users.

Interactive simulation software will further benefit from cloud utilization by allowing users to be in remote locations to operate and run the applications. The competitive nature of PRO Simulation will allow restaurant teams to be in different locations, within a city, a country or anywhere in the world with obvious educational benefits. The benefits of such flexibility more than compensate for the challenges faced in restructuring from a hard wired, router based, location dedicated, interactive simulation, to an on line cloud based, remote access interactive simulation.

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TEACHER EDUCATION AND WRITTEN NARRATIVES AS EDUCATIONAL AND INVESTIGATIVE TOOLS

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Abstract

This article presents an investigation on professional development of school administrators and teachers at a public elementary school in Brazil. The research was sponsored by CNPq (Brazil's National Council for Technological and Scientific Development). Its subjects were schoolteachers and administrations, who participated in a professional development program alongside their professional activities at their workplace, i.e., the school. Researchers and undergraduate and graduate students from two universities (one public and one private) also participated in the project. The research methodology involved the analysis of written narratives. The results indicate that written narratives constitute an excellent tool for professional development by means of formative and investigative proposals and point to changes in how people understand themselves and others.

Keywords: teacher education, written narratives, teacher professional learning, public school, teacher's accounts.

1. Introduction

The use of narratives in research involves the deconstruction/construction of one's own experiences. It requires the establishment of a dialogic relationship be established, thereby giving rise to complicity in two-way discovery, i.e., while one is discovered in the other, phenomena are also revealed in oneself. Not only do narratives constitute a research method, but they also represent a chance to construct reality, since it is grounded on ontology. Individuality is explained not only by extra-territorial references, but also by understanding subjectivity, which is a sine qua non condition for social knowledge.

Not only do narratives express important dimensions of lived experience, but they also, more radically, mediate experience and shape the social construction of reality. […] The play of subjectivities, through a dialogic process, becomes a privileged means of constructing knowledge (Bolívar, 2002, p. 4).

In order to better understand narrative research, we based our study on Clandinin and Connelly (2000, p. 20), who define narrative investigation as a way of understanding experience. It implies the collaboration between researchers and participants over time, at a place or set of places, and in social interaction with their peers.

A narrative constitutes the structured quality of lived experience perceived as evidence. A narrative setting comprises an argumentative plot, a temporal sequence, characters, and a situation (Clandinin & Connelly, 2000). It is a way, a means of providing the self with an identity, to become. The act of narrating gives meaning to the events of experience itself as well as revisits meanings produced by past actions.

Given the above, the research setting was a professional development program developed and implemented for teachers and school administrators from a public elementary school in São Paulo State, Brazil. The participating schoolteachers and

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administrators met with researchers and undergraduate and graduate students from two universities (one public and one private) at the former's workplace on a weekly basis to develop the proposed activities and evaluate results in progress.

At to the shared research and development processes in the context of this study, we worked primarily with documental data sources. In this case, the participating teachers' texts were assumed to be narratives, i.e., a form of knowledge that enables characterization, understanding, and representation of human experience (Vaz, Mendes, & Maués, 2001). Moreover, lived experiences are understood as *lived histories* and as a starting point for reflective processes whereas *narratives* are *told stories* (Clandinin & Connelly, 1994).

The decision to adopt the writing of reflective journals (written narratives) in order to identify and understand the participating teachers' and administrators' personal views was based on the assumption that this task could elicit the knowledge and beliefs that support their pedagogical practices. According to Kramer (2000), writing helps history to acquire new meanings […]. […] Text writing is similar to history writing (p. 112.). Moreover, in formative terms, working with language, reading, and writing can promote reflection, thinking about the meaning of individual and collective life (p. 114).

It should be emphasized that we have employed this strategy to investigate what teachers and administrators *know*, which in turn is closely related to *what they say they know* (Freeman, 2000). Words are considered the means of thinking and can represent that which exists in people's minds in a isomorphic way, i.e., their words 'comprise' their thoughts, beliefs, knowledge, and feelings. From this perspective, people are taken for what they say (Freeman, 2000, p. 294). Therefore, with regard to the data analysis of narratives, we conducted a *representational* reading of participants' accounts of their experiences as teachers and administrators.

2. Reflection Is a Process of Meaning Attribution

Reflection is a process of meaning attribution that leads learners from one experience to the next at a deeper level of understanding of its relationship with the previous experience and connections to other experiences and ideas. This is what makes continued learning possible and ensures growth for the individual, and ultimately, for society. It constitutes one of the means to moral ends.

An essential aspect of experience is the *interaction* (*relationship*) between the individual and the world and its dialectical effect, which modifies both the self and the world. *Continuity* is another important aspect. Reflection can be characterized more broadly so as to include the "march of civilization" or "social continuity." In a more restricted sense, it implies that people attach meaning to new experiences based on their prior knowledge of the world. Without interaction, learning is sterile and passive; it never changes the learner. Without continuity, learning is random and unrelated to the learner and the world.

While experiences constitute the basis of learning, they are not always constructive or educational. When they are constructive, they can broaden the field of experience, knowledge, and awareness. Otherwise, they can lead to immoral conducts or routine actions, disregarding their effect on the environment.

The function of reflection is to attribute meaning, to establish *relationships* and *continuities* among aspects of an experience and among different experiences. In the case of reflective teachers, they do not merely seek solutions nor act without regard to the sources and impact of their work; they also seek to assign meaning to and construct theories and stories based on past experiences, which provide structure for their growth and their students'. A theory underlies their practice until it no longer applies. Then, through reflective processes, the theory in question is reviewed, refined or discarded and a new theory is constructed.

3. Some Notes on the Use of Narrative Writing With Teachers and School Administrators

The longitudinal examination of the process inherent to this type of formative proposal points to some peculiarities in the way the participating teachers and administrators' narratives are structured. Initially, the participants merely described their previous impressions, usually guided by prior experiences.

"I was very apprehensive at first because the expectations about meeting with you here at the school were very high. I believe that all that is 'new' in our lives makes us uneasy, anxious, and very insecure. […] We feel that we cannot make mistakes, because we are teachers and you are here to check if we're doing the right thing. I thought I would be unable to establish a good relationship with you, since university people come to the school mostly to collect data for research, and they never come back" (Teacher 3's journal entry of March 27, 2012).

Over time, as mutual respect, cordiality, and trust were established among teachers, administrators, and researchers, we observed that the school professionals began to express in their reflective journals that were experiencing anxiety, insecurity, and anticipation as well as a collection of worries, conflicts, and dilemmas with no predetermined solutions. Notwithstanding, they appeared to believe that they could rely on the group to reflect and seek solutions together.

"I have to solve a student problem with a teacher that doesn't participate in this project. It is the specific case of a student that speaks at the top of his voice the whole time in class, I mean, very loudly, as if he were in a world of his own imagination. The noise he makes and his lack of interest are 'petrifying' the teacher. […] What could be done about that? I've studied and thought about it a lot, but I would like to discuss the issue of discipline with you. I want to help the teacher, I have my ideas, but I want to discuss them with you because I think I cannot deal with it by myself" (Pedagogical Coordinator's journal entry of March 31, 2013).

In general, as the program unfolded, it was possible to conduct a type of narrative inquiry in the manner indicated by Connelly and Clandinin (2000), because the researchers relentlessly asked the participating teachers and administrators to clearly define the teaching practices and other activities conducted over time, the personal and social conditions of those involved in them, and the surrounding forces/factors.

Furthermore, we understand that everyone involved participated in a reflective cycle given that the researchers encouraged the school teachers/administrators to develop the ability to observe, chronicle, and think critically about students and their learning, taking into account the curriculum, specific content, and the contexts in which these aspects interacted.

4. Teachers' Accounts of Mother Tongue Teaching: Reading

With respect to narratives written by the teachers of Portuguese (mother tongue), we have limited ourselves in this article to presenting the accounts of two participants, in keeping with the initial proposition: "Relate your experience as a reader, text producer, and teacher that teaches reading and text production." In addition, here we only analyze the teachers' accounts with regard to being a mother tongue teacher. This analysis aims to present reflections on reading experiences and teaching-related experiences. The information concerning Teacher 1 and Teacher 2 was gathered by means of a questionnaire answered by all participants prior to their writing in journals.

Teacher 1 had attended Teachers College, had not specialized in any of the areas of pedagogy, and had been teaching for 12 years at the time of data collection. She stated that her college education had not provided her with knowledge about reading and text production. Here's her account:

"I love to read, but I would like to devote more time to reading, reading unhurriedly everything I can and have to read. When I'm teaching, I read various texts every day at the beginning of class. As a result, the children quiet down and it is much easier for me to conduct other activities. On the topic of text production, because I always teach the first grades, I begin with collective text production and later I introduce individual production activities. I begin the story for them to come up with an ending; I provide pictures or drawings for them to organize and make up a story. Thus, they gradually lose their fear of writing and start writing on their own."

Teacher 2 had a secondary school-level teacher certificate, had majored in History in college, and had specialized in psycho-pedagogy. At the time of data collection, she had been teaching at public elementary schools for six years. It should be mentioned that her secondary school-level teaching program had not provided her with any knowledge on reading and text production. There follows her account:

"Ever since I was little, when I was learning to read and write, I have delighted in reading and in handling books. I believe that it was due to my having been born into a family in which mother and aunts are teachers, in whose house there was a small private library with various types of books at my disposal (because my mother gave us freedom to explore the bookshelves). I was encouraged to read books in spite of having scarce financial resources to buy them, so I'd go to public libraries or exchange and borrow books from friends. I still do that. Based on this experience, I also try to bring reading to the classroom, sometimes for pleasure and relaxation and at other times for more defined purposes. One of the activities that I've done with students, last year and this year, is having them use the loudspeaker and microphone to read texts or poetry of their choice to classmates. Their acceptance has been good. It is also an activity without much onus because I let them decide whether or not they want to participate on that day. Student adherence is satisfactory. Text production can derive from an oral activity like the one I've just mentioned."

In the following excerpts from the above accounts, both teachers write about what they think of being a reader and their viewpoints about a pedagogical discourse that values the reading of diverse texts. Although these teachers refer to reading or to the teaching of reading in the classroom (Excerpts I and II), they express misconceptions about reading, i.e., they mention the use of loudspeaker/microphone when reading poetry and reading as a way of getting students to quiet down so as to be able to conduct other activities. They mention no activities related to the teaching of reading strategies, visits to the school library, use of newspapers, and so forth. It should be emphasized that there is nothing wrong about the activities they mentioned, but it is necessary to go beyond reading as decoding and to teach reading as a social practice, rising above the classroom context. It is necessary to teach reading as a meaningful, interactive, and reflective process in accordance with Koch and Elias (2007), Jolibert (2006), and Kleiman (1989).

[1]
T2: "I read various texts every day at the beginning of class. As a result, the children quiet down and it is much easier for me to conduct other activities."

[2]
T3: "Based on this experience, I also try to bring reading to the classroom, sometimes for pleasure and relaxation and at other times for more defined purposes. One of the activities that I've done with students, last year and this year, is having them use the loudspeaker and microphone to read texts or poetry of their choice to classmates."

Orlandi (2012) claims that *speech* should not be seen as something separated from the *society* that produces it, since historical contexts are linked to it and interfere with its production. When the participating teachers talk about their reading experiences or the paths they've trodden to become readers, the emphasis they attach to this practice becomes evident. However, it is still relevant that they go beyond the concept of reading as decoding or hobby. At the school under investigation, we noticed

an appreciation for reading experiences and a steadfast interest in finding new knowledge on which to base classroom these practices.

5. Final Remarks

The prospect of working with narratives is aimed at helping individuals become visible to themselves. It consists of a dialog between lived practices and theories constructed in and about these experiences.

As to being readers and teachers who teach reading, participants value reading, are eager for new knowledge and related methodologies. However, they need to internalize and go beyond their inadequate conceptions of reading. The experience acquired great importance to the teachers and researchers involved in this study. By means of written accounts, the participating teachers were able to express their opinions and thoughts on being a reader and a teacher who teaches reading.

We observed that the strategy of reflecting on practice from written narratives per se became one of the best tools for individual and collective learning.

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ESSENTIAL OR SENTIMENTAL?
SAVING OUR ENDANGERED LANGUAGES

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Abstract

This paper explores the revitalization movement and global solidarity with which indigenous people around the globe are resisting the surrender of their mother tongues to the trampling feet of the dominant or colonial language, and the failure of the language shift to afford them greater access to power and resources. Theoretical underpinnings that support a Darwinian approach to language vitality are contrasted with theory which underscores the interrelatedness of language and culture, and the imperative to preserve the cultural knowledge embedded in a language. A language becomes moribund, when only a few individuals remain who learned it as their mother tongue (L1). Its fate, then, rests with the group members who must learn it as a second language (L2) and teach it to their children. Traditional language transmission models, such as nests and mentorships, which developed to counter the effects of 'killer' (colonial) languages are increasingly being buttressed with Web 2.0 digital tools and virtual meeting places. These digital intervention projects require vital partnerships between 1) elders who are proficient speakers of the endangered languages and can provide the content, and 2) language acquisition theorists and pedagogues who can develop an effective and engaging curriculum, and 3) software developers who can take the input of both the speakers and the pedagogues and transform it into a stimulating electronic learning experience with an engaging interface. How successful will these efforts be, especially given their anachronistic and disruptive presence within cultures attempting to restore traditional ways and to teach the importance of valuing those traditions?

Keywords: endangered language, indigenous, language shift, language loss, language revitalization.

1. Introduction to Language Shift and Loss

> I have this sense, rightly or wrongly, the language is locked back there in my brain. It's not really forgotten; it's just sleeping. The language is there, locked with other memories of childhood. Loss happened so gradually, like an old pair of underwear slipping down. The elastic goes and goes you're not really conscious of it. Just a loosening of the bond.
>
> Kouritzin (2006), p.14

When two disparate languages come into contact through migration, colonialism, expansionism or trade, a variety of outcomes are possible. In the beginning, a *pidgin* typically develops. The pidgin represents the hybridization of the two languages allowing for basic communication, and requiring speakers of both languages to absorb new linguistic knowledge. Even in this act of seemingly mutual accommodation, however, power relations are at work. The language with the greater capital (military or economic) generally contributes the vast majority of the lexicon (vocabulary), while the less powerful language contributes the grammar. Over time, as the pidgin grows increasingly cohesive and standardized, it may be transmitted to a subsequent generation, at which point its status changes to that of a *creole*. Eventually a linguistic economy may emerge whereby each of the two original linguistic communities maintains their own language within their cultural/social groups; and uses the creole with interlocutors from the 'other' group.

In some cases, however, through specific policies, the language with greater power uses its force to eradicate the politically weaker language, so that imposed linguistic assimilation takes place. The painful legacy of native residential schools which operated in Canada, Australia, and the U.S. for over a hundred years remains all-too-visible in many tragic forms. The schools were set up to 'kill the Indian in the child" by separating children from their parents in order to 'civilize' them, and replace their mother tongues with English (de Leeuw, 2009). Christina Bratt Paulston (1994) has described the implications of this power imbalance in the following way. When the sun is shining and the earth is warm (i.e. when socio-economic incentives abound), an individual will gladly loosen and eventually discard the cloak (mother tongue) that has enwrapped him/her until that point in time. When, however, grey skies begin to cast cold wind and rain upon the earth, individuals wrap their cloak more tightly around themselves and value its familiar warmth.

Whether purposefully or not, the inevitable outcome of contact between two languages of unequal status on the political and socio-economic stage, is that the mother tongues of diasporic and indigenous communities around the world are jeopardized, and the language of the more dominant culture in each context eventually displaces the language spoken by the people whose culture is less powerful.

The relationship between power and the status of a language was expressed most concisely by Yiddish linguist Max Weinreich when he described a language as "a dialect with an army and a navy." This description aptly encompasses the process by which one linguistic variety becomes the official or standard language within a nation, as well as the process by which indigenous languages are essentialized and rendered invisible save for their exotic appeal as names of cities, regions or bodies of water. The army and navy serve as modern day metaphors for the might a language wields when it is the one in which education, commerce, governance, law and health care are conducted. As Heller (1987) explains, membership in a group entitles one to participate in social networks and have access to roles and resources controlled by that group. Such membership, more often than not, requires native-like linguistic and cultural proficiency.

2. The case for linguistic Darwinism

> If language is seen to be at risk, it is often because of a finely meshed social evolution. To remove it from risk would entail wholesale reworking of history, a broad reweaving of the social fabric…
>
> Edwards (1988), p.209-210

Edwards (1988) maintained that a sense of ethnic identity can outlast the ability to communicate in the language associated with that particular ethnicity. Indeed he claimed that no objective marker is necessary for continuing group identity, but rather that group allegiances can be sustained by subjective or symbolic attachments to "an observably real past" (p. 204). He cited the example of the challenges of reviving the Gaelic language in Ireland and said that, despite government policy requiring Gaelic instruction in schools, the "strong and distinctive" Irish identity is still expressed through English (p. 207). While endorsing transitional language programs, he is critical of direct administrative involvement in promoting language maintenance for the purposes of identity retention. He challenges the notion that official outside intervention can uphold meaningful aspects of ethnicity in the face of the numerous unofficial pressures toward language shift. His rule of thumb is summed up as follows: "people will not indefinitely maintain two languages where one will serve all their needs" (p. 203). Costa (2013) insists that language activists, teachers and scholars have been duped by a "regime of truth" which essentializes the link between language and culture, romanticizes the benefits to humanity of linguistic diversity, and distracts from more pressing matters of injustice such as socio-economic inequities. Moreover, Costa believes that the

language revitalization movement operates on a flawed understanding of indigenous community as static and homogeneous, and ethnicisizes social concerns such as alienation, disengagement and resistance. Davies (1996) argues that the support of language revitalization inititatives is really about easing our collective guilt for our colonialist history; while neglecting to acknowledge that it is through English that minority communities have access to the privileges of modernity.

3. The case for revitalization

"The limits of language mean the limits of my world." Ludwig Wittgenstein (1961, p.68)

Wittgenstein (1961), Vygotsky, (1978), Bruner (1990) and Bakhtin (1986) are among those who argue for an eclectic understanding of knowledge as a social phenomenon which includes language. In this paradigm, our realities are a product of consensual negotiations arrived at through social dialogue. Meanings are transmitted within cultures and are the means by which members of a culture perpetuate and develop their knowledge. Knowledge then, remains experiential, fluid and relational through the generative nature of language.

Bruner (1990) maintains that the symbolic systems that we use to construct meaning are entrenched in culture and language, making for a communal tool kit 'whose tools, once used, [are a] a reflection of the community' (p.11) He argues that meaning is negotiated as part of a public process, and uses the term folk psychology to describe the power of a culture's account of itself to shape human mental functioning and human lives to its requirements. This position is rooted in the kind of linguistic determinism contained in the Whorf-Sapir hypothesis which asserts that there is a relationship between the structure and lexicon of the language an individual speaks, and the way that individual understands the world (Whorf, 1964).

Anderson (1997) maintains a similar position and believes that "anguage is the vehicle through which we exist and share with each other and with ourselves. It is the primary way in which we construct our realities, our worlds, our observations, and our understandings, through actions with others. It is the vehicle through which we ascribe meaning, make sense of our lives, give order to our world and relate our stories" (p.204). Skutnabb-Kangas (2002) describes language as "the DNA of culture", and together with researchers such as Osborn (2006) and Evans (2010) insists that extraordinary communal knowledge is embedded in the world's languages, and therefore the loss of even one diminishes our capacity to learn from the rich worldviews that are filtered through human language. Fishman (1994) is unequivocal about the impossibility of participating in a culture without access to the language within which the culture is encoded .

Finally, it must be said, that language revitalization, when it emerges from communities whose languages were impacted by expansionism, is a powerfully galvanizing form of resistance to colonial hegemonic legacies. Thus to reclaim what was stamped out of them, and where applicable – be awarded funding to facilitate this reclamation - indigenous peoples are addressing an injustice and holding governments accountable for their assimilationist policies.

4. Taking Action again Extinction

This Declaration considers the following to be inalienable personal rights which may be exercised in any situation: the right to be recognized as a member of a language community; the right to the use of one's own language both in private and in public; the right to the use of one's own name; the right to interrelate and associate with other members of one's language community of origin; [and] the right to maintain and develop one's own culture…

UNESCO 1996 Article 3(1)

Since the word 'revitalization' first appeared in the literature in 1956 (Wallace, 1956), language scholars and activists have responded with theory-building and strategic pedagogy to bring endangered languages back from the edge of extinction. Organic *language nests* for pre-schoolers and *language mentorships* for adults began appearing on the linguistic landscape. Immersion and dual-track education models were being tested, and increasingly the earth's indigenous peoples began to seek solidarity with one another. Innovative curriculum ideas and instructional strategies were shared within and amongst the continents, such that lessons learned from, for example, the Maori in New Zealand, the Welsh in the U.K. and the Cherokee in the U.S.A., were available for the benefit of all linguistic minority communities..

Increasingly the world's indigenous people are recognizing the value of using digital environments in the battle against the extinction of their languages and cultures (Hermes & King 2013). Likewise as indigenous languages become increasingly visible on the internet, perceptions of them as antiquated, irrelevant or anachronistic in the Information Age are being challenged. Technology has been especially facilitative in the following four areas: 1) Documenting endangered languages with voice recordings and geographical mapping in databases, 2) Producing/Distributing indigenous language learning materials for purchase and/or downloading, 3) Facilitating independent learning through individual lessons, videos and gaming, and 4) Connecting teachers with learners in virtual classrooms, through Skype, and online or blended learning courses. Highlights of the kinds of technical innovations that are changing the way indigenous peoples are learning their ancestral languages can be found in my conspectus posted at http://www.ethnosproject.org/technology-and-language-revitalization-a-conspectus/ and include the full range of options from e-textbooks to online dictionaries and cell phone apps to virtual realities.

Strangely, modernity is being thrust upon the elders of these communities in the effort to reach back and reconnect with a time when languages were transmitted the old fashioned way- inter-generationally within families and via story telling: the communal construction of cultural knowledge. Indeed through preserving their heritage with technology enhanced language learning, they must also disrupt traditional ways by moving the locus of control from the elders to the app developers. This is happening in spite of the assertion by many scholars that the quickest route to modernity is through English.

5. Conclusion

Whether it is essential or sentimental to protect languages from extinction, the effectiveness of global revitalization efforts will be measured via the re-establishment of the languages as mother tongues for members of the next generation. Beyond the 'mother tongue' indicator of success, true vitality will necessitate the natural transmission of language within the home over multiple generations, and the institutionalization of the language within "the folktales, songs, riddles, and rhymes, ironic phrases and puns, jokes, greetings, blessings and curses" associated with each indigenous culture (Fishman, 1994, p.86).

Whether or not, humanity would choose to respond to successful language revitalization. with efforts to appreciate and incorporate the worldviews that were almost lost remains to be seen.

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INCLUSIVE EDUCATION IN KENYA: ERADICATING BARRIERS TO INCLUSIVE PRACTICES THROUGH ACTION RESEARCH AND SCHOOL TRANSFORMATION

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Abstract

Implementation of Inclusive Education in Kenya has faced many challenges since the launching of Free Primary Education (FPE).FPE was introduced in Kenya in 2003 in response to the call for Education for All (EFA) and the Millennium Development Goals (MDG) policy of 2000 that required all children to be enrolled in primary school by 2015.One of the main challenges to successful inclusive practices lies in the lack of sufficient resources to cater for the diverse needs of the large numbers of children who flocked to schools in 2003.Inclusive Education in Kenya is directly linked to this call for Universal Primary Education(UPE) because enrolment of children in school ensures their inclusion in mainstream education. However, enrolment does not always translate to retention. Cases of school dropouts have been reported owing to inadequate facilities that, if improved, would promote pupils' inclusion and retention. In an effort to combat this problem, Strathmore University (Nairobi, Kenya) launched a teacher education programme (Teacher Enhancement Programme- TEP) in 2004.Among the courses provided in TEP was the Post Experience Diploma in Education Management (PEDEM) for primary school teachers. The main objective of PEDEM was to furnish teachers with appropriate skills, tailored towards meeting the immediate needs of the schools. As part of the training, the teachers were required to undertake an action research project in their schools. The projects, based on individual teachers' initiative, addressed basic problems in schools that were barriers to inclusion. Transformation was geared towards making schools more habitable for learners. This paper adopted a descriptive research design, and utilized the use of semi structured interviews as a data collection tool to investigate the activities of 2 primary school head teachers who engaged in these inclusive practices.

Keywords: *inclusive education, teacher education, action research, developing countries, Kenya.*

1. Introduction

Inclusive education in Kenya may be directly linked to the call for Education for all (Sawamura and Sifuna, 2008). Kenya responded to the Education for all (EFA) call by launching free primary education in January 2003. According to Lynch et al (2010), large numbers of Kenyan children flocked into public primary schools, overwhelming infrastructure and catching ill prepared teachers by surprise. The number of children in Kenyan primary schools rose from 5.9 million in 2002 to 7.2 million in 2003 (Roschanski, 2007). However, the enrollment and retention of these children translates to inclusion in the Kenyan context, based on the Millennium Development Goals.

Lack of sufficient resources, poor infrastructure and teachers who are not adequately prepared to manage the diverse needs of learners are among the challenges that face Kenyan public primary schools. Such challenges are not confined to Kenya, scholars of other developing countries (Abosi, 2007; Eleweke and Rodda, 2010) highlighted similar situations in schools that impede effective implementation of inclusive education. This paper sought to address the practices of teachers in rural schools in Kenya and how they attempted to remove the barriers to inclusion of children in their schools.

This paper did not address the medical models of disability, which are core to the concept of inclusive education, rather, it aimed at exploring some challenges that exist in Kenyan rural schools and communities that "disable" children from attending school regularly, sometimes resulting to their dropping out. These factors include poor infrastructure in school and some cultural practices such as early marriage of school girls. Ainscow and César (2006) argued that the assumption that inclusion is confined to education of children with special needs or those who are disabled, "ignores all other ways in which participation for any student may be impeded or enhanced"(p.233). In this paper, the school was perceived as the center of inclusion and participation of children. Inclusive schools, according to the Salamanca Statement (1994) "….provide an effective education for the majority of children and improve the efficiency and ultimately the cost effectiveness of the entire education system" (p .ix). However, effective schools may only be realized through effective leadership, from leaders who commit themselves to inclusive values and who are in collaboration with their communities (Ainscow and Sandill, 2010).This paper highlighted the concept of teacher education as a major component for effective and inclusive schools.

2. Teacher Education. *Teachers Enhancement Programme (TEP) at Strathmore University and the action research project*

The Post Experience Diploma in Educational Management (PEDEM), a course within the Teachers Enhancement Programme (TEP) at Strathmore University, focused on training primary school teachers to manage their schools better. This was through units such as financial management and management of children's experiences among other educational management units. In addition to these, teachers were required to undertake an action research project for one year, focused on an area of their schools that needed improvement.

There were 17 teachers of the 2009-2010 Academic year who took part in the action research project of school improvement. (Mills, 2011), was of the view that the main objective of action research in education is to develop ways to improve the lives of children. Johnson (2012) argued that through data collection and decision making, teachers are empowered to effectively meet the needs of their students through their daily practices. The Teachers' action research projects were guided by the following: (a) Reflection on the problem in the school. (b) Planning the process in collaboration with colleagues and community, (c) The action /data collection and keeping records through reflective journals (d) Completion of one cycle and beginning a new one.

3. Significance of study

This paper sought to highlight some challenges faced by rural Kenyan schools. These include poor infrastructure in schools and cultural practices that pose as barriers to participation and inclusion of children. The teacher's role significantly presented, suggesting that teachers, if empowered, are able to make their schools effective centers of learning. The contents of this paper may be beneficial to teachers of rural schools in Kenya and other developing countries where similar challenges exist. Teacher educators, parents, community leaders and stakeholders in education authorities may also find this paper useful as they take their roles in building inclusive schools.

The investigation of inclusive practices reported in this paper adopted a descriptive research design, utilizing semi structured interviews. The two head teachers who were interviewed described their experiences as they worked towards transforming their schools.

4. The Experiences

Teacher 1 and 2 are both head teachers of rural primary schools in Kenya. Teacher 1 had a population of 200 children in the school; the number increased to about 350 after the FPE launch of 2003. Teacher 2 had 434 children in his school. The number soared to 650 with FPE. Both teachers took part in the action research project through the Teachers Programme at Strathmore University.

Teacher 1 focused on the poor state of her school's toilets for her action research project. Initially with 200 children, the four toilets in the school were sufficient. However, with increased numbers, they were quite dilapidated. The problems of poor infrastructure in Kenyan rural schools was highlighted by Roschanski (2007), who carried out research in two rural school settings of Kenya. He pointed out that with FPE in Kenya, the school population increased, but the facilities remained the same and buildings of the schools he visited were in very poor state.

Teacher 1 explained:

> "I was concerned about the high enrolment and the poor facilities which kept deteriorating. I had noticed that the girls were mostly affected by the toilet shortage problem. Girls, especially those in the upper primary classes, were attending school less frequently. After carrying out some investigation, I realized that the toilet issue was the main cause of their absenteeism. With only three much damaged toilets, the older girls commented that they no longer had privacy and would rather stay at home than be laughed at by the younger children. I had lost about 15 girls from primary 7 and 8.I decided to make this the focus of my action research project by working out a plan to renovate or build new toilets, all these aimed at bringing my girls back to school and retaining those who were still in attendance."

Teacher 1 sent a letter to her friends in Sweden who offered her their donation of 100,000 Kenya shillings (about € 840) for the toilet project. She had six toilets constructed and an extra room to serve as a bathroom/changing room for the girls. She explained:

> "The girls were very excited and started calling me *mama (*Swahili word for mother*)*.I decided to go farther and talk to some community members to donate sanitary pads for my girls. I kept this in my office and the girls were free to come for them whenever they were in need. This gave me an opportunity to get to know them better individually and encourage them to stay in school."

The plight of the girl child was highlighted in the IBE – UNESCO Report (2007), which expanded the concept of disability to accommodate other additional needs that may keep children out of school. In rural areas of Kenya, girls are more disadvantaged than boys in terms of regular school attendance. Roschanski (2007) argued that with diseases such as HIV/AIDS and malaria that may sometimes prevent parents and caretakers from carrying out household duties, children may stay at home to care for siblings or ailing parents. Girls are more vulnerable to such situations and many of them are likely to drop out of school before completion of primary school. Cultural practices such as early marriages also adversely affect the girls and compromise their participation and inclusion in school.

Teacher 2 narrated the story of his project:

> "I was concerned about the high rate of dropouts in my school. The primary 8 children who were 115 at the beginning of 2009 had reduced to 90 by August of the same year. Discussion with community members confirmed that most children stayed out of school to help with household chores. The boys helped with taking care of the livestock. Some of the girls dropped out to get married as the practice of early marriage is still rampant in my

community. I decided to focus on the issue of early marriages for my action research project, determined to have more girls completing their primary school education and joining high school.In May of 2010, two 14 year old girls dropped out of primary 5 and 6 . After making enquiries, I realized that the girls had been married off to old men. I alerted the police and had the two men arrested, including all those who had taken part in organizing the events. The men were arraigned in court and the girls rescued to return to school. In collaboration with community members, we were able to rescue more girls who had been married the same year."

The head teacher continued to focus on retaining girls in school. He also set up a committee made up of parents who would educate the community on the issue of letting girls stay in school.15 girls from his school completed primary school in 2011 and joined high school.

Teacher 1, on completing the toilet project, proceeded to a new cycle of her action research. She named it "the school uniform project". She explained:

"Most of the community around my school is poor, and sometimes children will stay away from school because parents cannot afford to buy them some items needed in school. Among these was the issue of school uniform. Some of the children were attending school with uniform that was extremely worn out. This became a big problem, especially with the girls who felt shy to wear torn blouses or skirts to school. After some investigation, I realized that this too was keeping children away from school. I talked to the class teachers who kept me updated and gave me lists of children who had a uniform problem. I decided to work on this issue and see how to help the children."

Roschanski (2007) argued that, even with the free primary education enrollment, some children in rural Kenya are unable to attend school regularly due to lack of basic items needed in school. Extreme poverty may interfere with children's school attendance as the parents may not afford to buy school uniform or writing material. Teacher 1 contacted parents and other community members, requesting donations of school uniform. She explained:

"The response was overwhelming! I received many sets of uniform for both boys and girls. To my surprise, I even received monetary donations from old students of the school. Word had gone round that I needed clothes for the children. I had more than enough. I was able to award sets of school uniform to about 80 children and still had more in the store. I had attained my goal even before the year ended. As I reflected on this, I was amazed that children could drop out of school for matters that would seem trivial to many people. I am very excited about the action research. It never ends, there is always something new to work on. This continuous projects are very beneficial to children, especially here in the rural areas."

Teacher 2 was contemplating the possibility of starting a boarding facility in the school for the older children of standard 5 to 8.He explained his next cycle:

"I was contented with the success in keeping the girls at school and learning; However, I am aware that a community's traditions are not easily changed and I would soon have problems of more dropouts. After a series of discussions with my deputy, we drew up a plan to introduce boarding facilities in the school. This meant that we needed two blocks that would serve as dormitories for the boys and girls. Boarding facilities will help in keeping children in school, and many more will have the chance to complete their primary education. Now the problem was the funds. I made appointments with community leaders and well wishers to help with the project."

The head teacher started his fund raising process in 2012. His initial idea was to build two dormitories. However, in March 2014, he received a large donation of about 2 million Kenya Shillings (€ 16,808) from a senior government official. He hopes to start the building project in August 2014. He plans to construct the dormitories and build a few more classrooms to reduce overcrowding, especially in the lower primary section of his school.

5. Conclusions

Ainscow and Cesar (2006) referred to "The Index of inclusion, a well known school review instrument" (p.233) which suggested the replacement of the term 'special educational needs' to account for educational difficulties. In order to cater for such difficulties in school, the role of teacher training is crucial. The two teachers were able to transform their schools as a result of training. Abosi (2007) emphasized the importance of teacher training as a solution to the challenges that face developing countries in implementing inclusion in schools. The two head teachers in collaboration with other staff members were able to identify and offer solutions to difficulties faced by the children. The kind of leadership they offered in the improvement of their schools was reflected in the views of Timmons and Walsh (2010), who argued that the head teachers' leadership is key if schools are to progress. They also highlighted the importance of community support, a notion similar to the situation of the two schools in this study. The concept of inclusive education addressed in this paper was based on rural Kenyan schools as centers of inclusion and teachers as leaders and mediators between the school and the community in matters of development and promotion of participation and inclusion. Ainscow and César (2006) focused on schools as important aspects of implementing inclusion. They argued that "Thinking about education in some of the poorest regions of the world provides an opportunity to rethink school as one amongst a number of means for developing education within communities" (p.235)

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TEACHING OF SHOPPING ABILITIES TO MENTALLY DISABLED TEENS VIA iPAD BASED APPLICATIONS

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Abstract

Purpose of this work is to bring in the skill of shopping independently to mentally disabled teens who are being educated in high school level via iPad based videos and applications. In 2013-2014 school year 8 mentally disabled student who study at Ümit Kaplan Special Training Occupational Training Center in Ankara, Turkey participated in this study. Students participated in the study are aged 15-17. 4 of the students participated are the control group, the other 4 are the experimental group. While the students in experimental group were taught shopping ability via iPad based videos and applications, the students in control group were taught how to shop with cards with pictures on them.
At the end of this study of high school students with mentally disabled through via iPad based videos and applications independently performs the skill is seen that they can.

Keywords: mentally disabled teens, iPad based videos and applications, teaching of shopping abilities.

1. Introduction

Independent living skills generally consists of skills which are necessary for the individuals for surviving and living independently from others (Neistadt and Marques 1984; Cavkaytar 1999). An important part of these skills follow a developmental way from childhood to adulthood. These are separated to four skill areas such as; basic skills necessary for success, skills necessary for adaptation, daily life skills, occupation preparative and occupational skills (Close, Sowers and Bourbeau 1985; Cavkaytar, 1999). One of those, daily life skills is also consist of sub skill areas such as self care skills, shopping skills, domestic skills and health care skills.

Educational Technologies are means which present students to learn individually and make them individuals who learn for life. In today's world, technologically developed countries realized that the real power vests in not in the physical power but in the brain of an educated person. As a result of this important breakthrough, every country has entered the process of reconstructing the education to fulfill the involvement of technology (Cetin,Cakıroğlu,Bayılmış and Ekin, 2004). Turkish educational system didn't also just stop and stare this developing technology and on 22nd November, 2010 signed a protocol with Ministry of Education in the extent of Fatih Project. In the scope of this project, interactive smart boards were distributed to the classrooms and students were given tablet computers. Not only students with normal developmental skills but also the students in need of a special education benefited from these technologies. Interactive technologies led to the often practicing of students with special needs, students participating actively in educational activities, highly focusing, needing less help, learning entertainingly and the decrease of anxiety. Technologic devices especially enhance the independence, learning and social acceptance of individuals with special needs (Jeffs, 2003). Use of technology in special education, increasingly continues with the technologic advancements. Anderson, K.A. 2008;

researched the effects of interactive boards on focusing and understanding English pre-preparation skills in kindergartens on normal students and the ones with special needs. Hammond, Whatley, Averes and Gast 2010; studied the efficiency of video model on teaching how to use an iPod to 3 mid-level mentally disabled participants. Şahin, Çimen, 2011; researched the effect of interactive board on hand-eye coordination and visual attention on mentally disabled and autistic people. Jowett, Moore, Anderson 2012; taught the counting skill to pre-school children with Autism diagnosis via iPad.

2. Methods and Materials

Purpose of this work is to bring in the skill of shopping independently to mentally disabled teens who are being educated in high school level via iPad based videos and applications.

Working at Height: 240 mm (9.4 inches) Width: 169.5 mm (6.6 inches) Depth: 7.5 mm (0.29 inch) Weight: 469 g (1 lb), which was used APPLE iPad. In the study in İPAD Morpho Booth, Puppetpals HD Little Book Creator was used applications such as.

In 2013-2014 school year 8 mentally disabled student who study at Umit Kaplan Special Training Occupational Training Center in Ankara, Turkey participated in this study. Students participated in the study are aged 15-17. 4 of the students participated are the control group, the other 4 are the experimental group. Before commencing the study both experimental and control group student were taken to a real supermarket and they were asked to buy milk, pasta, yoghurt, napkins and tomato paste from a shopping list consisting of these items. In base level, none of the 8 students participating in the study could shop in real supermarket environment. While the students in experimental group were taught shopping ability via iPad based videos and applications, the students in control group were taught how to shop with cards with pictures on them.

3. Design

In the first stage, researchers showed three videos about shopping ability to experimental group. Milk, pasta, yoghurt, napkin and tomato paste on the shopping list were firstly vocalized in the animation movie which was prepared by the researchers. In the second part of the movie, products on the shopping list were put in a shopping cart. This film was shown to the students in experimental group twice. Two video films showing how to shop in a real supermarket environment with the same shopping list were shown twice to the experimental group. In the first movie shopping was done by a researcher, in the second it was done by an animation character. After the stage of showing films is completed, experimental group students put the same shopping list products to the shopping cart and took it to the cash register in the shopping application on iPad. The students who passed this stage were taken to a real supermarket and they tried to buy the products on the shopping list given to them. From the experimental group students, it was expected from them to read the shopping list, find the products, put the products to the shopping cart, go to cash register, pay and put in a bag.

First, second and third students were seen shopping independently on their first try in the study about real supermarket environment shopping skill development. However the fourth student only bought three of the five products on the shopping list in his/her first try, shopped independently in the second try. For the students in control group who were taught twice with card with pictures in the class environment, they were brought to real supermarket environment and expected to shop independently. Control group students weren't able to shop independently.

After their first independent trial, experimental group students were asked to shop again after 15 days and they maintained their ability to shop in a real supermarket environment after 15 days.

4. Discussion and Conclusion

Purpose of this work is to bring in the skill of shopping independently to mentally disabled teens who are being educated in high school level via iPad based videos and applications.

In this study, the practices used by technology-aided teaching material; (Anderson, Kristin A., 2008; Hammond, Whatley, Averes Gast, 2010; Sahin, Lawn, 2011; Jowett, Moore, Anderson 2012) supports the work they are doing. As a result, the iPad app through group education, teaching with picture cards made by the group in a shorter time to do shopping has gained independently. In addition, independent of the students in the experimental group practices were observed after 15 days they can maintained.

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AUGMENTING LEARNING REALITY –
THE RESULTS OF RESEARCH ON USE OF ICT IN POLISH SCHOOLS

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Abstract

This paper describes research results on the subject of ICT in schools in Poland. The research was carried out in the Lesser Poland region, in the period of May-July 2013. The data was obtained from 104 qualitative in-depth interviews, and 34 focus groups with teachers and school principals, from 32 public schools on two levels of education.
The goal of the research was to establish a better understanding of barriers and challenges in augmenting traditional education with innovative high tech support. The research team analyzed the use of computers, smartphones, tablets and other internet connected devices in schools. This paper focuses on two key areas: (1) levels of ICT use in class, (2) factors that blocked ICT development in school education.

Keywords: ICT, schools, computers, flipped classroom, Poland.

1. Introduction

The use of ICT (information and communications technology) in the classroom in the year 2014 is a necessity – and a real problem, that has to be solved as soon as possible. The gap between the needs of students and the offer provided by the public education sector is increasing. Still it seems that in many cases the reflection on the causes of the problem goes in the wrong direction – concentrating on the technical, rather then the social aspect.

The typical student is surrounded by electronic media, has access to the internet constantly and doesn't fit in the notions of being on-line or off-line – as his perception of reality is augmented all the time with the usage of smartphones and other devices. It is a paradox that in many cases, the only time kids really go offline is during their school time – because the schools around the globe aren't really prepared for the digital revolution and many of them turn to prohibiting the use of digital devices in the classroom. The situation in this area differs from country to country, with some countries leading by incorporating smart ideas on how to use ICT in class, while other lag behind, still pretending that nothing has changed and that the old blackboard and chalk are still the main education tools.

In the case of Poland, the situation is mixed. Some schools try to develop a new approach and experiment with new technologies, while other stay behind. There is no systematic approach though that would lead the schools through this challenge. This paper presents is aimed at uncovering social mechanisms that have to be taken into account in order to prepare such a system solution. Presented here are the results of a qualitative research, carried out in the region of Lesser Poland. Its main goal was assessing the scale and quality of actual ICT usage in education, and identifying the barriers of development in this area. The research was done as a preparation part for a EU-funded project called "The Laboratory of Digital Education", that has been carried out since late 2013 and will end in mid 2015.

2. Research methodology and objectives

The research was carried out in schools of the Lesser Poland region, placed in the southern-east of Poland. The region is not the wealthies part of the country, with

the GDP per capita being around 90% Poland average and around 50% of EU average[i]. The region is economically dependent on light and heavy industry, which together with a strong cultural heritage (Cracow was a former Polish capital) creates a political climate dominated with tradition and a strong role of religion.

The research methodology was qualitative with the use of two main methods: IDI and FGI. Both methods were chosen for their ability to dig deeper into the problem area and uncover hidden problems and unforeseen mechanisms. There is a lot of quantitative data about ICT usage in Polish schools, showing that its level is a little below EU average[ii], but none of the statistical analysis sheds too much light on the mechanisms working under the surface of numbers. That was the gap this research was trying to fill – to pinpoint the main factors and barriers, blocking the use of ICT in Polish schools. Such scope was dictated by a very practical context of the research – the findings were to be a key element in constructing a two-year project, aimed at enhancing the ICT usage in schools of the region.

The research scope included 32 schools from all 22 provinces of the region, from a range of cities, towns and villages. 16 of those schools were on gymnasium level (7th -9th grade) and 16 were high schools (10th-12th grade). The research team carried out 72 individual in-depth interviews with teachers and 32 with school principals or their deputies. 34 focus groups were also established. The majority (98%) of interviews and focus groups have been recorded.

Respondents have been recruited from the teachers of four subjects: Polish language, English language, geography and mathematics.

The data has been analyzed with the grounded theory procedures, described by Glaser and Strauss[iii] The initial hypothesis have been tested and reformulated basing on accumulated data in the early phase of the research, then tested again with new data and so on, until new data didn't bring any significant changes in the emerging theory[iv].

3. Three levels of ICT usage in schools

The main finding of the research was that the usage of ICT in schools shouldn't be analyzed in terms of quantity of lessons using laptops or multimedia projectors, as was previously shown in most reports, but in categories of usage depth and innovation level of teaching methods. It turned out that many schools that had very good quantitative results were using ICT as a replacement for older technologies, not taking advantage of many new possibilities.

For an example, in a school that had interactive boards and multimedia projectors in every class all those tools have been used only to slightly increase the attractiveness of the lessons, not as a means of teaching innovation. The interactive board was used as a simple substitute of a traditional blackboard, with the students using their fingers or special pens instead of chalk. Another common case were multimedia presentations (mostly PowerPoint) read by the teacher to the students, and then written down word-by-word by the students in their paper notebooks.

Basing on such data, we established a usage-depth model, showing the three level range of possible applications of ICT in schools.

3.1. Level 1: Old methods, new gadgets.

The most basic use of ICT in schools was as a replacement of older technologies. As described above, teachers used computers as a new way of writing and showing, not taking into account any possibilities created by cloud computing,

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[i] http://krakow.stat.gov.pl/

[ii] (2012), „Survey of Schools: ICT in Education, Country Profile: Poland, European Schoolnet,

[iii] Glaser B., Strauss A. (1967) The discovery of grounded theory: strategies for qualitative research, Chicago: Aldine Publishing

[iv] Strauss A., Corbin J. (1997), Grounded theory in practice, London: SAGE Publications Inc.

immediate internet access and so on. In this model the most common way of teaching was by giving a lecture, sometimes enriched by showing a movie or pictures on the screen. Powerpoint was the favourite program for this level, as it enabled teachers to get *somewhat* better attention for their lesson – but it didn't transcend the classic "I speak, you listen and repeat" paradigm.

Such a model fit very well to the reality of a typical classroom – filled with around 30 students sitting in rows, facing the teacher. Using any innovative model of technology would require breaking up those barriers, which would cost precious time and create a lot of disturbance. So it was no surprise, that this basic model was present in all 32 schools taking part in the research and was the dominant way of teaching in 29 of them.

3.2. Level 2: Digital activity in class

The second level of ICT use in schools was to engage students into activities using computers and other devices connected to the internet, during class-time. Some examples included using on-line translators during foreign language classes, spreadsheets to do calculus in mathematics. It was also essential for this model that the teacher didn't provide step-by-step instructions, but rather set out the target and then concentrated on helping those students who needed support. Although goal-oriented teaching and higher levels of ICT use don't seem connected theoretically, such a combination was present every time we encountered level 2 and level 3 ICT use. The reason of such congruence was obtained from the data – the teachers who wanted more sophisticated ICT use had to let their students work more freely, or they wouldn't be able to manage the whole class. In this case the large number of students in one class worked to the benefit of the situation – providing step-by-step instruction to 30 kids was a impossible chore, so the only way of dealing with the situation for the teacher was to move from managing by instructions to managing by objectives.

3.3. Level 3: Flipped school

The third level was akin the idea of flipped classroom, largely promoted by projects such as Khan Academy. The most advanced teachers used ICT in order to totally change the teaching paradigm, moving the knowledge-transfer parts of the process from the classroom to other vicinities while filling the freed time with more practical tasks and working one on one with the students needing more support.

Some examples of such a shift included teachers preparing short movies for the, or using already existing videos, available on youtube or vimeo. Unfortunately, in most cases the existing materials (such as Khan Academy) didn't fit to the Polish curriculum, so teachers used them as supplementary materials, and created a lot of content themselves. Besides movies, teachers gave theirs students hyperlinks and other materials, both written and visual in order to prepare for the lessons and complete projects.

An important feature of the third level was the use of the internet for instant and continues communication between the teacher and the pupils. Teachers using this model created facebook groups, online forums, blogs and other communication platforms to exchange their thoughts with kids.

This level was definitely the least popular – only one school employed it in a more systematic way and in two others we found singular teachers that successfully used such an approach.

4. Barriers in implementing ICT in educational practices

There were many reasons for such lack of innovation of ICT use in class. Our initial hypothesis was that the main barrier would be the insufficient number of digital devices in schools. It soon turned out that the hypothesis was wrong, as we encountered schools with a lot of equipment being used on the first level and also schools that innovated well, despite very limited resources. The main factor influencing

the level of ICT turned out to be the values and attitudes of teachers – and also their fears and misperceptions about computers and their influence on children.

4.1. Fear of losing teachers authority

The main fear, present in the majority of interviews was the notion that implementing too much work with computers would undermine the authority of the teacher. This arose from three different reasons:

a) *"The kids will be better at handling computers then me"* – this quote and its variations were omnipresent and for many teachers stood out as a main barrier. The origins of such an attitude can be easily traced back to the misunderstood traditional model of teaching, where the teacher had to be the expert. The resulting perception was that the teachers shouldn't admit to gaps in their knowledge, as it would make them appear vulnerable and weak.

b) *"I won't be able to control what they're really doing on the computers"* – again, rooted in the same tradition, such thoughts were presented by teachers who also admitted that they need as much control over their students actions as possible.

c) *"In the internet nobody cares if I'm a teacher or a student"* – the third reason of fear of losing authority was most interesting sociologically, as it represented the teachers understanding of social hierarchy on the web. As shown by Mark Prensky in his model of digital natives[v], on the internet the power structure is very liquid and doesn't derive from the real world social positions: a university professor can lose an argument with a teenager and it won't be considered inadequate by other disputants. This sort of social organization is very different than the one present in the school system, with its XIX-century hierarchy, the teacher being the authority and students being inferior. And for the teachers socialized throughout their whole life in such a system it is very hard to overcome their habits and move into a totally different value system.

4.2. Lack of digital competencies

Most of the teachers we met were digital immigrants (to quote Prensky once again) had very limited ICT skills. And event if they were competent technically – meaning that they knew how to operate specific programs or applications - they still lacked the *savvy* of their students, the agility and intuitiveness when dealing with complex digital surroundings. This had lead to fear of new things and reluctance in experimenting with new possibilities, in order "not to spoil things". As we knew from previous research[vi] the fear of "damaging" or "destroying" the computer is one of the most popular myths among users with little or no experience in using ICT technology.

The lack of competencies also limited the possibilities of augmenting the lessons with ICT. Most of the respondents never heard of such tools as screencasts, online testing tools or cloud computing. So they limited the scope of possible ICT uses to presentations and movies that were not really effective as a teaching tool. It brought on an interesting paradox. Many teachers we interviewed disregarded digital technology as a whole, because they saw the deficits of the level 1 methods of incorporating into the classroom, but knew no other model. Some examples of such perceptions:

"This whole computer stuff is overrated. A teacher can play a movie from the internet for 45 minutes, sure. But it won't really be effective"

"In the internet you can do only closed-ended tests, like you've got answers: a,b,c,d. And that's not really effective in testing understanding. So I stick to traditional essays."

"A mobile phone? Why do you ask? What possible use could a mobile phone have during class – I don't see it"

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[v] Prensky M. (2001) Digital natives, digital immigrants part 1. *On the horizon* 9.5 vol. 9, issue 5, p.1-6.
[vi] Kuczynska A. Oryszczyszyn R. (2011) *Pokolenie 50+. Pierwsze kroki w cyfrowy świat*, Stowarzyszenie „Miasta w Internecie"

"It's not only about transferring knowledge to students. They should understand it. And how would they if they only used the internet?"

This paradox turned to be one of the most potent barriers we encountered. The reluctance in incorporating ICT in the classroom was often based simply in the lack of knowledge about its more advanced possibilities and the correct observation that a simple substitution of traditional tools with digital ones didn't provide much gain.

4.3. Concentrating on the negative aspects of the internet

Many teachers concentrated in their narratives on dangers and problems connected to being on-line. The most commonly mentioned risks included mobbing, exposing children to explicit content and incorrect information on many websites. All of those threats were legit – and in many cases the teachers could provide examples of real life situations, that happened in their schools.

In some cases the anxiety of the teachers was provoked by the sole fact that kids spend a lot of time in front of the computer. *"They told me they could sit by the screen for seven hours. I was terrified!"* said one of the teachers. His colleague from another school had similar observations: "*They can't control the time. They're sleepy at school because they played games till 3 am".* Many teachers connected the amount of time spent online with lower grades achieved by students.

Those negative aspects were highly visible especially in the narratives of those teachers who used ICT in class rarely or never. Sometimes they obviously exaggerated – but in many cases they just places the cons before pros when constructing their opinions about the digital worlds. Such an approach led to disregarding ICT as a whole.

5. Conclusions

The research led to three major findings.

1) The main barrier in implementing ICT augmented learning in Polish schools is the social dimension of the problem. This finding, although not completely new, is very important, as it is contrary to the public policy and the governments actions[vii], which concentrated more on providing schools with equipment not on working with the attitudes and values of the teachers.

2) The high numbers of equipment or ICT-enriched lessons doesn't mean better teaching. The notion of "quality not quantity" is very important in this area – most schools use a lot of ICT tools, but they use them as simple substitutes of older technologies.

3) The use of ICT in school is highly connected to the way the teachers see themselves and their role in the classroom. Using technology is only a part of a bigger issue of adapting teaching styles to the needs of contemporary students.

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[vii] The Polish government launched in 2012 a countrywide project aimed at increasing the level of ICT use in schools. The project is called „Digital School" and its main idea is to support the schools by providing them with equipment of their choice, but doesn't include sufficient training and is totally oblivious to the social aspect of the problem.

READING DIFFICULTIES AND TECHNOLOGIES: DESIGN AND DEVELOPMENT OF AN EDUCATIONAL ICT TRAINING

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Abstract

The use of educational computer technologies in teaching school, finally, after many years of experimentation, it has become a skill a bit more stabilized by the teacher. In view of new technologies for learning, the educational robotics is gaining a prominent role: the implementation and programming of small robots is used to promote, in the students, problem solving skills, thinking strategies and in 'learning concepts [Lund H. H., Pagliarini L., 2002]. "Dyslexia" is a specific difficulty that refers to the ability to read accurately and fluent and which is often characterized by poor writing skills. Reading disability affects about 3-5% of Italian children and it is the most prevalent of all learning disabilities [Stella G. 2001]. The contribution presents the results of a modelling process of a management user interface devices set, including robot NAO and a software platform hosted on a remote server. Management user interface is designed for elementary and middle school's teachers for planning and organization of teaching activities to support students with dyslexia and low level of ability in reading and understanding texts. The work is being carried out under the project Robin: Robotic Interaction system for visuo-spatial data presentation for effective learning, where the Centre on New Technologies for Disability and Inclusion (CNTHI) of the University of Salento, is a partner scientific. Robin project started in May 2013 with completion scheduled for June 2014, it is proposed as a tool for networking between schools, universities, government, businesses, students and parents that can facilitate the achievement of new skills overcoming the barriers of the digital divide. The contribute presents the educational model of intervention implemented in Robin set devices, the theoretical framework of pedagogical choices [Cornoldi C.1991 , Stella G. 2001, Papert S., 1984].) and the management model based on user centered design process for universal design of learning.

Keywords: ICT, dyslexia, didactics, robotics, user cantered design process.

1. Introduction

The technological development of the current society has led to the emergence of new forms of communication that go beyond the simple written text and see a multimedia, telematics and interactive information management. The use of ICT (Information Communication Technology) has entered the classrooms and, finally, after many years of experimentation, it has become a skill a bit 'more stabilized by the teacher. In view of new technologies for learning, the educational robotics is gaining a prominent place: the implementation and programming of small robots is used to promote, among the students, problem solving skills, thinking strategies and in 'learning concepts [Lund H. H., Pagliarini L., 2002]. Consistent with the guidance constructive approach to learning, the action of the person during the learning process is the main aspect. Constructivism conceives education as the result of complex interactions with the learning environments, content, participants and tools. It focuses on the interaction of human activity and consciousness within its relevant environmental context. The constructivist approach holds that knowledge has to be discovered, practiced and construct by each learner (Duffy, Cunninghman 1997, p. 174)- The best of pedagogical method to achieve that goal should be collaborative learning, created learning simulation, situation which can enable learner to discover trough active exploration and social collaboration as laboratory, question time, case

studies and group discussion. The communication technologies and educational robotics inspired by the principles of constructivism theoretical and applied research highlight the importance of such tools in support of learning processes (Martin F., 1994; Papert S., 1984. 1986).

The scientific literature (Cornoldi C.1991 , Stella G. 2001), the Consensus Conference (INSS 2011), the documents of the World Health Organization and the recent ICF classification (WHO 2001), urging educators, teachers, school psychologists and parents, to pay particular attention to the signals characterizing the presence of learning disabilities since the early years pupils. The same documents provide tools for early assessment of the discomfort. This stems from the established research in the field has shown that the presence of conspicuously one of the most common developmental disorders that fall within specific learning disorders, dyslexia. In Italy in 2010 was approved a specific law (Law 170) that defines, describes and protects students from any school and university with specific learning disorder.

"Dyslexia" is a specific difficulty that refers to the ability to read accurately and fluent and which is often characterized by poor writing skills. The dyslexic subjects have great difficulty in learning to read, reading is slow, laborious, and usually inaccurate. The ability to read is struggling to become an automated task and continues to require a major investment of cognitive resources. Reading disability affects about 3-5% of Italian children while in the english-speaking children will get to overcome the 8-10%. (Stella G. 2001) and it is the most prevalent of all learning disabilities. Developmental dyslexia is diagnosed by specific difficulties with reading that cannot be explained by intelligence or lack of educational opportunities. The literature has demonstrated the functionality of the use of ICT to support dyslexic pupil in the learning tasks, but often the technological tools are developed to be used in rehabilitation treatments one by one, hardly usable in the context of teaching class. (id.).

2. The Robin project: objectives, technologies and design methodology

The Robin project (funded in the call Apulian ICT Living Labs 2013 Action funded under the ERDF OP Puglia 2007-2013 - AXIS I - Intervention 1.4 - Action 1.4.2), has the goal of developing a platform Learning Management System (LMS) integrated with the humanoid NAO robot to support pupils with learning disabilities in school activities and to enable the class teacher to organize activities aimed at strengthening specific skills and competencies. Robin is proposed as a tool for networking between schools, universities, government, businesses, students and parents that can facilitate the achievement of new skills overcoming the barriers of the digital divide. ROBIN, by means of OMNIACARE-based exercise platform, aims at developing a playful and stimulating environment able to support children affected by dyslexia not in order to facilitate their learning activity, but also and particularly in their relational and growing path.

The working group of the project consists by researchers at the Centre on Disability and Inclusion for New Technologies of the University of Salento (CNTHI, of which the undersigned is scientific coordinator), by an Information Technology development company (namely E-Result), by a cultural association and by the stakeholders involved in the exploratory investigation.

The goals are pursued through the use of a kit consisting of an anthropomorphic robot, NAO *developed by Aldebaran Robotics*, which interfaces with a laptop and the OMNIACARE platform, hosted on a remote server accessible via the Internet and capable of recording all the performance data of the exercise *(Fig. 1)*.

The NAO robot has been used in more than 350 prestigious universities and laboratories around the world, including Harvard University and Stanford and MIT. There is also a European Consortium EMOTE, which deals with research and design of pedagogical scenarios of intervention with robotics.

The LMS OMNIACARE platform aims to enable teachers and educators entering teaching units customized in accordance with the ministerial school programs, and sharing them between schools, universities, as well as local health authorities.

Figure 1

The ROBIN project has been carry out using the UCD - User Centered Design methodology. It is a design philosophy and a process which focus the attention on the user's need, expectations and limits in respect to the final product. The user is therefore placed at the center of each step of the development process in order to maximize the usability and acceptance of the product, optimizing it around the needs of the users. The UCD methodology is characterized by a multi-level co-design and problem solving process which requires designers not only to analyse and foresee how the user will utilize the final product, but to test and validate at the same time their assumptions by taking into consideration the end-user's behaviour during the usability and accessibility tests (test of user-experience) into the real world. The UCD methodology arrives at the creation of the final product through an interactive process that provides the development of a first prototype and a following test and assessment stage on the basis of which to proceed with the development of the next prototype. Each cycle therefore leads to the creation of a product that is closest to the real and practical needs of the user.

Complying with the chosen model of user centered design, was conducted the analysis of the needs and expectations through five focus groups with different types of users (teachers, espert in specific disorders id learning teachers, psychologists, parents, children, for a total of 67 people). Through this step, it was possible to identify the core concepts and demands of the members of the school community in relation to a computer system capable of supporting the teaching school for children with dyslexia and reading difficulties (Pinnelli S. 2014). The results of the focus group have become the guidelines for the development of the LMS. It provides three main *categories* of work, each with three different *types of activities*. Each activity is calibrated to 3 *school levels*: first cycle of primary school, second cycle of primary school, first cycle of secondary school, for each school level, all activities are graded on at least three *levels of difficulty*. The categories, the activities and levels are designed to be settable by the teacher in relation to the part of the school program he wants. A portion of the activity takes place in interaction with Nao. The types of activities that have been designed and partially developed and are a comprehensive summary of the needs and wishes expressed by the staff interviewed, including children with learning disorder are categorized into three main types of interactions with the platform and with Nao:

1. <u>Reading comprehension</u> (with the evaluation of index Gullpease. It is an index of readability of a text calibrated to the Italian language) with the possibility to obtain the reading accompanied from Nao.

2. <u>Educational games</u> with the goal of strengthening the phonological competence

3. <u>Activities to strengthen visual-spatial skills.</u>

Before describing each level is appropriate to clarify that the statement of the school staff and the educator, were the guide for the development of software and for the design of an interaction environment that would be useful not only to students in difficulty, but usable by all, therefore, structurally inclusive. In fact, the design of inclusive teaching materials, so, as it is also indicated the methodological approach of recent spread called Universal Design of Learning (UDL), incites to organize learning situations, tools, pathways that are capable of levels, abilities and learning styles differentiated becoming inclusive (and no more special for someone) to the extent that allow everyone to understand and improve. UDL promotes strategies that allow learning standards to be achieved by students "with wide differences in their abilities to seek, hear, speak, move, read, write", understand language, attend, organize, engage and remember (ERIC/OSEP, 1998, p. 1)

All the exercises are usable with or without interaction of robot Nao. In same case it will give cues and feedback to aim the goal of the exercise (like a partner/friend), in other cases, Nao will be a subject that will receive the information that the student provides to complete the tasks, so that the student will create and design the action of Nao and in doing so take up his own capacity for discovery and control of learning process, in a real constructivist task.

Reading comprehension: This type of activity provides a strong action on the part of the teacher. The LMS provides a scaffolding for the organization of the educational task, but the content and method of execution remains of the teacher to decide which offers to his student activities. The exercises possible, on three different levels of difficulty eachone, are

- CORRECT THE TEXT. The learner must identify and correct errors in a text loaded from the teacher. The teacher chooses a text to work on (can be typed directly into a blank space or do a copy/paste from another source). By clicking on the link "Readability" the teacher can check the readability index (Index Gulpease) of the text (the system can do this check or by accessing the following link: http://xoomer.virgilio.it/roberto-ricci/variabilialeatorie/experiments/leggibilita.htm, returning the result to the control. This index must necessarily be greater than 60, and texts should be up to 200 words.
- FILL THE TEXT. The learner must finds the missing words in a cloze test (texts washes), choosing the most appropriate to the content
- CONCEPTUAL MAP. The learner must organize a structure map of the important concepts present in a text through a drag and drop action .
  Educational games:
- MEMORY. The game consists in showing the cards (from 4 to 12 cards according to the level of difficulty, and they may contain images and /or text) on the screen, taking into account the options fitted. The pairs of cards to choose can begin with the same syllable (sea/hand ship/nose, seal/leaf, ball/bread).
- SYLLABLE COUNT. The game consists of the display screen of a certain number of words. The child must guess the number of syllables that make up words by writing the n. corresponding syllables in a box.
- REFERENCE IN RHYME. The game consists of the display screen of a number of images (decisions in relation to the initial settings). Among the words displayed, some rhyme, some do not. The child must choose on the words that rhyme. The image is positioned at the top left of the screen and the mouse click activates the audio.
  Activities to Strengthen visual -spatial skills:
- These activities will be implemented in the second year of the project involving the implementation of games of joints of simple figures in complex images,

activity orientation in space of the monitor and predict motion tasks that the student will plan to move and direct the robot in the real environment as much in the virtual space of the monitor.

4. Conclusion

The results of the project have undergone an initial assessment in February, downstream of which, in agreement with the models of UCD, changes were made to the interface and interaction systems. The critical issues reported by users and experts think of educational technology, were about graphic aspects (colour and structure of the interface), and aspects of content, the choice of words and images. Some improvements in the month of May was made follows by a second evaluation of the platform and the levels of interaction with Nao. The positive elements include the ability to use the activities with children with and without linguistic disadvantage, ease of use and the type of activity. The critical nodes are: the interaction between the robot and the LMS software, the access to the wireless network and the quality of speech synthesis available for Nao. However, the enthusiasm, the comments and the interest shown by the group of 37 teachers with whom was made the assessment, attest the need of educators, to have educational resources that are useful both in children with dyslexia or language deficits and for children without difficulty at usable in the classroom, with tablets, IPad and mobile phones, in the same learning environment.

In a classroom of diverse learners, there is no single method of instruction that can meet the needs of all students. Instead, multiple, flexible "pathways" are needed Instructional design must take into account "widely diverse learners in current classrooms and build in options to support learner differences from the beginning" (Hitchcock, Meyer, Rose & Jackson, 2002, p. 9).

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DESIGNATION OF INFORMATION TECHNOLOGY FREQUENCY OF OCCURRENCE IN DAILY LIFE AND SCHOOL ACTIVITIES FOR THE TEACHERS OF SCHOOLS FOR VISUALLY IMPAIRMENTS

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Abstract

The main purpose of this research is designating the information technology and software frequency of occurrence in education activities for the teachers who work in Schools for Visually Impairment as a class or subject-matter teacher. Research population is the teachers who educate visually Impairment students as class and subject matter teachers in Ankara, Turkey (teacher count 132). Concerned population is randomly chosen 50 teachers from 6 different schools. For collecting data *"Survey of De signation for Info rmation Tech nology Fre quency of Occurrence i n Dail y Life and S chool Activitie s fo r the T eachers of Scho ols fo r Visu ally Impairment"* which was prepared by researchers is used. Based on research findings, frequency of occurrence of information technology by the class and subject matter teachers working at Schools for visually impairment in Ankara was interpreted categorically as *"low level frequency", "mid level frequency", "frequent"* and *"advance frequency"* and it is seen that 16% of the participants use information technology and software in their classrooms on *"low le vel frequency"*, 52% *"mid le vel frequ ency"*, 32% *"frequent"* and none of the participant use information technologies and software in *"advance frequency"*.

Keywords: *visually im pairment, assi stive technolo gy, u sing inf ormation technolo gies and software.*

1. Introduction

It is very important that the teachers have the positive attitude towards the use of educational technologies on teaching-learning process. Because it is known that even though there are enough educational technologies in schools, teachers never or rarely use them. Also the teachers, who use computers in their personal lives, don't use computers in school as education materials (Hew and Brush, 2007). Teachers play an important role in usage of educational technologies in teaching-learning process and in bringing educational technologies in conformity with educational methods. Active usage of educational technologies in teaching-learning process is related to the teachers' attitudes and their willingness to use technology (Becker, 1994; Christiansen, 2002; Hew and Brush, 2007).

Usage of educational technologies in teaching should also be used in visually disabled children's teaching as well as general teaching environments. It is necessary to use the technology for visually disabled individuals for living in harmony with society, to get education with everybody else in same terms and to create employment in their different dream occupational fields. A visually disabled person can read books, prepare notes and use Internet via computer technology without anybody else's help. Totally visually disabled and semi-seeing students' informational technology using skills are related to the technologic possibilities and their learning to use these possibilities thorough their teachers.

The main purpose of this research is designating the information technology and software frequency of occurrence in education activities for the teachers who work

in Schools for Visually Impairment as a class or subject-matter teacher. In this context, answers to the questions below were sought.

Sub Problems:

1. Does frequency of occurrence of information technology and software in education activities differ on sex for the teachers who work at Schools for Visually Impairment?
2. Does frequency of occurrence of information technology and software in education activities differ on age for the teachers who work at Schools for Visually Impairment?
3. Does frequency of occurrence of information technology and software in education activities differ on occupational employment time for the teachers who work at Schools for Visually Impairment?
4. Does frequency of occurrence of information technology and software in education activities differ on teaching subject for the teachers who work at Schools for Visually Impairment?
5. Does frequency of occurrence of information technology and software in education activities differ on their usage of information technologies in daily life for the teachers who work at Schools for Visually Impairment?
6. On which level do the teachers working at Schools for Visually Impairment use information and software?

2. Methods and Materials

Research population is the teachers who educate visually Impairment students as class and subject matter teachers in Ankara, Turkey (teacher count 132). Concerned population is randomly chosen 50 teachers from 6 different schools.

3. Design

For collecting data *"Survey of Designation for Inf ormation Technology Frequency of Occurrence in Daily Life and School Activities for th e Teachers o f Schools for Visually Impairment"* which was prepared by researchers is used. Survey prepared was controlled by two specialists and readied for use of sample. Survey form consists of three parts. In the first part; there is information on gender, age, subject and occupational employment time. In the second part; there is information on which information technology the teachers who participate in the research use, for how long they use it, for which purpose use the internet most and how many hours spent in a day using the information technology. In the third part; there are 15 questions aiming to designate the frequency of occurrence of the information technology in education activities of the teacher who work at Schools for visually impairment. The questions on the third part of the survey were prepared using five point Likert scale. Gathered data was analyzed by SPSS Windows and interpreted.

4. Conclusion

As the result of the data collected by *"Survey of Designation for Information Technology Frequency of Occurrence in Daily Life and School Activitie s for the Teachers of Schools for Visually Impairm ent"*; there is no meaningful difference found according to gender, age, occupational employment time and occupational subject for the teachers who participated in the research.

According to research findings; it is seen that frequency of occurrence of information technology and software in educational activities increases for the class and subject-matter teachers whose frequency of occurrence of information technology in daily life increases.

Based on research findings, frequency of occurrence of information technology by the class and subject matter teachers working at Schools for visually impairment in Ankara was interpreted categorically as *"low level frequen cy", "mid level frequen cy", "frequent"* and *"advance frequency"* and it is seen that 16% of the participants use information technology and software in their classrooms on *"low level fre quency"*, 52% *"mid level frequency "*, 32% *"frequent"* and none of the participant use information technologies and software in *"advance frequency"*.

Research is limited to 50 visually impairment class teachers in Ankara, Turkish Republic. In this context, more advanced researches may be planned with more extensive population and sample. Also research being conducted on only teachers of schools for visually impairment can be seen as a limitedness of the research. In this extent, it can be suggested to extend the research on different handicapped students' teachers.

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SELECTED ASPECTS OF PRAGMATIC COMMUNICATION DIFFICULTIES IN PERSONS WITH SYMPTOMATIC SPEECH DISORDERS

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Abstract

The principal objective of the presented paper is to introduce, from the theoretical point of view, the various specifics of disturbed pragmatic language level in people with autism spectrum disorders (ASD). In the following part, mainly empirically, we will present the particular results of the research examinations (*Disturbed communication skill and the impact of its symptomatology on inter-disciplinary cooperation of professionals and the affected family in a complex intervention*, Pdf_2012_012. *Communication deficits in selected forms of disturbed communication skills focused on evaluating the partial determinants of verbal and non-verbal components of communication in special education practice*, Faculty of Education at Palacky University (PdF_2013_021, author: Kateřina Vitásková), the partial results of this examination map and render an analysis on speech-therapeutic intervention in people with ASD. Towards the end of the paper, we aim to acquaint the reader with a research focused on the global detection of pragmatics in people with ASD, highlighting the element of non-verbal communication (GAČR, *Pragmatic language level in people with ASD*, 14-31457S, 2014/2016, author: doc. Vitásková).

Keywords: autism spectrum disorder, disturbed communication skills, pragmatic language level, speech-therapeutic intervention, non-verbal communication.

1. Introduction

In the current speech and language therapy (SLT), symptomatic speech disorders – which, in accordance with Lechta (2011), can be specified as interference in communication skills coexisting with primary and dominant diseases – are actual but also a very neglected topic (cf. Buntová, Tichá, 2009; Nádvorníková, 2009 in Kerekrétiová et al. 2009). A wide spectrum of symptoms implies deficits projected in impaired speech development in all components, whereas the extent of distortion is determined by a large number of varying factors (cf. Reisinger, Cornish, Fombonne, 2011; Vitásková, Říhová, 2012). The unifying aspects are generalized symptomatic categories or markers that also include the area of pragmatic language levels (PLL) (Vitásková et al., 2013).

Pragmatics in communication is, according to Watzlawicek, Bavelas and Jackson (2011), interpersonal interaction by means of which we initiate effects leading to adequate perception and behavioural reaction corresponding with the situational context. The authors also point out that they "…*place lesser emphasis on traditional relationships "sender-sign and sign-recipient" but we tend to prefer the interpersonal relationship of "sender-recipient" mediated by the communication* (in ibid. p. 25)". PLL thus represents the application of communication skills, mastering speech skills in every-day life and materialization of the communication intention. Communication intention occurs earlier than spoken utterance and by means of this skill, a child can express his/her wish to play, his/her dissatisfaction or draw somebody´s attention by crying (Bates, 1976) and it is then obvious that PLL is an essential precondition of social interaction and its disturbance is a fundamental factor inhibiting effective realization of the communication process.

The substantial deficits of PLL are the specific symptoms of distorted communication skills in people with autism spectrum disorder (ASD) (e.g. Geldart, 2008; Šedibová, 1998; Vosmik, Bělohlávková, 2010; Pečeňák in Lechta, 2003; Vermeulen, 2006; Philips et al., 2001 in Vermeulen, 2006). PLL as a basal issue in communication skills in people with ASD is also discussed by Howlin (2005). Our analysis shows (Vitásková et al. 2014) that slightly more than a half (56.52 %) of speech therapists in the Czech Republic (CR) do not assert the development of non-verbal communication in persons with ASD. They reported visual contact and prosody to be the most and least prominently perceived as disturbed, respectively; the specifics of facial expressions and gestures were then perceived with medium intensity (however, cf. Steinhausen, Gundelfinger; 2010; Straussová, Knotková, 2011).

PLL difficulties in people with ASD (especially with the Asperger´s syndrome; AS) are of neurobiological basis (e.g. Tesink, Buitelaar, Petersson et al., 2009) as they show increased activity in the right frontal gyrus – Brodmann area 47 (mapped by means of fMR). In the course of processing emotionally saturated information, the area that was activated in people with ASD differently than in intact people was the cerebellum, the central part of limbic system and the temple cortical areas, and did not show any activation in the left amygdala or the left part of the cerebellum comparing to intact population (Critchleye, Coll., 2000).

Ramberg, Ehlers, Nydén et al. (1996) found that ASD has significantly higher scores in verbal IQ due to multi-function autism and SLI but, on the other hand, homogeneously detected deficits in the social aspects of communication. The above shows that the pragmatics of communication in individuals with ASD exhibit significant specifics that disadvantage social interaction despite the possible absence of difficulties in phonetic-phonological language level and active vocabulary.

2. Research design and its methodology

The following part of the paper introduces the particular results of longitudinal research investigations conducted in time period March 2011– March 2014 at the Institute of Special Education Studies of the Faculty of Teaching at Palacky University in Olomouc
In the presented paper, we focus on the following areas:
1. Mapping whether the addressed respondents (clinical SLTs in the CR) provide their SLT intervention to clients with ASD.
2. Analysing the cognitive level of disturbed communication skill SLTs in the CR.
3. Providing reflexion on the conducted SLT intervention in people with ASD from the point of view of parents of children with ASD.

The principal research method is a questionnaire distributed to 3 groups of respondents – clinical SLTs (May 2011, number of questionnaires distributed 408, returned and completed 144; 35.29%), parents of children with ASD (June 2011, number of questionnaires distributed 41, returned and completed 19; 46.34%) and SLTs working in the area of school system and medical care (March 2013, number of questionnaires distributed 390, returned and completed 69 questionnaires; 17.69%). When compiling the questionnaire, we preferred the combination of structured and semi-structured items and we respected the principles necessary for its creation. We applied the Likert scale with 5 levels, ranging from border marks representing antagonistic evaluations (absolute dissatisfaction – complete satisfaction).

3. Results analysis

Our first focus was on mapping whether SLTs in the CR look after clients with ASD.

Table 1: Frequency of clientele with ASD under treatment of clinical speech and language therapist

ARE THERE CLIENTS WITH ASD AMONG YOUR CLIENTS?

STATEMENT	FREQUENCY	PERCENTAGE FREQUENCY
A. YES	80	55.56
B. NO	64	44.44
∑	144	100

It is quite apparent (see Tab. 1) that out of the total number of SLTs participating in our examination (n=144), 80 respondents (55.56 %) provide therapies to people with ASD. The average number of clients with this diagnosis per each professional who confirmed conducting SLT was 4 people with ASD; it is thus altogether approximately 320 individuals. Increase in the occurrence of ASD not only in the CR but also, for example, in the USA (compare e.g. Strunecká, 2009), which is identically claimed by Komárek (2010), Čáslavská (2010) and the simultaneous necessity of conducting SLT for all clients with ASD lead to the fact that the given clients represent sufficiently quantitatively saturated and justified group of people where intervention targeted on development of functional communication skills should have momentous, irreplaceable and purposeful role.

The following items of the questionnaire mapped the cognition level concerning disturbed communication skills in people with ASD. Respondents were offered a semi-structured question consisting of 4 possible answers (phonetic-phonological language - PPLL level, morphologic-syntactic language level - MSLL, lexical-semantic language level - LSLL, pragmatic language level - PLL) where they should respond with adequate reply.

Figure 1: Deficit language level in people with ASD
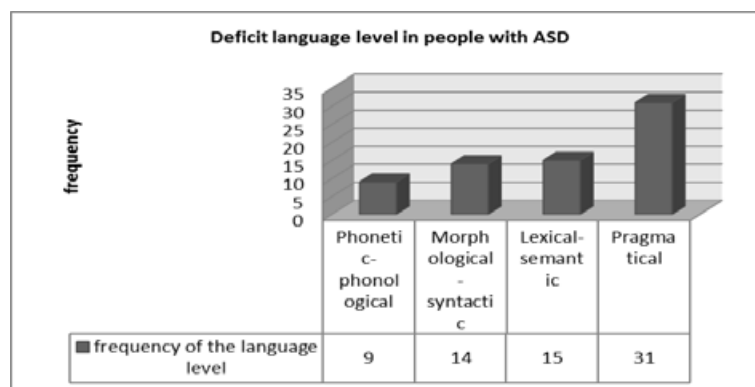
As it is obvious (see Fig. 1), the addressed respondents mark as most frequent (n=31; 44.93 %) deficits relating to PLL. The next most frequent is the LSL (n=15; 21.74 %) and MSLL (n=14; 20.29 %). Nine SLTs find the PPLL as deficient (13.04 %). It results that the addressed professionals marked, as the dominant aberrant, adequate language level as disturbance affecting the given communication area is typical for people with ASD. At the same time, it should be, however, highlighted that qualitative indicator presented by the frequency lesser than half – 44.93 % is not statistically sufficient.

In the given context, it is important to mention the below-stated results associated with reflection on the provided SLT intervention from the point of view of parents with children with ASD.

Table 2: Content of SLT intervention from the point of view of parents with children with ASD

AREA	FREQUENCY	PERCENTAGE FREQUENCY
A. PRONUNCIATION	12	75
B. UNDERSTANDING	7	43.75
C. VOCABULARY	8	50

D. GRAMMAR	1	6.21
E. MOTORIC	6	37.5
F. PRAGMATICS	**4**	**25**

We believe that the PPLL (see tab. No. 2) is not relevant as a primary area of development of communication skills in people with ASD. However, analysis of the results of the questionnaire investigation conducted by parents of children with ASD shows that three quarters of the respondents addressed (75 %) notice preference for this language level in the execution of SLT intervention. At the same time, we must be aware that the course of the intervention may be misevaluated by parents.

4. Discussion and conclusion

In the presented paper, we focused on an essential topic within ASDs disturbed communication skills and SLT intervention. The initial part dealt with disturbed communication skills in general and highlighted its pervasiveness in all individuals with ASDs diagnosis. The theoretical basis was accomplished by inland and foreign research examinations and their objective was to create a global view of the problematic condition at issue showing that the difficulties in the pragmatic language level are specific for ASDs. These variations are evident already in very early age and, to a significant extent, predict the child´s psycho-social development.

The empirical part of the paper offers particular results of longitudinal and follow-up studies conducted at the Institute of Special Education Studies at the Faculty of Teaching, Palacky University in Olomouc. These studies aimed at detecting whether SLTs in the Czech Republic, within their professional practice, look after clients with ASD; in addition to rendering an analysis of content of the SLT intervention in people with ASD and its reflection from the point of view of parents of ASD children. From the results of the mentioned studies, it follows that people with ASD are not registered sufficiently within SLT care (44.44 % of the addressed respondents confirm treating clients with ASD). On the other hand, it needs to be mentioned that 90.28 % SLTs the execution of SLT intervention as necessary and important. The opposite value can be only found in 8.33 % responses.

With regard to the pragma-linguistic concept of SLT, PPL should be gaining ground – as pointed out by Lechta (2003), Grigorenko, Klin, Volkmar (2003). This is also being confirmed by actual results verifying the effectiveness of SLT intervention in relation to the socio-pragmatic skills of children with ASD and intact children (Adams et al., 2013); the given situation is also reflected by ASHA (American Speech-Language-Hearing Association, 1993). Subsequently, the content of the SLT intervention was investigated. In relation to the core problem of ASD (social deficit and disturbed communication affecting pragmatic language level) and with reference to the preference of the so-called pragma-linguistic concept in SLT, we found it essential that SLTs prefer the development of the PLL. Practically, this includes, e.g., practising social skills, perception and expression of non-verbal communication, and applying and practicing alternative and augmentative communication (AAC). It follows from the results that 14.4 % of SLTs still perceive that the principal deficit is at the PPLL. On the other hand, 81.25 % SLTs prefer AAC, which needs to be perceived as positive. However, the statements of parents of children with ASD that about 75% SLTs still preferring the development of pronunciation cannot be regarded as optimal.

Further, the specific statements of speech therapists clearly indicate that the production of materials focused on diagnosing pragmatics in individuals with ASD is totally inadequate; their reflections point to the need for creating diagnostic and evaluation materials aimed at the pragmatic language level in people with ASD or adapt international tests to conditions in the Czech Republic. This should also be a partial outcome of the project GAČR (*Pragmatic language level in people with ASD*, 14-31457S, 2014/2016, investigator: doc. Vitásková), which focuses on the creation and

subsequent verification of the evaluation material directed at pragmatics in people with ASD.

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TEENAGERS AND ADHD: IMPROVING THE QUALITY OF LIFE THROUGH AN OUT-SCHOOL PROGRAM

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Abstract

The study explores the efficacy of a specific out-school program named Young People Skills Building Training (YPSBT) for treating teenagers with attention-deficit/hyperactivity disorder (ADHD). Trained education professionals worked together with twenty-two adolescents previously diagnosed with ADHD from the National Hospital System in Liverpool. ADHD is a cognitive multifactorial disorder, partly genetic and partly environmental cause. It is characterized by impairment of the ability of self-regulation, metacognitive planning, cognitive flexibility, self-healing, maintenance of effort, difficulty using strategies and inhibition of inappropriate responses. Impairment of these skills means that the implications in terms of welfare of the pupil in the classroom life are not only on the academic achievement but also on its ability to establish positive social relationships, to be accepted by peers and to reduce the difficulties caused from their behaviour. These aspects are critical during the adolescence when the group membership is essential to the development.The program consists in 12 hours of intensive training designed to gain a better understanding of their disorder. The activities were developed in order to support teenagers in identifying personal ADHD self management goals and to improve their social and emotional wellbeing. Therefore the educators were trained in the use of behaviour modification techniques and cognitive behaviour strategies. Parents ratings detected significant improvements in the pro-social area. Room for improvement were also found in Total Impact of the ADHD in the life, in the level of hyperactivity, in the peer relationship, and on the behavioural difficulties usually associated with the disorder but not in the variable emotion. In conclusion, Young People training program may improve the quality of life of teenagers with ADHD. This study is a result of a cross cultural collaboration between the ADHD Foundation in Liverpool and the University of Salento in Italy.

Keywords: *ADHD, adolescents, treatment, metacognitive planning.*

1. Introduction

The acronym ADHD "Attention Deficit Disorder/Hyperactivity Disorder" describes a heterogeneous group of adolescents and adults, who have a number of difficulties in maintaining attention, to control the movement and impulsivity. These three difficulties may be present all together or isolated, creating different diagnostic subtypes. The authorship of the word is traced to George Still, when in 1902 in the journal Lancet began to speak of "...adolescents with deficiency of moral control". In fact, in addition to inattention, impulsivity and hyperactivity, another symptom of ADHD deficit is linked to the executive functions, described as "the set of mental processes necessary for the development of cognitive - behavioural adaptive patterns in response to new environmental conditions and challenging" (Owen , 1997). ADHD is a condition that can affect many stages of psychological and emotional development and social integration of the child and may predispose to psychiatric illness and / or social distress in adulthood (D. Viola, 2011). In the clinical diagnosis of ADHD is estimated the significant presence of symptoms in at least two different social contexts of the child, therefore, not only at home but also in the school, during leisure activities, and in all possible contexts of a child's life. According to the latest provisions of the DSM V such symptoms must be present before the age of twelve, and must persist for at least six

months. The disorder occurs in approximately 3% to 5% of the childhood population, with boys being almost three times more likely to manifest the disorder than girls (Barkley, 1990; Szatmari et al., 1989, Bisiacchi e Fabbro 2002). Recent studies establishes that inherited basis for ADHD has been estimated in around 80% of cases, (Viola, 2011, p.18). In the description of the disorder are highlighted deficits in the control of executive functioning, learning and emotions. During adolescence hyperactivity, although still present, becomes much less visible. In a study of Barkley and colleagues the ADHD teenagers "were rated as less socially competent, involved in fewer social and organized activities, and had fewer friends than the control group" (Barkley, Anastopoulos, Buevremont, et al, 1991). The impact of ADHD in the family and school life opens many questions around its treatment and "research is [still] needed to identify the unique adolescent characteristics of ADHD and effective treatments" (Wolraich, Wibbelsman, Brown, Evans, Gotlieb, Knight, Ross, Shubiner, Wender, Wilens, 2005). At the moment, "the administration of psycho-stimulant medication is the least costly option, and it has positive effects in a short period of time" (Klassen, Miller, Raina, Lee and Olsen, 1999; Miranda, Pastor, Roselló & Mulas, 1996; Pelham, Wheeler & Chronis, 1998). It is important to create social and psycho educative situations were the teens are not just medicated but where they can learn about how their ADHD affects them and where they can meet peers facing the same challenges arising from living daily with ADHD. For this aim the ADHD Foundation offers group activities called Young People Skills Building Training, were adolescents can participate, understand and learn how to self regulate and better manage their ADHD symptoms and the co morbid anxiety that are antecedent to behavioural difficulties associated with ADHD. The objective of this study is to evaluate the impact of this skills based training programme in the life of teenagers with ADHD.

2. Methods: Participants, Materials and Design and procedures

The entire sample was composed of 4 males aged 9 to 15. All the subjects were previously diagnosed with ADHD from paediatricians at Alder Hey Hospital in Liverpool and referred to the ADHD Foundation along with their parents in order to receive information, support, and treatment. One child aged 9 was considered, by the group of educator and the therapist, enough mature to participate in the YPSBT. All The parents of the young people participated initially in one session of Information advice and Guidance about ADHD before that the teens were referred to the YPSBT and some of them also participated in a Parents training Programme called Parents skills building group. The adolescents that participated in the study attended mainstream classrooms and they belonged to families without cultural or environmental disadvantages.
Behavioural ratings were obtained pre and post treatment from one or both parents of all the subjects in order to gather information on the adolescents' functioning in natural environments.

SDQ Scale. The Strengths and Difficulties Questionnaire (SDQ) is a brief behavioural screening questionnaire, in particular we used the extended version with impact supplement. The SDQ is composed by 25 attributes, some positive and others negative divided between 5 sub-scales focused on emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and pro-social behaviour. The extended version of the SDQ enquires the parents further about chronicity, distress, social impairment, and burden to others, of a specific problem presented in the child (Goodman, 1999).

This study, as mentioned before, was done in collaboration with the Adhd Foundation, a charity that offers support to adolescents with Adhd and their family. A quasi-experimental design was used in the study, in specific, a pre-post test design without a control group was carried out to establish whether the intervention had the intended effect. The Analysis of Paired T Test was conducted to test whether the

average difference between the pairs of related measures (Hyperactivity, Emotion, Conduct, Peer relationship, Total Impact) was significantly different from zero.

3. Intervention

The Adolescents Skills Building Training is an intensive 2 days (6 hours per day) out-school program specifically designated for adolescents with ADHD from 11 to 19 years old. The aim of this program is to let adolescents understand and manage their disorder through fun activities highly structured. The programme is carried on by at least 2 educators, specifically trained in the use of cognitive behavioural strategies. The YPSBT combines evidence-based, contingency-management treatment components, including a token or point system, social reinforcement (i.e., praise, positive feedback and negative attention), effective commands, and a daily report card. The time-out is also used if it is necessary. This treatment is implemented across recreational and sometimes school settings. This options need the school agree to take the young person off the classroom and let him participate in these activities in another classroom or in an other building outside the school. The programme is based on the implementation of token reinforcement and response cost systems as suggested by DuPaul, Eckert and McGoey (1997). A token economy is an intensive positive reinforcement programme for building up and maintaining appropriate classroom performance and behaviour. A specific reward at the end of the programme will be achieved from the adolescent depending on his behaviour. From the beginning of training the educators agree with the young person which are the appropriate and inappropriate behaviours, and everybody signs an "educational contract". The teacher assigns or takes out rewards points depending on the child's behaviour. The tokens or points can be accumulated throughout the weeks and exchanged for a specific reward (1st or 2nd prize depending on the amount of points earned) at the end of the 2 days programme. In the first day the adolescents are introduced to the knowledge of the disorder through video clips, cartoons, games and discussions with the educators. The main topics along the programme are: friendship, food and drink diet, sleep hygiene, time management, impulsiveness, positive communication. The programme ends with an assessment of the session, and a self evaluation of the own behaviour and with an establishment of a "Life Goal" through an activity called "The Dollar Game"[i]. Setting 'lifestyle' or 'event' goals for themselves, as a teenager, can be a challenging and intimidating task. The educators help them by increasing feelings of comfort and confidence about their ability to successfully achieve their life goals.

Figure 1. Young People during an activity in the YPSBT

4. Results

4.1. Effects on the Parents' Behavioural Ratings

Pre and post-treatment parents ratings of ADHD symptoms were compared using a single group. Intervention effectiveness was analyzed using paired samples t-tests. The pre- and post-treatment intra-group analysis regarding the Hyperactivity (see Figure 2) displayed significant differences between the pre-test scoring and post-

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[i] During the Dollar Game each teen receives one dollar at the beginning of the game and chooses a life goal and at turn explain to the other group's members what the goal is and what steps must be taken to make this goal achievable. Then the other teens in the group offer affirmation by stating their belief that the other young person will achieve their goal and why and then present them with a dollar bill, as a symbol of that belief in the others determination and ability to succeed in that life goal. At the end of the game each teen will receive a dollar and improve their motivation and a sense of confidence in their own possibilities. In the event a teen in the group doesn't receive a dollar from their peers in the group, the group facilitator steps in to ensure everyone receives a dollar bill as a sign of the affirmation and encouragement. Each group member is encouraged to pin the dollar bill somewhere prominent at home so they are frequently reminded of the affirmation and further encouraged and motivated to achieve.

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test scoring, $t(3) = 1,095$, $p < 0,40$.The pre- and post-treatment intra-group analysis of the experimental group displayed no significant differences between the pre-test scoring and post-test scoring for the parameter Emotion. For the conduct variable, the score diminished in the post-test phase compared to the pre-test phase. In this case the treatment intra-group analysis of the experimental group (see Table 1) displayed significant differences between the pre-test scoring and post-test scoring for the parameter Conduct, $t(3)=1,000$, $p<0,40$.
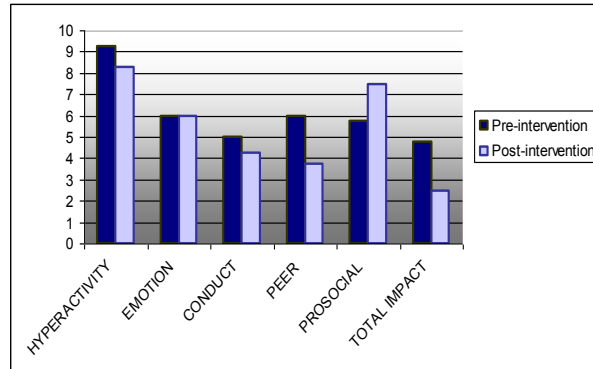
Figure 2. SDQ pre-post treatment means

As regards the peer variable, the treatment intra-group analysis of the experimental group (see Table 1) displayed significant differences between the pre-test scoring and post-test scoring, $t(3)=2,029$, $p<0,20$. Interesting for the pro-social parameter there are significant differences between the pre-test scoring and post-test scoring, $t(3)=-7,0000$, $p<0,01$ (see Table 1). As far as he Total Impact variable the treatment intra-group analysis of the experimental group, displayed significant differences between the pre-test scoring and post-test scoring, $t(3) = 1,711$, $p < 0,20$.

Tab.1 Paired Sample *T* test									
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		*T*	df	Sig (2 tailed)	P
				Lower	Upper				
HYP T1- HYP T2	1,00000	1,82574	,91287	-1,90516	3,90516	1,095	3	,353	P<0,40
EMO T1- EMO T2	,00000	2,30940	1,15470	-3,67477	3,67477	,000	3	1,000	n.s.
COND T1- COND T2	,75000	1,50000	,75000	-1,63683	3,13683	1,000	3	,391	P<0,40
PEER T1- PEER T2	2,25000	2,21736	1,10868	-1,27831	5,77831	2,029	3	,135	P<0,20
PRO T1- PRO T2	-1,75000	,50000	,25000	-2,54561	-,95439	-7,000	3	,006	P<0,01
TOT T1-TOT T2	2,25000	2,62996	1,31498	-1,93485	6,43485	1,711	3	,186	P<0,20

5. Discussion

The intervention seems quite effective in improving the symptomatology of the ADHD, especially in the pro-social area. Nevertheless, not significant improvement were detected in the emotional area in this group. Keep in mind that it falls within the ability to self-control and social development. A boy with ADHD has often an experience of frustration, failure and frequent denials of self-esteem. They frequently receive negative feedback from the environment and, as the literature attests , low self-esteem. Moreover frequent exposure to experiences of failure, are the most important predictors of a poor prognosis and the same guys have a level of maturation and cognitive empathy much lower than the control groups (Tironi, Marzocchi, 2009). Consequently it is absolutely important both to increase treatment programs that can improve the management of emotions, to develop the capacity for empathy and prosocial behaviors in order to increase self-esteem, and the ability to maintain good

social relations. The intervention helped ADHD children to understand their disorder, including the fact that this is a neurobiological disorder. Learning that Adhd is a neurobiological disorder helped them "destigmatize" the condition. According to the literature (Wolraich, Wibbelsman, Brown, Evans, Gotlieb, Knight, Ross, Shubiner, Wender, Wilens, 2005) a critical aspect of an educational intervention is to inform adolescents that having ADHD is not a reflection of their intelligence and that they are not "bad," "damaged," "stupid," or "mentally deranged," but just people who need help in certain, specific, areas. The YPSB training based on a strength- based approach try to look at the positive aspects of the young people, working with them also in the stereotypes around the disorder through discussions with the educators. The setting of a life goal at the end of the training seems to improve their self esteem and their meta-cognitive planning. Is opinion of the authors that this aspect should be investigated more through specific interviews with each teen. Furthermore, longitudinal studies examining the outcomes for adolescents and adults are required to identify more clearly the course of the disorder and the impact of treatment. In conclusion, an idea to improve the program is the inclusion of a Brain Gym exercise to prepare them for the activities, increase their concentration and learning to use relaxation techniques that teach them how to self regulate their ADHD by greater control of their biology through such things as progressive muscle relaxation, mindfulness, deep breathing that can be used also in a school environment. Taking into account that many traditional social skills interventions fail to generalize to natural settings and have minimal impact on social functioning (Evans, Langberg, Williams, 2003; Gresham F., 1998) the effects of the improvement in the pro-social variable would be a really good aspect to further investigate in the future. This is particularly desirable and important to keep in mind when dealing with adolescent and pre-adolescent in order to have timing margins for improvement and action also on the emotional variables, more resistant to treatment but that most influence the quality's whole future life as it has been shown by research on adults with ADHD (Barkley et al., 2002).

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WHAT DO WE NEED FOR QUALITY EDUCATION: THE INTRODUCTION OF COLLECTIVE REASONING INTO THE EDUCATION PROCESS AND PEDAGOGY OF THE FUTURE

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Abstract

Pedagogy has always been and will be a socially-relevant science. Physiological, psychological and intellectual components are always interlinked in the upbringing, formation and education of the student. These experiences collectively lead to the development of an intellectual activity and assist a better societal socialisation and adaptation. Today the evolution of the humanity happens so rapidly that each year's demands of people are to obtain new qualities: constant readiness for change, the ability to adapt quickly to the changing environment and professional experience. The paper discussed the conceptual and theoretical foundations of the empirical work carried out in one school in Moscow (both at primary and second level classrooms) which mapped out informational structure of the students' reasoning.

The given paper attempts to characterise the concept of quality of education in general. The concept of quality of education is based on the purpose and the meaning of the educational process, that is the education of a person, a society and a mankind as a whole. The paper draws on Peageout theory of pedagogical process. This theory argues that the upbringing and education of a child are considered to be a necessary condition of the adaptation of pedagogical process to intellectual development of the child. So that the pedagogical process as though runs in parallel with the process of child development. According to this concept, the child development should pass the certain cycles before the educational training can start the performance of its specific tasks. In this connection the school plays the most important role in the whole educational system. The bases of moral and versatile development are being inherent during the period of training in the school. Those bases are the initial stages of life-long learning and self-education for a school graduate. The paper then discusses the 'quality' of education is defined by two basic characteristics, namely the conformity with the needs of society (with the account of the society development in the nearest future); and the comparison of educational level of graduates among educational institutions (that allows to calculate an average educational level and skills of the expert who has received similar level of education with the comparison to the graduates of other institutions). It is also important to consider the curriculum, the quality level of teaching as well as to understand how the student understands / comprehends the material. The paper concludes that all listed requirements to education are necessary in order for education to satisfy the needs of the government and the needs of society.

The focus of our research was to assess the extent of the development of students' cognition at any point of time by a specially designed questionnaire. We then also suggested a number of individually tailored techniques to advance students' cognitive development. At the basis of our work lies our developed theory of students' cognition. According to the nature of human mind every student has his/her natural information code of thinking, which may serve as the basis for the educational process. We are interested in this particular structure of students' reasoning, as it can build a new pedagogical theory for the future which relates not only to the ordinary realities of social life but to any school, any institution and any educational establishment which corresponds with the cooperation among students and, which is most important, to the development of a student himself/herself. The individual natural information (triadic) code indicates the structure of intellectual capacity more accurately than any other off-system characteristic.

Keywords: pedagogy, innovations in educational process, informational structure of students' reasoning, educational quality.

BEST PRACTICES IN DESIGNING QR CODE DRIVEN USER INTERFACES FOR PRIMARY SCHOOL CHILDREN

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Abstract

This research paper investigates the use of QR codes as a potential user interface for school children's interaction with class learning material.

When building applications, designers are required to build an easy and interactive system for their target users. This paper describes the interface design of a QR code driven game that was development for a primary school environment. In the game, scanning a QR code causes an update to appear on the classroom projector. We identify and implement best practice in primary school user interface design in all aspects of the design and development of this game. This includes the game graphics and text, methods for scanning QR codes and the look-and-feel of the projected learning content on the whiteboard. It also includes best practice in relation to incorporating the physical user interface of the classroom into the game, so as to create a dynamic learning experience that can encourage interaction, communication and collaboration among pupils.

User Interface testing of our game was conducted with primary school children, aged between ten to 13 years. Our research results show that the QR code driven game that we developed provides an excellent user interface for children to interact and engage with learning content. We found that because the user interface design was easy to follow, clear, consistent and interesting for the children to interact with, it kept them interested in the class lesson. In addition, we found that well designed content can encourage children to engage in a confident way with the learning content and to interact positively with each other.

Primary school teachers do not always fully engage with technology. Various reasons, such as fear of technology and not having well designed software are quoted as barriers to the usage of technology in the classroom. The teachers who took part in our research all gave very positive feedback about our user interface design. One teacher stated that *'this game is a good learning resource for my pupils'*. Another teacher said that our game *'can boost pupils' communication, collaboration, critical thinking and motivation'*.

In this paper we show that it is possible to create a successful learning experience for children by implementing a number of design principles that create an environment that is suited to primary school children. We highlight the best practices that should be employed and we make recommendations regarding the use of QR codes in primary school classrooms.

Keywords: QR, primary school, user interface.

1. Introduction

One of the main difficulties when designing applications for educational environments is "to understand which are the appropriate learners' and teachers' interactions, and build software that takes into account such dynamics" (Lagos et al, 2007). It is believed that "knowledge is constructed progressively from interaction experiences with others and the environment" (Lagos et al, 2007). There are some educational applications such as MixedInk, Corkboard Me that allow a group of learners to interact and learn together (MaryGrove, 2012). Exploring the different areas relating to user interface design and interaction can help designers and developers to build robust systems that are fit for purpose.

1.1. Human Factors in Design

Human factors in educational software design include such things as learning, memory recall, consistency and effects of system feedback. Human factors techniques can be used to "profile the user community, build product requirements, and ensure that valid data is collected and accurately interpreted" (Berney, 1999). It is often delivered as design guidelines, styles guides and conformance check lists of the dos and don'ts in interface design.

In the paper by (Berney, 1999), it has been suggested that the most effective way to incorporate human factors is to "include a human factors worker(s) on the design team to assist with user interviews, requirements gathering, and user interface design". In this case, external users' i.e. primary school children play an important role in design and the interactions context. It has been claimed by (Sommerville, 2004) that "user interfaces should be designed to match the skills, experience and expectations of its anticipated users".

Furthermore, human factors are often interchangeable with User Interface Design or Human Computer Interface. This ensures "maximum user benefits and produce usable as well as functional systems or applications" (Moon, 2000).

A key concept in HCI is usability, which is concerned with making applications easy to learn and easy for the user. In order to produce a system with good usability, it is "essential to understand the psychological, ergonomic, organizational, individual and social factors that determine how people operate and make use of computer technology effectively" (Moon, 2000). According to (Darejeh et al, 2013), "if the software interface is designed without paying attention to users' ability, it makes users to become confused and creates many difficulties for them to build up a correct conceptual model". Therefore, human factors play a very important role when it comes to deciding the level of complexity of the software and interface design, thus producing an environment that makes it easy, efficient and enjoyable for users to work with.

1.2. User Interfaces for Children

When it comes to designing user interfaces for certain groups, there is a strong relationship between age and software preferences. Each age group has specific needs and understanding of the software environment (Moon, 2000). Therefore, it is essential to consider the needs, experience and capabilities of our system users.

According to (Fang et al, 2011; cited in Darejeh et al, 2013), complex user interfaces should not be designed for children. They suggested that "elements such as 3D objects and Avatar can be used to increase students' attention". They also stated that "one of the best methods that can be used to increase and boost up students' concentration is using tangible user interfaces such as touch devices".

Furthermore, as reported by (Hutchinson et al, 2005; cited in Darejeh et al, 2013), the biggest issue faced in designing user interfaces for children is that "all children's software is developed by adults and most of them are not familiar with children's skills and their preferences".

Colours choice and combination is a primary factor in designing any user interfaces (Nielsen, 2010; cited in Darejeh et al, 2013). This is especially true when designing an interface for children, since colours make a big impression on children's young minds. It is said that "bright colours will easily capture and hold a child's attention for long periods of time" (Lazaris, 2009). Therefore, bright and vivid colours should be used that will visually stimulate the children in an unforgettable way.

As stated by Lazaris, elements that create a happy mood should be incorporate into design to ensure that a cheerful and positive mood is presented (Lazaris, 2009). For example, the Mickey Mouse Clubhouse site creates a happy mood by making Mickey himself a visual focal point on the page. His happy face and body language help enhance this happy feeling and creating a welcome atmosphere.

Lazaris states that "large design elements have proved to be effective in all types of user interface design, demonstrated by the fact that large typography, large

buttons, and large call-to-action areas have become commonplace in modern design" (Lazaris, 2009). This will increase children's effectiveness through the use of large design elements including large icons and easy to read descriptions.

Other studies claim that designers have to use highly visual menus and icons, animations, sounds and message boxes in order to create an environment that has many guidelines to prevent errors (Grammenos et al, 2000; cited in Darejeh et al, 2013).

The design of our QR code driven game interface was based on research that followed the best practices in designing user interfaces for children.

User testing that was conducted with several 4th, 5th and 6th classes in three different primary schools in the Dundalk region, in County Louth, Ireland. 101 pupils and 5 teachers were surveyed based on the usability and effectiveness of user interface design of the QR code driven game. The age ranges of the pupils in this study were between 10 – 12 years. A set of questionnaires was prepared for the pupils and we received quantitative results from the children.

One of the questions posed to the pupils was whether they have enjoyed the way that the questions look on the screen. 92% pupils agreed that "having the questions on the projector kept them interested in the game".
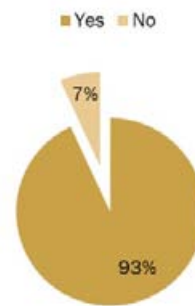
The results also show that 95% of pupils paid attention in class when the game was being played, because they found that having the learning content projected onto the screen was interesting and they were able to engage with it.

The pupils were surveyed on the user interface of the game. 78% of pupils found the design to be excellent. The survey found that 83% of pupils found the colours used to be pleasant. From the survey, we also found that 78% of the pupils liked the use of pictures in the game.

The following three pie charts summarize the pupils' feedback in relation to the user interface design being easy to follow, clear and consistent.

Having a well-designed interface allows pupils to easily interact with and understand the game.
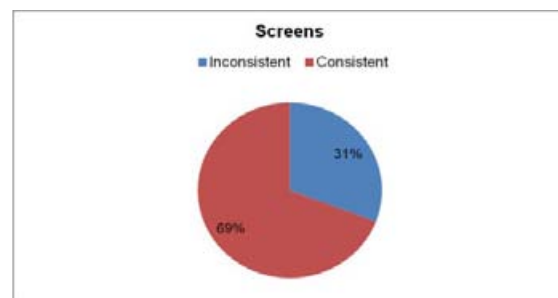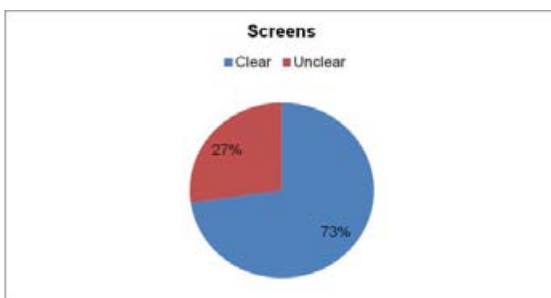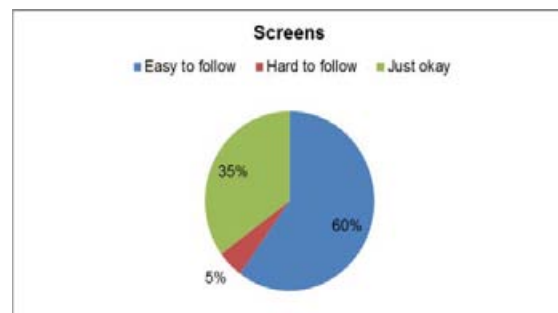
We received very positive quantitative and qualitative feedback from the teachers who took part in this research. Teachers found the game user interface to be child-friendly and easy to use.

Teachers agreed that the game is a good method of testing pupils' learning, with one teacher stating that the game *can* "boost up pupils' communication, collaboration, critical thinking and motivation skills". One of the teachers quoted that "it is an alternate method of teaching and receiving subject content. Children are actively engaged and enjoy their learning". Another teacher mentioned that the game "encourages peer learning and children learn from other children informally". The reason behind this was because the teachers themselves said that they have "enjoyed working with the user interface and playing the game". The teachers' feedback matched the results from the pupils' survey.

Teachers found the interface to be easy to use. A statement by one of the teachers stated that "the phone scanned the images easily. The instructions were very clear and precise". One teacher said that "the questions are clearly laid out and easy to follow".

Results on the look and feel of the game as it appears on the projector were divided into four categories: (1) Attractiveness, (2) Professionalism, (3) Consistency and (4) Use of vibrant colours. The charts below show that the teachers viewed all four categories very positively.
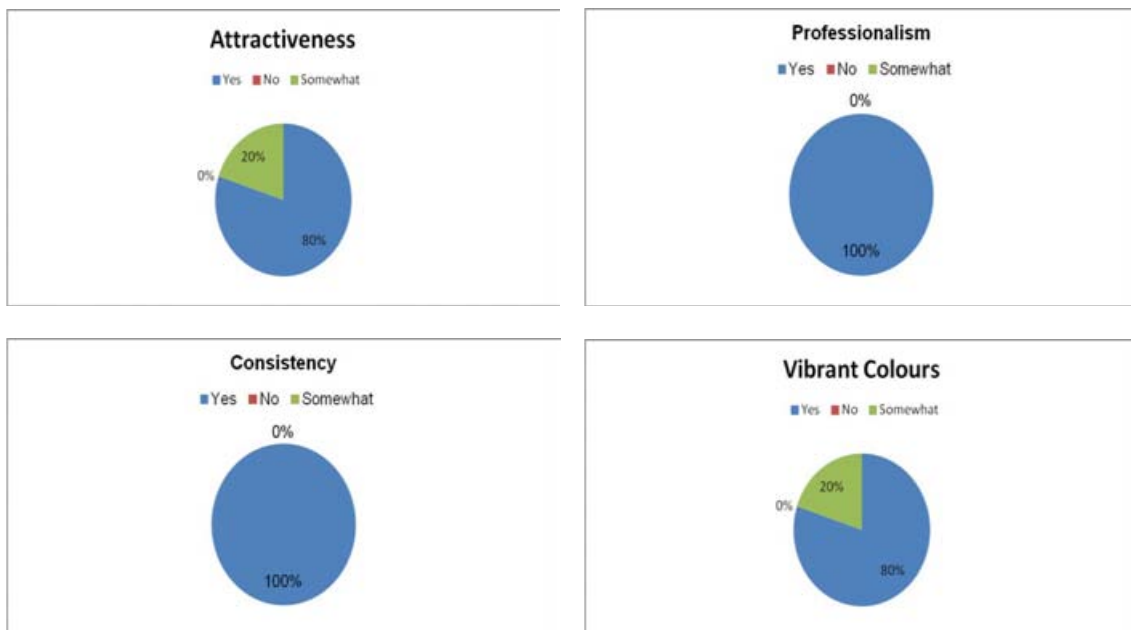
Our research shows that a good way to build interfaces that create a pleasant and successful experience for children is through implementing a number of elements and design principles that create an environment suited for a child's personality and interests.

The primary goal of this research was to investigate the types of computer user interfaces that are appropriate for children in a primary school setting. This is achieved by outlining how human factors can enhance design, the design principles, and the best practices in building UI design and overall concept in general. The implementation of a QR code driven game was carried out to show how usability of the design principles and best practices can be applied to solving the problem of designing a user

interface that allows primary school children to engage and interact easily with learning content.

Surveys with primary school teachers and pupils were carried out. A set of questionnaires were used to evaluate the user interface design of a QR code driven game. From the analysis of the results shown above, we can draw the conclusion that a well-designed QR code driven game can provide an effective and user friendly interface that can help create a fun learning environment for pupils and teachers in primary schools.

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THE EFFECTIVENESS OF USING FACEBOOK GROUPS ON TEACHING AND IMPROVING WRITING: AN ACTION RESEARCH

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Abstract

Social networks have recently been used by millions of students and adolescents because of a variety of reasons. Although Facebook is considered as one of the most popular online platforms for social networking among university students, they are hardly used by teachers for educational purposes. One of the targets of teaching English at prep schools is to improve students' academic writing skills, yet, majority of students find writing challenging and often have low motivation. Therefore, researchers/teachers adapted social networking into their writing class in an English Language Preparatory School at a private university in Istanbul. This paper discusses the findings of the action research-study which examined the use of social networking in terms of writing skills, motivation, and students' perceptions. The data came from pre and post-writing assessments, content analysis of Facebook entries, teacher observations and a questionnaire. Results indicated that online discussions helped the learners generate ideas, express them courageously, become critical thinkers, and improve their grammar, vocabulary, academic writing skills, time-management skills, and collaborative working habits. Participants indicated positive attitudes towards using Facebook for learning purposes. They stated that compared to in class peer-feedback sessions, they felt more relaxed when commenting on a post as they had time to think and formulate their sentences. Facebook enabled student-initiated discussions and collaboration, and even the shyest student started communicating with her classmates online. It was also observed that the quality of the language the students used online was much better than the one in the pre-test.

Keywords: Facebook groups, writing skills, students' perceptions, students' motivation.

1. Introduction

The range of technologies available for language learning and teaching, and the ways that they are used in the classrooms has varied a lot in the 21st century. Social networks are currently used by millions of users including teachers and students. The most popular of these networks are Myspace, twitter, and Facebook (Stelter, 2008). Since established in 2004, Facebook has become a phenomenon in Turkey especially for young adult learners. Unfortunately, the potential uses of this source as a tool for teaching and learning are not fully understood by educators. There is no doubt that innovative technologies put the socialization and cooperative knowledge production in the centre of activities (Huijser, 2008).

As Dole (1991) points out teachers aren't the only source of information, but they will become facilitators. Students have become active participants in learning and are encouraged to be explorers and creators of language rather than passive recipients of it (Brown, 1991). On one hand, some researchers support the idea that computers have a positive effect on students' success, on the other hand some researchers believe that computers can never replace the teacher. For instance; Chapelle and Jamieson (2009) have suggested that research on computers incorporate the areas known to be relevant in language acquisition such as learner field dependence/independence and learning strategies. Challis (2005) promotes the opportunity computer-aided testing allows for students to effectively learn and explore areas of perceived weakness in privacy without the fear of revealing mistakes to peers

or tutors, while Miller (2009) discusses the use of computer assisted assessment to provide feedback to improve student learning. On the other hand; Dhaif (1990) supports the idea that traditional methods in which teachers are in the center of the lesson are still better than CALL. It is an inevitable fact that technology has many benefits on learners such as accommodating a variety of learning styles, and providing an environment where students are in the centre of the lesson. As Wood (2000) notes that while using computers collaboratively "children worked together more than they normally would to write stories, search the Web, or create multimedia presentations" (p. 120). On the other hand, the learners today have an inborn tendency to use technology, especially the internet. Kern (2006) asserts that "computer cultures are subject to transformation not just by hardware and software design but also by computer users". As a result, compared to the traditional methods, the learners are more likely to be motivated for using technology for a project or assignment. As Facebook is one of the most popular social networking sites which allow users to post information, chat with others, and collaborate within the system (Shelter, 2008), students get more and more opportunities to collaborate with a large number of people worldwide and learn the target language at the same time when students make use of Facebook as an aid for educational purposes by spending time browsing profiles, meeting new people, and exploring relationships using the English language.

The focus of this study is limited to the use of Facebook groups only because using Facebook in teaching is cost-effective and rational because of its existing and functionally working networking structure and its popularity among the students all over the world. Facebook groups allow numerous members to participate, communicate and interact. We, therefore, have decided to investigate the effectiveness of Facebook groups as a medium to teach and improve writing skill.

The major research question of the study is to seek the effectiveness of the use Facebook groups in improving students' writing skills. We formulated the following research questions:

- How does FB group help students in their writing process?
- How does FB increase students' motivation in writing?
- What are the students' perceptions of integrating Facebook groups into teaching writing?

2. Methodology

2.1. Setting & Participants

This study is carried out in English Language Preparatory School at Bahcesehir University. The program aims to provide its learners with an intensive EFL course in order to prepare them for their studies at faculties.

The data was collected from a B1 level class. The B1 class where the data of the present study was collected consisted of twenty-two students, whose ages range from 17 to 21. There are 11 male and 11 female students where four of them are international students. Those four students are from Korea, Russia and Iraq. The objective of the writing classes is to write an opinion paragraph where students are given two ideas and asked whether they agree on that topic or not. For students the difficult part is to find ideas and extend them with appropriate supporting ideas.

2.2. Data Collection Instruments

A case study is employed as research design in this study. This study is a qualitative research in nature because in order to get deeper understanding of the effectiveness of using Facebook groups on participants' writing skills observations and questionnaires were used. For this study, observations were held by the class teacher during the class hour and outside the class on Facebook by the researchers. The researchers kept separate sheet for each participant to keep track of their involvement and contribution. In order to collect participants' perceptions about the use of Facebook

as a tool to improve writing, a questionnaire was distributed. The items on the questionnaire were attempted to be written in such a way that they could address the 3 research questions raised by the researchers. The items were adapted mainly from the questionnaire used previously in a study by Melor Md. Yunus and Hadi Salehi (2012).

On the very first day of B1 level, the teacher assigned a diagnostic writing as a pre-test in order to assess the students' writing skills. The pre-test, where the students were asked to write a paragraph of about 100 words, was given traditionally without a technological aid or tool. The duration was a class hour - 45 minutes. They were expected to write about their opinions only. After that, the teacher and the researchers created a Facebook account for the students and the students were informed about it. Every week, the teacher uploaded a video and asked the learners to comment on the video expressing their ideas on a given topic related to the video.

2.3. Data Analysis Procedure

The following section describes the data analysis procedures applied for the present study. For the first part of the study, the participants were given a pre-test to assess their writing skills. The researchers evaluated the paragraphs by checking if the students' products fulfilled the requirements of the task including their ability to extend their ideas and the variety/correctness of grammar and vocabulary they used. At the end of the allocated time, only 15 students completed the task and handed in their products to the teacher. Moreover, the results showed that their competency in grammar and vocabulary use was not high enough to be able to write an opinion paragraph appropriately. Also, the contents were poor as they did not extend their ideas and they did not adhere to the minimum word limit. Therefore, it can be concluded that the students were not motivated to write about their ideas for these reasons; they were aware of their deficiencies in the use of language (grammar and vocabulary) and they did not want to try, or they did not want to talk about their own opinions as they had never done this before and they did not know how to do it. In both cases, it was obvious that they would need some instruments to encourage them, to foster an interest in writing and to motivate them to write. The participants were given a post-test after 5 weeks with the same question. The students' writing in pre-test and post-test were scored using Brown and Bailey's scoring technique which was cited by Brown (2004). The scoring technique aimed at measuring the organization; content; grammar; punctuation, spelling, and mechanics, and style and quality of expression with the rate of 1-20 for each aspect. Observation was conducted to observe the students' behavior during the teaching learning process. The data of the observation was analyzed carefully to see whether there were any improvements in students' behavior during the whole research. The questionnaire was distributed to the students after the whole process.

3. Results

In the present study data were collected through assignments (pre-test), Facebook posts, writing exams (post-test), and the questionnaire that was conducted at the end of the study. As this study is a qualitative research, case study is conducted.

In the first week of the class, the instructor assigned all students a 45 minute writing assignment without a technological aid in class. In this process, students are free in organization. They were not required to use any useful language or target vocabulary. They were supposed to write their opinions. At the end of the allocated time, only 12 students completed their tasks. The students' task performance in writing was measured using the criteria (see Appendix B), which was used by the teacher. After grading process, teacher gave feedback on these assignments and showed students their stronger and weaker parts. After feedback session the teacher kept copies of all these initial assignments. At the end of this task, it was clearly seen that students had difficulty in procuring ideas and they were not motivated to write their

opinions. For this reason, the teacher and the researchers created a Facebook account by creating an authentic environment for the students to improve their writing skills. The learners were asked to comment on the video that was put by the teacher expressing their ideas on a given topic related to the video. The idea behind these writing activities on Facebook was to motivate the students to think, and write outside the classroom. Each video was chosen by taking their interest into account. Students were free to post their ideas and comment on each other. The aim was to generate ideas and make students to gain confidence. Students' grammar wasn't corrected and they were asked to concentrate on meaning. During this process students were also asked to write some tasks that were given by teacher and given oral feedback regularly. At the end of the fifth week, students were given their final written tasks which were their exam at the same time and compared the results with their first assessments that were given in the first week of the class. Again, the writing tasks were graded according to the criteria that were used to assess their first week's assignment. After giving their results, students were given a questionnaire to find out their perceptions of Facebook in improving their writing. Students' perceptions are demonstrated in Table 1.

Table 1. Students' perceptions of Facebook groups in improving writing

No	Item	Disagree	Agree
1	I find it easier to complete my paragraph assignments after participating in FB group discussion.	9	13
2	Ideas or opinions posted by my peers on FB group help me in getting a better idea before writing.	10	12
3	I learn new vocabulary from the reading the comments of others on the FB group.	7	15
4	Brainstorming on FB group helps organize my thoughts before the actual writing.	9	13
5	The spell-check feature helps me reduce spelling errors.	14	8
6	Watching the videos shared by the teacher on FB group helps me find new ideas to write in the task.	10	12
7	Before posting my comment I check my writing for grammar and spelling mistakes and it helps me improve my writing skills.	9	13

Table 2. Students' perceptions of challenges of using Facebook groups for writing

No	Item	Disagree	Agree
1	While on FB group, I am distracted by other features of FB.	12	10
2	I think that FB can be used for educational purposes.	5	17
3	I like using FB for social purposes only.	16	6
4	I have enough time to follow FB group.	10	12

Table 3. Students' perceptions of Facebook groups' effects on their affective domain

No	Item	Disagree	Agree
1	I feel comfortable posting my ideas or opinions on FB group.	9	13
2	I feel encouraged by my friends "liking" my ideas or comments.	16	6
3	I prefer discussing ideas or groups on FB group instead of in a classroom session.	8	14
4	I feel reading criticism by my friends on FB group instead of hearing them in the classroom.	17	5

4. Discussion and Conclusion

4.1. Discussion

During the process, the main improvement observed by the researchers was that some of the students started to cooperate and comment on the videos. Moreover, the students themselves started to share videos and ask for comments as well. It was also observed that the quality of the language the students used online was much better than the one in the pre-test. As the target audience changed in online

discussions, (it was just the teacher in pre-test), the new audience (the teachers and classmates) might have made them more precise in their writings.

The pre-test results showed that the learners had some deficiencies in generating and organising ideas, use of target vocabulary and spelling/capitalisation. The students who attended the classes regularly and participated in the discussions on FB improved their task achievement skills. The study also helped a shy learner to become more active and share her ideas without hesitation.

Also, the pre-test showed that the learners had some problems in grammar and the grammatical mistakes even obscured meaning from time to time. However, during the online discussions process and finally in the post-test, it was observed that the regular participants showed great improvement in their use of English. It was also observed in the study that students started to use new grammar items such as Relative Clauses and Passive Voice instantly. On the other hand, the students who did not participate in discussions could not change their scores in grammar results in post-test.

The vocabulary that the learners used were quite basic and inadequate in pre-test and it was evident that their vocabulary was not rich enough to write in an academic manner. However, the post-test demonstrated that the learners who participated in the discussions regularly started to use appropriate vocabulary correctly and also they tried to use the words in their vocabulary lists.

Finally, it was observed that the online discussions were beneficial in terms of improving 'time management' skills although the research did not aim to find out improvements in this area Therefore, it can be concluded that the discussions can also help learners solve their time management problems along with the linguistic ones.

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USING QR CODES TO CREATE A HIGHLY INTERACTIVE AND ENGAGING PRIMARY SCHOOL CLASSROOM EXPERIENCE

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Abstract

Discussions regarding the use of technology in primary school classrooms are currently very fashionable. Education policy decision makers are increasing pushing to incorporate technology into the classroom. However, many primary teachers are uncomfortable with, or even fear technology. If technology is not designed to be friendly and simple to use, then teachers will not fully engage with it. This research paper shows how QR codes and smart phones (or tablets) can be used to create a very simple, intuitive, and fun user interface that can be used to drive lesson delivery in primary school classrooms. We describe a QR code driven, multiple choice based game, called QRriddler, which has been specifically developed for primary schools. This game allows teachers and pupils to scan QR codes using a smart phone. Scanning a code causes learning content to be updated on a projector in real time. The QR codes can be printed and placed on the walls around the classroom, adding to the interactive dynamic of the lesson.

In this paper, we analyse the results from quantitative research that was conducted on pupils, who were aged from 10 to 13 years, in several primary schools. Our results show that the use of QR codes can create a very engaging and stimulating experience for the pupils. Our research also shows that the highly interactive classroom experience created by using our game increases students' engagement in the class and strengthens pupils' social interaction skills and critical thinking skills.

This paper also describes the results from quantitative and qualitative research on the various teachers from the classes that we visited. Almost all of the teachers who were surveyed stated that they were able to gain more confidence in the use of technology and were motivated to use technology after testing our game in their classroom. One teacher stated that, as a result of playing our game, 'I felt motivated to use technology devices in my class'.

Our research shows that QR codes can be easily used by non-technical minded teachers to create a highly interactive, fun and engaging classroom experience for both them and their pupils. Our results show that technology enhanced learning can provide meaningful learning experiences for primary school teachers and their pupils.

Keywords: classroom, QR, smart phones, technology.

1. Introduction

The traditional media used for education, such as textbooks, blackboards, whiteboards and oral are easy to implement in such a classroom environment (Breuer, Matsumoto 2007). However, many students have a hard time understanding academic concepts as they are normally taught using traditional teaching methods (Breuer, Matsumoto 2007). In a traditional classroom environment, students are required to sit passively while the teacher delivers a lesson (SparkNET 2013). This will eventually result in the students' focus being '*set in the wrong direction*' as they only take notes rather than understanding and absorbing new concepts (SparkNET 2013). In the end, students will be unable to grasp key ideas and concepts that are being taught to them in their classroom (SparkNET 2013). Fortunately, the same controlled classroom environment also lends itself well to the deployment of educational technologies (Breuer, Matsumoto 2007).

Even with the help of new educational technologies, the situation has not improved, as teachers seem to have difficulties in using these technologies properly to teach during class. The slow adoption of educational technologies by teachers has been recognized with concern by governments and employers worldwide (Peck, Cuban, and Kirkpatrick 2002; Schuck 2002; Phelps, Graham, and Kerr 2004; cited in Aubusson et al 2009). One possible explanation for such a problem is that teachers' work environment inhibit connectedness; they are literally and physically disconnected (Aubusson et al 2009).

Educational technologies, such as mobile wireless devices for learning, have become the new challenge for learning professionals (Neal 2012). An important issue in education is the question of creating an environment for students to learn that extends outside the classroom. While teachers and technology provide such surroundings and process, the Internet and the real world provide sources for content and research (Breuer, Matsumoto 2007). Thus, QR codes are simply one of the many ways that we can take advantage of this trend (Neal 2012). The concept of making use of the ability of mobile wireless devices with QR codes is very encouraging, especially in the educational field (Al-Khalifa 2011).

2. Mobile wireless devices are designed for learning

Mobile wireless devices, such as smartphones, tablet computers, iPads and wireless computers are most commonly used in a learning environment (Boggs, 2002; Fryer, 2002; McGhee & Kozma, 2001; McKenzie, 2001; cited in Kim, S.H. et al 2006). They enable a "transition from the occasional, supplemental use associated with computer labs, to frequent and integral use of portable computational technology" (Soloway et al. 2001; Tinker & Krajcik 2001; cited in Roschelle 2003). Even though mobile wireless phones contribute the least amount of usage in a learning environment, some researchers asserted that, in the future, more schools will need them for teaching and learning (Houser, Thornton, Yokoi, & Yasuda, 2001; Thornton & Houser, 2001; Kim, Mims & Holmes, 2006).

Mobile wireless devices have made the learning process much easier than ever before (Nasiri and Deng, 2009; cited in Al-Khalifa 2011). They have the capability to access the Internet anytime and anywhere, which allows educational stakeholders to search for information whenever they need it (Al-Khalifa 2011). This creates a positive impact on students.

The availability of mobile wireless devices in learning may not only increase students' motivation but also their understanding and memorization (Breuer, Matsumoto 2007).

Teachers use the built-in digital cameras found in mobile wireless devices to scan a QR code and process the QR code into a webpage that contains relevant information about the scanned object (Al-Khalifa 2011).

3. QR Codes are a better solution

One of the advantages of using QR codes is the simplicity and ease of obtaining information by using a QR reader application in mobile devices (Neal 2012). Both teachers and students will require a mobile wireless device with a scanning function in order to access QR codes. Fortunately, this functionality is available in most smartphones and tablet devices. Research shows that teachers and students can easily obtain the academic materials through mobile devices during and after school (Neal 2012). They are now able to access the information without carrying books or guides (Neal 2012). In other words, QR codes serve as a gateway to new information, being effortlessly created and placed in strategic places to be accessed by both teachers and students (Neal 2012).

Besides that, interaction between teachers and students can be another advantage of using QR code in class (Neal 2012). Using mobile devices to scan QR codes allows students to be active in their learning environment. QR codes allow the teacher is the ability to offer an interesting way of delivering information to students so that they can grasp the key ideas and concepts. Thus, QR codes can provide true interactivity and engagement between a teacher and their students in a class (Neal 2012).

The usages of QR codes for teachers and students in primary schools can be varied. One of these is connecting the gap between paper and web (Robertson, Green 2012). In class, teachers often have to display the materials on a paper based version that is integrated with multimedia projects (Robertson, Green 2012). With QR codes, the teacher can display the paper based version with a QR code next to it for students to see the "enhanced" version (Robertson, Green 2012). Students who need extra academic materials, such as when learning the English language, will find using QR codes to be helpful as it can increase their enthusiasm in, and dedication towards, learning more in class (Robertson, Green 2012).

Gerten and Chard assert that "young students should start to develop their conceptual understanding of learning materials and that deficits in any learning can certainly be overcome" (McCabe,Tedesco 2012). Studies have shown that in using QR codes systems in mobile devices, "students are more effective in learning, self-directedness, take initiative and have an increased highly chance to learn at their own pace" (McCabe,Tedesco 2012). The use of QR codes in mobile devices can be easily accepted by both teachers and students, as it can help to increase students' motivation, confidence and understanding of learning materials that are presented in class (McCabe,Tedesco 2012), (Breuer, Matsumoto 2007). Besides that, the developed activities based on QR codes can be explored as a contextual learning tool to provide education to students (Eliasson 2012).

4. Survey

Our research includes both quantitative and qualitative analysis. Quantitative surveys were conducted with both teachers and pupils to determine the effectiveness of using QR codes and technological devices in learning. Our sample consisted of participants from three local primary schools in County Louth, Ireland. Five teachers and 101 pupils from 4th, 5th and 6th classes took part in the survey. The surveyed pupils ranged in age from 10 to 12 years old. Data for this survey was collected from February to May 2014. The teachers were also interviewed to obtain qualitative data.

4.1 Survey Results

The survey asked pupils if they would like to use more technology, such as QRriddler, in class. Almost all of the pupils said that they would like to use more technology inside the classroom. Pupils are surrounded by technology in their lifes outside of the classroom. By incorporating technology into their learning environment, teachers engage with pupils at a level that reflects their real-world. This makes learning easier and more enjoyable for the pupils.

Would you like to use more technology, such as QRriddler in class?

Yes
No

Did you find QRriddler fun to play?

Yes
No
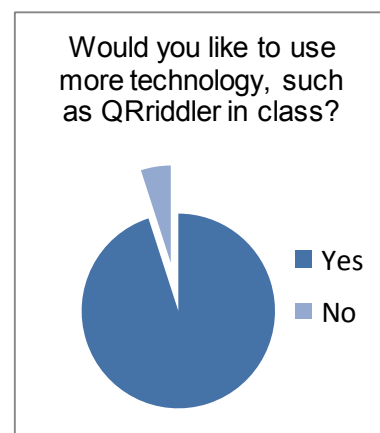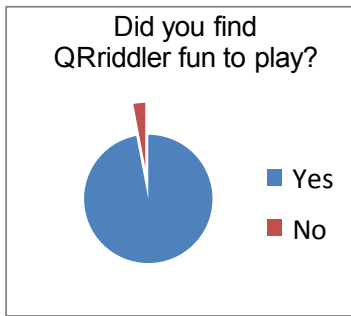
The results from the survey show that 97% of the pupils found QRriddler fun to play in class.

In addition, 92% of pupils agreed that having multiple choice questions appear on the projector depending on scanned results is interesting and 93% of pupils liked that the QR codes had to be scanned to reveal answers. These results show that well designed technology has a place in the classroom.

Pupils were asked if they paid attention in class when QRriddler was being played. The survey reveals that 95% of the pupils were engaged with the class. The ability to keep pupils focused on a lesson is a key fundamental requirement for them to learn.

Did you pay attention in class when the game was being played?

Yes
No

Do you prefer to work as individual or group?
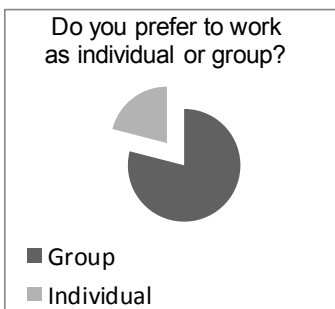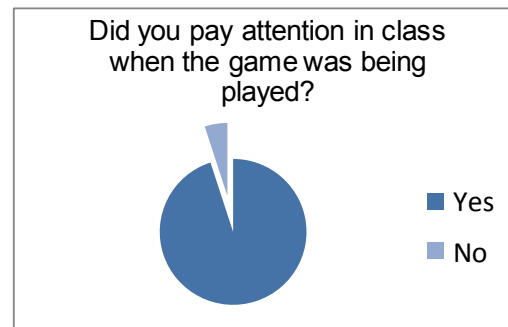
Group
Individual

84% of the pupils stated that they prefer to work in a group than individual. Getting pupils to actively engage in group work is a major goal of primary school activity. As pupils worked in groups, they enhanced their social interaction skills, such as collaboration, communication and critical thinking skills. QRriddler makes use of the fact that pupils like group-based learning.

All of the teachers who were surveyed stated that they were able to gain more confidence in the use of technology and were motivated to use technology after testing our game in their classroom. One teacher stated that, as a result of playing our game, 'I felt motivated to use technology devices in my class'. Not only that, some of them said that 'This game is a good learning resource for my pupils' and thus, 'QRriddler can boost up my pupils' communication, collaboration, critical thinking and motivation.

5. Conclusion

Stepping away from the traditional learning mode can be a promising approach for any teacher who is interested in providing enhanced learning experiences. However, non-technical teachers need to be provided with simple-to-use tools if they are to engage with technology in their classroom. For this reason, we developed a simple game that allows teachers and pupils to confidently engage with technology by scanning QR codes with a mobile device. Our research shows that QR codes can be easily used by non-technical minded teachers to create highly interactive, fun and engaging classroom experience for both them and their pupils.

Our results showed that technology driven learning, such as Qrriddler, can enhanced pupils' collaborative, communication and critical thinking skills. This is because it promotes group based learning for pupils in primary schools.

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STUDENT-DRIVEN LEARNING: UTILIZATION OF A CAPSTONE TO TRANSITION STUDENTS FROM UNDERGRADUATE STUDY TO PROFESSIONAL PRACTICE

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Abstract

The value of adopting innovative instructional techniques that guide students to be independent, autonomous and collaborative learners in order to best prepare them for success in lifelong learning within their professional careers is a universal expectation in higher education. Research suggests that how teachers understand or conceive of teaching informs their teaching approach, indicating that a learner-centered conception of teaching is necessary for quality teaching and learning to occur (1-4). It is the contention of the authors that the word "educate", derived from the Latin: "e-dūcere" which means "to lead out" clearly compels the educator to not only "pour in" content and knowledge but to literally lead and draw the learner out: to excite and engage the learner actively in discovery and critical thinking, allowing for concrete active application of knowledge. This research focused on a capstone course at a private, liberal arts university and the processes to implement student-driven learning while using team teaching.

Keywords: student-driven, peer-led, team teaching.

This presentation will describe a process of employing two different collaborative student centered learning strategies used in a capstone course in Athletic Training: team teaching and peer-led learning. Although research of the benefits of co-teaching is fairly prevalent in K through 12 education, the use of any variation of team teaching in higher education is limited, especially in the current belt tightening climate of higher education (5, 6). A peer-led instructional approach uses experiential active learning, learning through discovery, questioning with focused distress, and finally, and perhaps most importantly, student empowerment. The role of the professors is one of co-learner and support of student-driven learning. This approach requires that the professor take on the role of facilitator and coach, providing students with access to information and materials. To be truly peer-led, this approach requires a negotiation process between the professors and students whereby the instructors communicate their intentions, and listen in order to understand the intentions of a class of students. Together the participants look for common goals or shared intent, and design the learning to meet the commonly negotiated goal within the constraints of their context (7, 8). There is a sense of ongoing accommodation as emerging thoughts and ideas are brought together. Requisite to negotiation is the development of positive relationships between students and teacher, which allows for an effective and reciprocal teaching and learning atmosphere in a climate of trust (9, 10). This presentation will describe these approaches used within a capstone course in an Athletic Training Program at Alvernia University. In that curriculum, the capstone work includes the development, design and completion of a human subjects research study. In order to guide the students through this process, this course was taught by two professors from different but related disciplines as well as a professor of statistics. These teamed professors used a peer- led intentional instructional approach whereby the students were challenged to teach each other and develop the course content

facilitated but not directed by the course professors. This andragogical approach actively involved the students in critical thinking and student-driven learning and the professors' role was one of co-learning, advisement, support, resource identification and facilitator. All of this work was done in an open classroom setting of cooperative learning whereby the students set the goal of the day, divided the work and collaboratively worked to meet that goal. The professors participated in discussions as invited by the students but the students led the discovery learning themselves.

According to Streitwieser and others there has been little study of what undergraduates who have peer teaching or team teaching opportunities at the university level derive from those experiences and how learning outcomes may be impacted (1). In this presentation, the results of a follow-up survey from the graduates who completed their capstone course using team teaching and peer-led methodologies will be critiqued, described and summarized. Our experience has demonstrated that team teaching requires collaboration with colleagues, bringing broad and varied ideas to the classroom. This has the potential to expand not only the knowledge base that each individual professor can bring to students but also the shared professional knowledge between professional disciplines. Additionally, it allows for collective brainstorming across and between disciplines and the learning of new teaching strategies. Team teaching permitted each professor to contribute his/her special knowledge to create a course that was greater than the sum of its individual parts. It leveraged multiple instructor expertise to give the students more than any single professor could have possibly provided, resulting in a much richer experience for the students. It also broadened the perspectives of each of the professors into the others' disciplines. From the students' perspective, adapting to different teaching styles can be a challenge but also a strength. In the workplace, it will be imperative that professionals be agile enough to adapt to various interactional and supervisory styles in order to be successful. In terms of empowerment, students were required to not only gain ownership of the research process but also of the research product, namely the outcomes and the data. A significant additional benefit realized was one of shared responsibility not only among the students conducting the research but also between the student and the human subjects. In the peer-led team teaching approach, the role of the professors was one of co-learner and support of student-driven learning. Students took ownership of the course and the content and also developed pride in their outcomes and projects, celebrating autonomy and self-direction. Students owned their work! It challenged them to think critically and to be able to voice their thoughts and opinions openly with peers. This "hot seat" was new for many students and could have been either threatening or frustrating to some students, especially those who were more comfortable with and had adapted to professor-led courses. In summary, it is vital that faculty responsible for the preparation of licensed medical professionals prepare graduates to be equipped with career-long tools for current, safe and effective practice, especially because practice will always change, based on emergent new evidence. Assisting students on the path to the development of teamwork and leadership skills was essential in this collaborative teaching effort. These approaches of team teaching and peer led teaching resulted in extensive student AND professor growth. Anticipated benefits beyond the capstone course for the students include the development of life-long habits of information literacy, critical reasoning and informed evaluation, leadership, collaboration and compromise.

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MANAGEMENT FABLES: AN ANTIDOTE FOR INSPIRATIONAL LEARNING

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Abstract

Management fables are becoming a powerful learning tool all around the globe. Fables are fun and through the use of metaphor people in the organizations are expressing a new language for narrating about their burgeoning issues. This facilitates change and builds collaborative culture that can be a daunting task to any leader. Today, fables are quick means of enhancing critical thinking, disseminating learning and capturing knowledge for a sustainable competitive advantage. This paper seeks to present a rationale in the use of this inspirational approach among teaching fraternity to stimulate learners' level of engagement, given their stereotypical disdain for lectures that they often regard as didactic.

Keywords: fables, learning, organization, educational institutes.

1. Introduction

Besides being the most competent companies, the one thing that is common among the corporate giants like Microsoft, Motorola, Proctor and Gamble, NASA and the World Bank is the use of management fables in learning process. Fables already constitute more than $1 trillion in the US economy (Denning, 2005). These narratives are able to capture the learners' attention, etch deep grooves in their memory and facilitate in making good judgment of the world around us (Edwina Pio, Neil Haigh, 2007). A sheer narrative power is fast paced in getting adult learners to follow guidelines than recommending a comprehensive volume that may possibly never be fully read. Educational Institutes are meant to be the temple of learning but the question arises are most of them learning organizations. Educational institutes can only serve the students by becoming effective learning organization and the role of faculty are indispensable. The scope of this study includes:

1.1. Inculcating culture of "learning organization"

In this knowledge based economy an organization's ability to learn may make the difference between its thriving or perishing in the years ahead. A learning organization is an organization in which people at all levels are, collectively, continually enhancing their capacity to learn things they really want to create (Senge, 1990). These fables appeal not only to auditory, visual and kinesthetic learning styles but also spatial, linguistic, interpersonal, and intrapersonal intelligence (Rose and Nicholl, 1997). It can bring about a sense of belonging in learning communities and create high performance teams (Richter and Koppett, 2000). It eludes characteristics that envisioned expanded patterns of thinking and encourages shared aspirations where people are learning how to learn together. (Denning, 2000, 2004; Senge 1990).

1.2. Inducing learning through fables

McDrury and Alterio (2003) contend that storytelling in education is a highly reflective learning activity and one that approximates real-life experiences. The five stage model for reflective learning through storytelling also coincides with a Map of Learning as espoused by Moon (1999). "Story reconstruction" corresponds to "transformative learning" where learners are able to appraise their own thinking and behaviors and judge the value addition of the new knowledge. Caine et al. (2005), support storytelling as a brain-based teaching and learning method with focus on relaxed alertness, planned emersion and active processing. Furthermore, storytelling offers many of the merits of experiential learning as it is not only capable of creating tactic knowledge, but is also responsible for creating episodic memory (Swap, Leonard, Shields and Abrams, 2001).

1.3. The craft of Fable narration

There are several good ways to develop great fables (Smith, 2012). The richest management fables are the ones that capture the essence of the organization's identity either 'who we are' or 'who we will become. McDrury and Alterio (2003) offer eight storytelling models or 'pathways' that vary according to setting (formal /informal), the number of listeners (single/ multiple) and the type of stories (spontaneous / pre-determined).David Hutchen developed the storytelling matrix with four different quadrants or realms that are transformational, inspirational, literal and allegorical. This will help organizations develop stories based on their current realities and which can propel them into new ways of thinking. One good method of storytelling would be to use every day, common object that represent symbols of core idea or experiences, find hidden histories and create avenue for sharing difficult issues. Last but not the least the craft of narration should not deviate from the objectives of the course.

2. Methodology

To determine the effectives of management fables as an inspirational learning tools, the data were collected by self-administered questionnaires from teaching faculty in various universities where the researcher conducted workshop on the said topic. The main objective of the workshop was to inculcate culture of "learning organization" using fable among faculty members.

The questionnaire captures both open ended and closed ended questions. In closed ended session the respondents were asked to put a tick mark, on a five-point Likert-type scale, ranging from "not important at all" to "very important". The effectiveness of management fables as an inspirational learning tool addressed the six components.Fostering connectedness which connotes a state of mind that helps to attain levels of higher order thinking and thinking organization as a whole. Planned immersion is the creation of an environment where respondents are exposed to the objectives of the course. Relaxed alertness is creating climate of low stress and intimidation but also fostering sense of community .Transformative learning is about bringing change in the mindset by critically evaluating the held assumptions and beliefs and implementing new ways of defining the world. Memory retention is to evoke and improve learner information retention. Transfer of learning is the application of learning from workshops to workplace. The responses obtained were analyzed using SPSS (Statistical Package for Social Science) software for window. The open ended question addressed respondents view on the three main disabilities in educational institutes that hinder in creating a learning organization**.**

3. Research finding and Implication

Cronbach's alpha was carried out to measure internal consistency of all the items in the test and to ensure validity and the amount of measurement error. The Cronbach's alpha values for effectiveness of management fables as an inspirational learning tools is shown in Figure.1.The value was 0.894,this value being greater than 0.6 shows that the test conducted was reliable and valid.

Figure 1. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.894	.901	16

The summary of descriptive analysis in terms of mean and standard deviation for all the variables in the study of management fables as an inspiration learning tool is shown in Figure.2. Since the questionnaire used 5 point scale, average mean score of 4, indicate a fairly good degree of existence and tendency on the variables namely fostering connectedness, planned immersion, relaxed alertness, transformative learning, memory retention and transfer of learning .The overall score for fables as inspirational learning was 4.48 which indicate the existence of high degree of effectiveness as inspirational learning tool.

Figure 2. Descriptive Analysis

Variables	Mean	Standard Deviation
Fostering connectedness	4.456	.435
Planned immersion	4.436	.447
Relaxed Alertness	4.539	.720
Transformative learning	4.487	.480
Memory retention	4.474	.512
Transfer of Learning	4.547	.462
Overall Effectiveness	4.480	.390

Correlation analysis was carried out to statistically test their relationship in the matrix of intercorrelations among variables of the management fables as an inspirational learning tool. Correlations between variables under study are shown in Figure.3. Here Pearson's r is close to 1. This means that there exists a strong relationship between all variables. Pearson's r is positive (+) this means there a positive relationships between all variables and Sig(2-Tailed) value is 0.000 which further indicates that there are significant positive relationships between variables under study except the correlations between transformative learning and fostering connectedness.

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Figure 3. Correlations between Variables

	Fostering connectedness	Planned immersion	Relaxed Alertness	Transformative learning	Memory retention	Transfer of learning
Planned immersion	.556**					
Relaxed Alertness	.455**	.533**				
Transformative learning	.294	.845**	.363*			
Memory retention	.620**	.663**	.502**	.614**		
Transfer of learning	.776**	.585**	.489**	.508**	.932**	
Overall Effectiveness	.840**	.839**	.636**	.694**	.883**	.906**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The analysis of open ended question on the three main learning disabilities in educational institutes shows similarity in the pattern of respondent's comment. Figure.4. shows respondent's comment on open ended question on learning organization. According to 95% of respondents the most prevalent learning disabilities in educational institutes included fragmented thinking, lack of team learning and deep ingrained assumption .Our study shows that management fables can unearthed this disability. The mean scores of variable transformative learning was 4.487 which shows that fables can challenge the ingrained assumption and induce new thinking. Fostering connectedness scores were 4.456 which connote system thinking over fragmented thinking among respondents helping them to visualize organization as a whole. Relaxed alertness score was 4.539 which imply fostering sense of community and team learning among respondents. Thus fables can be an inspirational learning tool over the traditional stereotypical disdain methods that are often regard as didactic.

Figure 4. Respondents comments on open ended question on Learning organization

Comment	Learning disabilities in Educational Institutes
1.	Fragmented thinking
2.	Lack of team learning
3.	Deep ingrained assumptions

4. Conclusion

Management fables is the ancient practice of sharing knowledge with context and emotions. Neuroscience research has revealed that the majority people make decisions stands on their emotions first and then rationalize that decision with the left brain. This study researched and concluded that the use of management fables   proved to be an effective inspirational learning tool. Fable creation is a craft, the one that captures the emotions and surprises which will trigger the release of adrenaline in the brain and create a profound impact on the learning process. The study further revealed high scores on variables namely fostering connectedness, planned immersion, relaxed alertness, transformative learning, memory retention and transfer of learning among respondents.

Fables help us to make sense of a world that is rapidly mutating and contains the power to propel us into the future and build a learning organization which at time conventional tools are impotent.

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PEER EDUCATION TO ENHANCE HIGH SCHOOL DIDACTICS

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Abstract

A two-week experimental educational activity has been carried out in two high school classes, to assess students' ability to make progress in curricular topics and improve mutual relationship as well, exploiting the peer education potential.

The experimentation involved german language students, who have been working in small groups, separate classrooms, without their teacher, during regular school hours. Each group, led by a classmate as tutor, was informed that freely using the classroom in the afternoon was allowed as well.

Conclusions appear very encouraging, since even students who did not well in German got a passing grade in the test their teacher gave, in the end of the experimentation period. Students proved to be able to self-govern their activity, to carry out their task effectively, helping each other, when needed. Finally, results seems to show that students grasp key concepts more effectively in a suitably framed group setting than at a lecture given by the teacher to the whole class.

Keywords: *peer education, pedagogic innovations, high school.*

1. Introduction

The peer education methodology is based on the spontaneous ability of collaboration, which emerge in a group of people of equal status. In appropriate conditions, a 'peer group education' (PGE) takes place, in which members are able to initiate a spontaneous process of listening and confrontation, giving rise naturally to a transfer of knowledge and experience, both through informal and organized activities. In any practical strategy based on the PGE in school, some members are empowered, trained and reintegrated into their group membership in order to achieve precise activities with their peers (Giovanna Boda, 2001).

The PGE has been known for decades, and successfully experienced in a variety of situations, at all levels of school, in many countries, including Italy (L Croce & M Vassura, 2011), but its employment in italian schools is still very limited. This form of teaching has long since spread elsewhere. Especially in the USA, an increasing adoption of PGE at the university level can be observed, so that analysis of the effectiveness and the risks of the method can be performed (Colvin & Ashman, 2010). However, we believe that the most significant potential of this method when applied to the curricular subjects has not yet been fully brought to light.

In most cases, in fact, the PGE is adopted to give notions from fields external to the program of study. A few selected students (tutors), trained by a team of experts on specific topics related to health or safety, or to standards to be applied in special contexts, can perform the task of explaining the problem to other young people of the same age and answering their questions.

In those few cases in which the method is applied within the curricular program, it is usually occasional situations in which the PGE is tested, often just once over the

whole school-year, during regular school hours, within the same classroom, distancing groups as much as possible in that limited space.

Moreover, often the education program covers topics not new and not properly part of the course; rather the PGE many times is used to review topics already studied or to offer insights, beyond the course of the program.

In order to explore new forms for our educational system, it would be instead very useful to implement experimentation where all those limitations have been removed, to be able to draw information about the most interesting potentials of the PGE:

- Proving students' ability to organize themselves independently both in time and in choosing workplaces, to achieve the educational goals that their teacher has given, dealing with a part of the curricular program, never treated in classroom before.
- Taking advantage of the setting aimed at studying in groups alone to increase the sense of responsibility of students and the strengthening relations of friendship between them.
- Gaining an insight into new, more suitable distributions of teachers' time, in which lessons to the whole class and personal relationships with individual students have comparable weight

The experiment that will be here described represents our first attempt in that direction.

2. People involved

The elaboration and realization of the pilot project was borne entirely by the head of the project drops in the ocean, as the coordinator, Paolo Pumilia, who has recourse of the advice of experts, and by the teacher of German, Valeria Mangione.

3. Context

The state institution Dell'Acqua, high school for Surveyors, Accountants and Art High School, is an ancient and recognized institution in Legnano (Milan, Italy) that gathers students from a wide catchment area, from the provinces of Milan and Varese. The whole area has ancient industrial vocation, so that knowledge of foreign languages is a skill sought after by companies, to establish and maintain business relationships

The chance to implement our peer education idea occurred when the professor of German planned a two-week period in Germany for internships with companies in alternance training with some students at the 3th and the 4th level. Over this period, the 1st and 2nd level students (specifically classes 1B and 2B) would have to remain in their classroom with a substitute teacher, without being able to proceed with the program of German. That was the opportunity to try to put them in a condition of carry forward the study, working in autonomous groups.

Classes 1B and 2B are fairly governed; students, respectively 25 and 28 in number, usually behave with respect and there are no strong friction in the class group. The average profit in german is good, as many have already studied the language in junior high, but some of them have serious difficulties.

4. Preparation

This past February, at the end of the meetings of the department, a seminar was set up, in which one of the authors (Paolo Pumilia) explained the key features of education in peer groups, thus providing the audience the essential concepts to recognize that specific kind of education by more spontaneous forms of working in groups.

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The meeting was attended by a dozen teachers, including the Principal and Vice principal. In the end, Paolo Pumilia and Valeria Mangione announced the intention to implement a didactic experimentation of that kind, in the course of german, that would last two weeks,

The idea was supported by the Principal and by some teachers, already engaged in recovery activities in the afternoon, following a method of mutual aid, close to the PGE. Everybody expressed interest to know more about the subject and to be made aware of the results of the planned experimentation.

Once that the experimentation period was established, the principal was able to identify the available rooms, for the groups to work alone. During regular school hours, three classrooms, supervised by teaching staff from the outside and by the coordinator, were made available. Upon tutors' request, the same classrooms could be used in the afternoon as well, guarded from the outside by the non-teaching staff.

We then described our project to the classes and the teacher began to probe students' readiness to act as a tutor. Everyone showed excitement for the novelty, so that each of the two classes picked three students in a short time. In class 1B tutors were selected by the teacher herself, while in 2B those three who had made spontaneously available were chosen, no need to resort to any incentives.

Afterward, the class councils of the two involved classes were informed about the experiment in preparation. Finally, parents of the students were informed. They would have been invited, at the end of the experiment, for a common evaluation of the results achieved.

5. Learning German language by PGE

The objectives that we set out in this trial were to evaluate how both the level of profit, while working alone on a topic of a curricular subject, and how personal relationships, specifically members' abilities to take the difficulties of others and co-take responsibility for the success of group work, could be affected by the new work environment.

Tutors would have had thus a twofold task. On the relational level, they would try to lead the group, to stay ahead of the slower, to exploit the ability of the best ones at german. At the same time they would have to know how to equip themselves to schedule the learning path of their group.

From the above, one can understand that the level of proficiency in the matters of study could not be the only relevant criterion to pick up tutors.

5.1. The study program
First, the teacher laid down the plan of study. The task that it was decided to assign to each class was composed of a first part of a review of arguments addressed by the teacher before and a second part about a new topic, covered by one textbook chapter, consisting of readings, translation exercises, questions and answers.

5.2. Meeting with the class
In the next lesson, the teacher explained to each class the work that should have been carried out in her absence and advised that, on her return a written test would be given, just on those topics covered during the PGE.

Final adjustments regarding the partition of the class into three groups, each headed by a tutor, were made. Then the students were informed about which classrooms would be used for studying in the morning and the possibility of using the same classrooms in the afternoon, upon tutor's explicit request. It was recommended to timely notify parents of any extension of time and mentioned that each group could also meet out of the school, in public places, such as the Municipal Library while it was discouraged to meet at classmate's home.

5.3. Meeting with the tutors

Then, two sessions with the tutors followed. In the first encounter, all six together, the purpose of the experiment, our expectations and the difficulties they could run into were described. At the end of the confrontation, in which students had made several requests for clarification, the roles of the tutors, the teacher and the coordinator had been well understood by everyone.

Tutors were then charged with studying the new part of the program and to prepare, on this subject, a simulated lesson.

The next meeting involved the tutors of the two classes at different times. Tutors had split among them the topic they were charged to cover, so one after another, they proceeded to the explanation of the relevant part, as in a situation in roles exchanged. At the end, we commented on and given some hints to improve the conduct of the lesson.

5.4. Working alone

Then the two-week work in autonomy started, taking place without affecting the rest of the regular schedule of classes. In the hour of german, students divided into three groups and went to settle in to their assigned classroom, where the lesson took place around a table. The coordinator guarded the classrooms most of the time from the outside. Every now and then he came for a few minutes, keeping at a distance, only occasionally exchanging a few words with students, taking care not to interfere with the flow of work.

Though it was made clear that the time available to them could be managed as they saw fit, allowing themselves breaks when they wished, very rarely groups have granted rest periods in the morning. Moreover, some groups have taken advantage of the opportunity to meet in the afternoon in school.

6. Results

After returning from the stay in Germany, the teacher prepared a test on the topics covered by her students. The results have been positive, particularly in the class 2B where tutors were able to manage the group in a constructive manner, also profiting of top members. Even students most lacking in the study of German, surprisingly enough, got a passing grade in that trial.

The result seems to show that students grasp key concepts more effectively in a suitably framed study group than at a lecture given by the teacher to the whole class. In the current experimentation, the lesson, consisting of one whole textbook chapter, was never given by the teacher, not even to tutors. Rather, tutors were tasked with studying that chapter and explaining it to the teacher, before starting to work with their group.

7. Critical issues

As we were able to draw from live confrontation with the students, a few days after the PGE completion, the experimentation was a rewarding experience for everybody. Overall positive results were later confirmed by the questionnaire, that students had filled anonymously. Yet, some critical points are to be noted.

First, some students complained for being unable to follow their tutor's lesson sometimes, because of noisy schoolmates nearby. That means that not all group members were well disposed to study, sometimes and that the others were not able to demand their attention to the group task.

A further reason of bothering sounds was the condition the classes were subjected for one time, requiring two groups to gather in the same classroom.

The most relevant criticism from students is about the PGE effectiveness. Some students, while acknowledging tutor's efforts, realized that "teacher is better", "she does not pass over sentences that are difficult to translate".

That is a really unsurprising criticism that has been raised. Surely teacher is better. Tutors, as explained at the beginning, were not chosen only for their proficiency. In any case, it seems rather improbable that a first or second level student, as good as he/she may be, can be compared to teacher on the professional ground.

To that discontent is important to provide answers, offering to those students the opportunity to deepen and widen their knowledge quest, without taking anything away from the PGE. In fact, the PGE does not aim to replace teacher's role, rather to complement it, making basic notions spread easier across group members. With more usual situations, teacher would have been within easy reach, having a meeting for clarifications and knowledge improvement, upon students' request.

8. Future directions

The PGE could be put on test on different school matters, also exploiting higher grade students, as tutors. That setting would be probably advisable with first grade students. Also university students could be involved as tutors.

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AUDIOVISUAL MATERIAL IN TEACHING HUMANITIES AND INTERCULTURAL STUDIES

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Abstract

This paper aims to show the development process and first results of an Educational Innovation Project conducted by several professors on Philosophy and Ethics during the 2013/2014 academic year. Such Project was motivated by the creation of new degrees in the Spanish University according to the European Higher Education Area and the need of improving both the theoretical and practical content of their new subjects. In this sense, the mentioned Educational Innovation Project is aimed at the introduction of audiovisual material in order to improve the teaching-learning experience of several subjects in higher education level, especially those related to the field of Humanities and Intercultural Studies. In turn, such audiovisual content is understood here as filmed material of diverse kind, but especially TV series and movies.

Keywords: educational innovation, audiovisual materials, ICTs, humanities, interculturality.

1. Introduction

Audiovisual media are a privileged way to approach cultural diversity and intercultural relationships in contemporary society. Cinema, specifically, offers a double possibility of constructing stories with the presence of immigrants and intercultural encounters, as well as of showing social aspects of groups culturally different from the audience. The educational capacity of audiovisual materials allows to reflect on social issues to fight as racism, xenophobia and matters of respect for the intercultural identity and ethnic minorities, since stereotypes, prejudices and ineffective intercultural relationships are shown by many contemporary films, which allow students a narrative identification that will bring them closer to the problem.

In this sense, this paper aims to show the development process and first results of an Educational Innovation Project aimed at the introduction of audiovisual material in order to improve the teaching-learning experience of several subjects in higher education level. In concrete, these are: "Ethics and Professional Deontology", "Contemporary Thought and Interculturality" and "Bioethics and Professionalism".

Considering the above, this paper will introduce, firstly (1), the previous teaching-learning context in which the Educational Innovation Project has been developed. Secondly (2), it will try to justify the relevance of audiovisual contents in the educational context. Thirdly (3), it will present the methodology and development of the mentioned Project. Finally (4), the presentation will expound some final reflections.

2. Background

The incorporation of audiovisual material is proposed as a new target in a continuous process of improving the teaching-learning experience that we are trying to promote since the introduction of the new degrees in the Spanish University started. Our effort focused already, since the 2010/2011 academic year, on the planning, development and improvement of practical exercises. In that moment, it was also developed a Project of Educational Innovation which led us to prepare a compendium

of different materials and aids to promote various practical exercises to encourage students to a dynamic, autonomous and critical learning.

Likewise, during the 2011/2012 academic year, the group of professors continued working on both improving the implementation of practical exercises, as well as broadening and going in-depth into the theoretical content of their classes. This led us to carry out a new Project of Educational Innovation aimed to prepare, write up and systematize a whole didactic material by combining the work done in the previous years and in order to collect the theoretical and practical content of our subjects within a publication according to the speciality of each degree; what meant, in turn, the need to develop innovations in the teaching-learning experience.

In this regard, the inclusion of audiovisual material in teaching Humanities, Ethics and Intercultural Studies seems to be of a particular interest given the large number of films and serial contents related to these subjects, as well as the topicality and potential usefulness of audiovisual aids in analyzing cases. This implementation should, in any case, improve two basic aspects of these subjects: their theoretical and practical content.

Concerning the theoretical part of the subjects to improve, it has been undertaken till date mainly by students taking notes during the professors' explanations. Theoretical lectures were also accompanied by articles or texts in order to complete the information, being these facilitated to the students through the Virtual Classroom. Incorporating new audiovisual aids as a complement to these theoretical materials of the subjects seems to be, thus, a way to improve the teaching-learning process itself. Regarding the practical content of the subjects, the incorporation of audiovisual material can also help to complete the many texts, records, file cards, references and exercises developed in the Virtual Classrooms.

3. Audiovisual material as an educational tool

The impulse that Information Society is giving to the audiovisual media and new technologies seems to have a profound effect on the displacement of traditional sources and forms of information. Besides, cinema has had since its inception a didactic and moralizing vocation rather than a recreational function. Through fiction, films represent the real world and offer perfectly contextualized situations in specific historical and socio-cultural environments, being therefore a potent transmitter of values and models of all kinds. In addition, their ability to generate identification processes makes us receptive to their intention.

It is therefore not surprising that audiovisual contents -films, movies and TV series- are suitable to show and exemplify the diverse geographical, historical and social facts, especially since they are able to reconstruct the past and the present by recreating it and giving credibility. Apart from the narrative content of any film or series, every filmed production situate itself in a concrete spatial and temporal scenario that, in turn, evokes specific spatial and temporal frames from the worldviews and perceptions of a society, a culture or an author. In this sense, there are, indeed, countless audiovisual documents that can help reflection, both in films and TV series, and their multiplicity of variables as a teaching-learning material is extraordinary. Using audiovisual aids in teaching is one way to enhance lesson plans and give students additional ways to process subject information (Kumari, 2010). In this sense, educational theory and cognitive psychology research shows that visual learning is one of the best methods for teaching students of all ages. By transforming abstract ideas into concrete, the visual learning techniques help students to understand and interpret information, so that this audiovisual media can provide a structure for writing, reporting, analysis and discussion, and to help students to focus their thoughts and ideas (Chapman & Vagle, 2010: 110).

In summary, we could outline some concrete functions that audiovisual aids can perform in the teaching-learning process (García, 2007: 123; Cabero, 1994): 1) Way to

complement and develop other elements on traditional teaching; 2) Information transmitter; 3) Instrument of knowledge by students; 4) Way to present conclusions and relevant ideas to be highlighted; 5) Method to illustrate with examples and to present the students theoretical and practical cases; 5) Motivational tool; 6) Evaluator of the knowledge and skills attained by students; 7) Way to improve teachers' training in teaching and methodological strategies; 8) Way to improve teachers' training in the contents of their area knowledge; 9) Psychodidactic research tool; 10) Instrument to develop the iconic literacy of students.

4. Methodology and Development of the Project

As it has been marked above, the main objective of the Project of Educational Innovation that I am presenting here, aims to improve the teaching-learning experience by introducing audiovisual material in several subjects related to the field of Humanities, Ethics and Interculturality, which are: "Ethics and Professional deontology", "Contemporary Thought and Interculturality" and "Bioethics and Professionalism". These audiovisual aids, in any case, should have its impact both on the theoretical and practical part of these subjects. Therefore, during the present academic year (2013/2014), the group of professors involved in the Project has critically studied and analyzed a wide number of films and TV series, in order to evaluate their relevance. This implies that the audiovisual material had to be tested firstly by professors before being included in their subjects, predictably during the next academic year. Consequently, evaluation and analysis of the final results and conclusions of the Project cannot be systematized till the 2014/2015 academic year, moment in which we will receive the necessary feedback by the students. It will be then that we will be able to study in depth the usefulness of the proposed audiovisual material and its ultimate inclusion in the content and dynamics of the subjects to improve. It is, therefore, a long-term Project.

In turn, we have had to take into account that the Project affects three different subjects present in a total of 7 degrees, each one with its own peculiarities. In this sense, we have had also to keep in mind the student profile in each of the groups and their specific features, when considering the audiovisual materials, films and series episodes studied and analyzed to be finally incorporated into the content of the subjects. Thus, this has allowed us to compile and work with the audiovisual material that better suits the needs of each group

In addition, we have oriented our work with the audiovisual material trying to promote an autonomous self-learning process by students. Moreover, the audiovisual contents have been analyzed and worked on its original version with subtitles, in accordance, therefore, with the Multi-Annual Plan of Multilingualism 2011-2014 of the Universitat Jaume I.

The process through which this Project has been developed includes, in chronological order, the following steps:

a) Search of theoretical and bibliographical material about the teaching-learning experience based on audiovisual aids.

b) Search and listing audiovisual material (films, TV serials, documentaries) which are relevant to their introduction into the subjects content, in regard to both their theoretical and practical part.

c) Analysis and study of the obtained audiovisual material.

d) Elaboration of identification cards by connecting series/films and subjects/themes, so that it is established a reliable list of the correspondence between the contents and objectives of the subjects and the audiovisual material to be incorporated in the teaching-learning experience.

e) Systematization of how to incorporate the obtained and analyzed audiovisual material into the theoretical content of the subjects.

f) Systematization of practical exercises based on the audiovisual material studied and analyzed by the professors, and its inclusion, therefore, into the practical content of the subjects.

In turn, these steps of the Project have been materialized in three different phases:

1) September 2013 – Novembre 2013: A first phase of theoretical study on teaching-learning processes and methods based on audiovisual material. This first phase included, in turn, the acquisition of both bibliography and audiovisual material itself, with which to work and develop the second phase of the Project. The results of the research on teaching-learning through audiovisual material, carried out by the group of professors, were also reflected in the later phases of the Project.

2) December 2013 – March 2014: The second phase has consisted, mainly, in the study and analysis of the audiovisual material obtained in the previous phase, as well as in writing up the identification cards of such audiovisual material.

3) April 2014- June 2014: Finally, the third phase of the Project consisted in applying the results of the previous research and analysis of the audiovisual material, in order to systematize that material and implement it in both the theoretical and practical content of the subjects. Therefore, this phase defines the final use of the compiled audiovisual aids in the teaching-learning process.

Bearing in mind these steps and phases, the methodology of the Project has consisted, mainly, in a collaborative work by the involved professors, as well as in an ongoing process of joint discussion and analysis in which, in turn, it has been taken a process of continuous evaluation of the work performed. In this sense, the group of professors involved in the Project has made three coordination meetings, one at the end of each phase. In these meetings, the work done was assessed, partial conclusions were formulated, guidelines and working strategies for the next phase were defined and improvement mechanisms for the Project implementation were established.

Finally, throughout the Project conducted, a total of 40 audiovisual materials have been studied and analyzed. Some of the TV series with which we have worked are: *The Wire* (USA, 2002); *House M.D.* (USA, 2004); *Mad men* (USA, 2007); *The Newsroom* (USA, 2012) and *House of Cards* (USA, 2013). In turn, some of the films to note are: *Twelve Angry Men* (USA, 1957); *Las cartas de Alou* (Spain, 1990); *Bwana* (Spain, 1995); *Dead Man Walking* (USA, 1995); *Gattaca* (USA, 1997); *East is East* (UK, 1999); *Poniente* (Spain, 2002); *Ingen Numsil – Die Geschichte vom weinenden Kamel* (Germany-Mongolia, 2003); *Mar adentro* (Spain, 2004); *Offside* (Iran, 2006); *Parinawa la ghobar* (Irak, 2006); *Hiyab* (Spain, 2006) and *Persepolis* (France, 2007). Within the documentary genre some of the productions we have also analyzed are: *Extranjeras* (Spain, 2003) and *En el mundo a cada rato* (Spain, 2004).

All this audiovisual material has been analyzed, evaluated and indexed according to the proposals made by Salinas (1992) and Cebrián de la Serna (1994), considering 5 main items: General information (Title, Author/s, Producer, year and place of production, Nationality, Duration); Objectives (To whom is it addressed?, What theoretical knowledge are we trying to illustrate? What practical cases are shown?); Contents (scientific quality, Does it reflect the scientific principles of the moment?, Is it verified?, Is the information updated? Is the content appropriate to the objectives of the program?); Presentation and Narrative (Is the information clearly presented?, Is it organized?, Is the content consistent?, Is it fast? Is it slow regarding the content presented?); Audience (Is the target population properly defined? Is the material adapted to the student population to which it is addressed?).

5. Final ideas and reflections

Considering the work done during this Project of Educational Innovation, we can formulate some methodological reflections when incorporating audiovisual material in

the teaching-learning process in general, and in Humanities, Ethics and Intercultural Studies in particular.

First, we should keep in mind that audiovisual aid cannot replace entirely certain aspects of a more traditional education. The filmed contents, certainly, involve an undeniable approach to reality, but they are always means, not ends in themselves. Likewise, it should be noted that films in general, even if they are documentaries, are always fiction or reconstructed reality. Moreover: cinema is also a language in which the cinematographic technique, the use of shots or camera movements and the montage and edition can confuse the spectator about the iconicity of the represented.

Films and TV series, in fact, decontextualize reality to contextualize it in a different and creative way. So when a film is analyzed, it needs to be decontextualized again to be contextualized in the field in which the analysis is developed. In this sense, the role of teachers and professors is especially relevant when directing students in the film analysis according to the purpose intended.

Also, regarding intercultural aspects, there is the danger that some audiovisual contents could transmit or reinforce cultural stereotypes, if they are not analyzed critically and thoughtfully. On the other hand, there is also the danger that a detailed analysis of a film could take students to boredom and rejection of this form of learning, if it is not done properly.

In this sense, audiovisual methods are most effective when the information it contains is systematically organized. Break information into smaller chunks and grouping similar pieces together can help students to connect and store information more efficiently. Also, it should be considered presenting the most important key points during the first part of the lesson, when their attention is at full capacity. In any case, students can become demotivated if the audiovisual content is not up to their level.

Considering the previous, the selection of material and activities is especially important. In this task, we need to invest time and efforts, since working with audiovisual contents requires an intense training on the part of teachers. Thus, this Project of Educational Innovation has tried to lay the basis to include audiovisual material in coming courses. Its main task has been to schedule the previous work that teachers had to execute in order to have a consistent and suitable compilation of audiovisual contents, as well as programmed activities related to them.

In summary, all the information systematized by the group of teachers and professors during the Project, allows us to incorporate, in coming courses, audiovisual material in teaching Humanities, Ethics and Intercultural Studies by having a previous and relevant idea about What, How, When, with Who and for What to use these audiovisual aids. In any case, final evaluation and further information regarding this audiovisual material can be only formulated after its definitive use in the teaching-learning process, when having the needed feedback from the students.

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ISSUES OF TODAY'S ONLINE EDUCATION:
PSYCHOLOGICAL PORTRAIT OF THE PROBLEM STUDENT

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Abstract

The online *problem student* is one who fails to benefit from the modern learning environment based on the information technologies. The purpose of this work was to find out whether psychological characteristics helpful for identifying *problem students* in a traditional classroom are the same in a new learning environment. The study was conducted with 123 graduate students, who took Dr. Toom's online psychology courses within three consecutive semesters of 2013. The research methodology included an analysis of the students' coursework and academic performance within the semester and mathematical analysis of the collected data. According to the results, four psychological characteristics can be considered valid and reliable for identifying online problem students: cognitive apathy, low self-organization, lack of learning motivation, and being uninformed. These negative characteristics are closely interconnected (correlation coefficients K=.54–.76) and highly correlate with students' low academic achievement (correlation coefficients K=.50–.68). Based on the results the psychological portrait of the typical online problem student was described. The results can be useful for developing effective strategies for training and educating online beginners and problem students.

Keywords: online education, problem students, psychological correlates of successful learning.

1. Introduction

Nowadays, rapid development of information technologies and solid requirements for entry-level professionals at the job market change the psychological profile of a typical *problem student*. At least, its definition, commonly accepted by school teachers, is not valid for graduate students (Ko, 2014). At the Master's Program level students rarely misbehave disrupting the atmosphere in a virtual classroom and preventing others from successful teaching and studying. Now the problematic character rather shows itself in the students' unproductive learning style and low academic achievement.

2. Theoretical Framework

In the studies of psychological correlates of successful learning, despite of the abundance of terminology, some concepts seem to occur most frequently: cognitive (intellectual) eagerness/curiosity, self-organization/discipline, and learning/achievement motivation (Robbins, 2004; Richardson, 2012). Indeed, motivation assures prolonged interest for the subject of study, cognitive curiosity is a base for productive learning, and self–organization is necessary for performing the educational activities systematically and in a timely manner rather than chaotically or spontaneously. With incorporation of information technologies in education, human ability to actively and independently search for and adequately operate with information becomes yet another correlate of successful learning, although scholars working on the topic seem not to pay enough attention to it. The four mentioned psychological characteristics are the subject of our research.

To study traits of personality affecting learning, specialists tend to use interviews and surveys measuring the student's perceptions and opinions. Another method is based on the analysis of products of human labor and creativity which reflect in-depth personal characteristics. Being more direct, the latter is at least as, or even more objective and efficient than the prior one. This method (sometimes in a combination with a survey) is fruitfully used by educators nowadays (Hartnett et al., 2011; Dadach, 2013). In our study we also use this method. One's activity is a projection of one's personality characteristics, and among many human activities, learning is especially significant.

3. Research Methodology

The purpose of this work was to determine whether psychological characteristics helpful for identifying *problem students* in the traditional classroom are the same in online classes. The specific objectives are as follows: 1) To analyze how the four psychological characteristics of the learner – cognitive eagerness, self-organization, motivation, and being informed – are interconnected in online classes, 2) To find how these characteristics correlate with students' academic achievement.

The investigated population consisted of 123 graduate students, who took the author's online psychology course *Child Development and Learning in the Cultural Context.* The study was conducted within three consecutive semesters of 2013: in spring with 47, in summer with 34, and in fall with 42 participants.

The research methodology included 1) analyzing of the students' coursework submitted to the course site and their academic achievement within the semester and 2) conducting mathematical analysis of the data.

3.1. The principles of coding data

Four psychological correlates of successful learning – cognitive eagerness, self-organization, motivation, and being informed – had their indicators in the students' online course work. Identifying of these indicators and attributing numerical values to them allowed perform quantitative analysis of students' data.

When attributing numerical values to a student's course work, we were guided by the following rule: not meeting requirements one or two times within the semester may be accidental. However, not meeting them more than twice is rather a consistency reflecting a certain style of learning and a trait of personality. "More than twice" was a boundary for categorizing our study's participants.

 Cognitive eagerness *(COG)* manifested itself in the quality of the students' course work. If a student submitted homework assignment incomplete and/or full of mistakes more than two times within the semester, her/his cognitive eagerness was coded by 0; otherwise it was coded by 1. In the first case we dealt with cognitive apathy, in the second – with cognitive eagerness.

Self-organization *(ORG)* displayed itself in ability to submit the course work in a timely manner. If a student submitted late coursework without a valid excuse (defined in the course policy) more than twice within the semester, her/his self-organization was coded by 0; otherwise it was coded by 1. In the first case we dealt with disorganization and lack of self-discipline, in the second – with self-organization.

Motivation *(MOT)* could be easily identified through a tendency to exceed requirements of the course. If a student submitted his/her high quality coursework in advance (1-2-3 weeks before the due dates) without having any special circumstances (delivery, surgery, or vacation forthcoming during the semester) at least twice, her/his motivation was coded by 1; otherwise it was coded by 0. In the first case we dealt with high learning motivation, in the second – with low learning motivation.

Being informed *(INF)* manifested itself in informative postings for discussions on the Discussion Board. If a student did not support her/his responses by scientific facts and did not provide the required number of references more than in two discussion forums within the semester, her/his ability to search for information was coded by 0; otherwise it was coded by 1. In the first case we dealt with a student being uninformed, in the second – with one being informed.

Academic achievement *(ACH)* was represented by the student's final course grade. If a student received a grade lower than 83, her/his academic achievement was coded by 0; otherwise it was coded by 1. In the first case we dealt with low academic progress or even failure; in the second – with academic success.Thus, after coding data, everyone out of 123 students, our study's participants, was characterized by a tuple of five numbers; each of them was either 0 or 1. For example, [*COG*=1; *ORG*=1; *INF*=0; *MOT*=1; *ACH*=1]. The correlation analysis was conducted based of these data.

From the mathematical point of view, a variable corresponds to every mentioned above psychological characteristic. To find how strong relationships were between the variables, Pearson's correlation coefficients were calculated with the use of the following formula:

$$K = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}} \, ,$$

where *n* is the number of students in the group; $x=(x_1 \ldots x_n)$ and $y=(y_1 \ldots y_n)$ are distributions of the chosen variables ("How to Compute Pearson's Correlation Coefficient," 2013). The correlation coefficients corresponding to the ten possible combinations of two out of five variables were calculated. Their values are shown in Table I.

Table I. The correlation coefficients between variables listed by the semesters and the total of 2013

Coefficient of correlation	Spring 2013	Sumer 2013	Fall 2013	Year 2013
$K_{ACH,COG}$	.68	.75	.60	.68
$K_{ACH,ORG}$	.56	.72	.62	.61
$K_{ACH,INF}$	.53	.72	.57	.58
$K_{ACH,MOT}$	.46	.50	.62	.50
$K_{ORG,COG}$	.76	.92	.75	.76
$K_{ORG,INF}$	.76	.83	.59	.71
$K_{ORG,MOT}$	.51	.52	.59	.54
$K_{COG,INF}$	.55	.92	.68	.55
$K_{COG,MOT}$	.59	.50	.62	.59
$K_{INF,MOT}$	.43	.51	.60	.54

Note. COG = cognitive eagerness; *ORG* = self-organization; *INF* = ability to search for information; *MOT* = motivation; *ACH* = academic achievement. $K_{x,y}$ = the correlation coefficient between two variables *x* and *y*.

All pairs of variables have positive correlations; most of them are greater than .50. Thus, all psychological correlates of successful online learning are closely interconnected.

The correlation coefficients for three groups of students that took the course in different semesters of 2013 are very similar. Remarkably, that these results are similar to the results of the author's identical study conducted at the same college in 2005-2011 (Toom, 2013). It serves as evidence of the results' reliability.

An individual analysis of students' data showed that students lacking any two out of four studied psychological characteristics are still able to adjust to a new learning environment and complete the course relatively successfully. However, lack of any three out of four characteristics is a strong indicator of a problem student.

5. Discussion

On the basis of the results the psychological portrait of the typical online problem student has been presented.

The typical problem student has a poor educational experience and low academic performance. S/he still doubts which type of education is best for her/him. S/he takes distance online courses just to avoid spending time for travel to the college and naively assumes that they are easier than face-to-face ones. This student starts doing his course work not being aware of the requirements and rules of online communication. All requirements and disciplinary policy are stated in the instructions, and instructions are located right on the pages of the course site, but some students do not read them. The problem student does not find them or ignores them. Speaking metaphorically, a problem student is playing a game without knowing its rules.

Absence of traditional educational attributes, such as a live teacher's initiative or the lectures as the main source of information, confuses this student. He gets lost. It seems that he does not understand that an active search for information is essential for successful learning in online classes. He has no idea that most of the information needed may already be accumulated in the pages of the course site, and it is sufficient to click at the links well visible on the screen. For this reason, it is usual for problem students to find out in the middle of the semester that they are missing some necessary activity, and they rush to catch up.

What is even worse than poor searching skills is that a problem student has no motivation to develop them. Such a student seems to have very low learning motivation in general (if any). Also, she does not acquire cognitive skills in the course of study. One may say that she is in a state of cognitive apathy. Goal-oriented and systematic intellectual work is beyond her. She has no mental discipline. If the reading contains five key concepts needed for the analysis, she usually finds only two that are described in the first few paragraphs, because she does not attentively read the text. That's why problem students seldom bring their homework to completion. This student is not self-disciplined and cannot reasonably allocate time and energy necessary to prepare her course work. One week she works well energetically discussing various issues with the classmates on the Discussion Board, but another week she is unable even to send her homework on time. Irregularity and instability are typical characteristics of problem students.

Sometimes one can see growth in such a student's mastery of a new learning style. However, right after that s/he may disappear for a couple of weeks and lose all the advantages accumulated in the previous period. "They are not able to keep their boat fully afloat" – others say about such people. Their behavior is unpredictable and the progress unreliable. They rarely finish the course in due time: by the end of the semester it may turn out that they have completed at best 70% of the required coursework. So, such students get "Incomplete" grades (in the best case) and spend a year more to catch up. If the final research paper is missing, they are preparing it when the semester is over, that is being isolated from the discussions with classmates and the professor. So, problem students grasp neither the art of searching for appropriate bibliography on the Internet nor the art of writing sensible thematic papers.

To complete the picture, it should be mentioned that many of problem students are by far not amenable. The attempts to convince them to observe the rules declared in the

course policy are doomed: instead of changing their habits and learning harder, they complain and blame the professor in "being forcing" or "violating their privacy". After all, sooner or later most of them receive passing grades. They get grades, but they do not get knowledge. They are those very people about whom the Commission on the Future of Higher Education states, "employers report repeatedly that many new graduates they hire are not prepared for work, lacking the critical thinking, writing and problem-solving skills needed in today's work places" ("Secretary Spelling's Action Plan," 2006).

6. Conclusion

Four psychological characteristics – cognitive apathy, lack of self-organization, low learning motivation, and being uninformed due to inability to search for online information sources needed for performing course activities – can be considered reliable criteria for identifying online problem students. One can predict a student's likely academic failure if at least three out these four criteria are present.

Psychological correlates of successful learning are actually the same in traditional and online classes. However, they transform to correspond to the changes in the learning environment based on technology. Probably, the most affected characteristic is *being informed* because passive receipt of knowledge from the instructor should now be replaced with active and independent research for a variety of information in the course site and the Internet.

The results of this study may be helpful to develop effective strategies for training and educating online beginners and problem students.

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INTERNATIONAL BUSINESS COURSE REVITALIZATION: MOVING FROM PAPER MANAGEMENT TO PROJECT MANAGEMENT AND APPLICATIONS

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Abstract

As more colleges and universities compete for student enrollments, today's adult learner is becoming more particular in their higher educational selections for additional education and/or training. Also, these learners are transitioning quickly from the traditional Face-to-Face (F2F) brick-and-mortar classroom setting to a more accessible, time accommodating virtual classroom that mirrors more of their needs in today's hectic busy and ever-changing technological workplace. As they make educational choices, the teaching profession has also taken an evaluative look at how they approach their current curricula in terms of program and courses offerings, as well as the presentation of a more varied approach to learning activities. Learning activities of previous decades have been developed and implemented from a teacher-centered approach, but today's learning environments are steering towards a completely new approach to one that focuses on the learner with a new learning strategy, known as the learner-centered approach. Given that the learning approaches and strategies have started to evolve into a different manner and phase of development, these teaching professionals realize that the learning activities and applications must be reflective of a new breed of student learners, as well as adapt to more learning technology. The key focus of this paper will center on the instructional side of adult learning involving the evolution of learning activities designed to achieve ever-changing learning objectives, learning needs and wants of today's adult learner, as well as attract more learners to successful programs/courses geared to the specific needs of the business community and workforce. Not all courses will prove to be attractive or stimulating to all learners, but it is important for today's curricula be reviewed, evaluated, and modified to meet learning needs. This paper will focus on an international business course as it is undergoes academic and business review, evaluated to meet accreditation requirements, and modification of its learning activities. Historically, the learning activities for various levels of learning in both undergraduate and graduate courses have varied and have showed increments of varied learning intensity and requirements, there is a trend in online education to provide learning activities that not only means accreditation needs in terms of learning objectives, but yet also provides a real word application approach from the traditional paper requirement to more practical project management.

Keywords: online learning, international business, learner-centered, adult learning.

1. Transitioning from Traditional to Virtual Learning

Educational and technological advances are happing at a faster rate than many have anticipated. In fact, adult learners are transitioning quickly from the traditional Face-to-Face (F2F) brick-and-mortar classroom setting to a more accessible, time accommodating virtual classroom that mirrors more of their needs in today's hectic busy and ever-changing technological workplace. As they make educational choices, the teaching profession has also taken an evaluative look at how they approach their current curricula in terms of program and courses offerings, as well as the presentation of a more varied approach to learning activities. During the past several decades, this new form of education has taken upon several key names. For purposes of this paper, we will use the terms distance education, virtual learning, and online learning interchangeably. Nonetheless, it should be noted that there are differences in these

terms. This author has chosen to address these terms in this manner so to obtain better understanding from the various levels of readers of this paper. Consequently, we need to examine what is meant by distance education. Neal and Miller stated that distance education was "education that takes place independent of location, in contrast to education delivered solely in the classroom, and that may be independent of time as well. (Neal & Miller 2006) For new instructors, as well as seasoned face-to-face teachers, the transition from a standardized environment to a virtual one is somewhat of a challenge.

Before we can move forward with this discussion, we need to consider the current status quo of online learning in the context of learning numbers and students involved in such learning pursuits in the name of education. According to the 2013 Survey of Online Learning done by Babson Survey Research Group, the number of U.S. higher education students taking at least one online course now has exceeded 7.1 million (Babson, 2013). Further, Allen (2013) noted, "While the rate of growth in online enrolments has moderated over the past several years, it still greatly exceeds the growth in overall higher education enrolments." Also, Seaman (2013) commented that "Institutions with online offerings remain as positive as ever about online learning, but there has been a retreat among leaders at institutions that do not have any online offering." Further, the survey noted that "33% of higher education students now take at least one course online, while 90% of academic leaders believe that it is likely or very likely that a majority of all higher education students will be taking at least one online course in five years' time." Thus, if we consider the rate of growth in online learning, as well as the growing need for more online instructors, it leads one to consider the impact of technology on the role and function of instructors. We need to examine if there is a change in these roles and functions and if they are being properly monitored and/or improved. As a result, we also need to consider the needs of the learner and what they might need in the future in terms of their potential career development and earning potential as based on their educational achievements and how they can become more marketable.

2. Strategizing Educators for Transition and Technology

Some academics and part-time instructors may be more effective in the traditional classroom versus the online platform – or they may excel in both learning environments. As we have seen teaching environments evolve from the days of the traditional blackboards to more modernization, we are seeing a growing trend in learning more technology on the part of the instructor, as well as the student. In today's virtual learning environment, we are seeing the use of electronic blackboards and more students logging in and participating more in this non-traditional form of classroom learning. Harris (2000) commented that the "new workplace requires a new type of employee, one who is highly skilled, flexible, creative, and attuned to working as a member of a team." If we consider this new type of workplace, educational institutions need to prepare their current and new educators for this type of new employee. In addition, they need to create and develop new types of recruiting and hiring methods to find the best-qualified instructors. Further, these educational institutions need to focus on training online instructors to be able to work with the training entity, whether it be an institution of higher education or training learning center, in order to develop, design, implement, and evaluate current and future educational and/or training offerings. Finally, both academic institutions and the field of training have changed incrementally over the past several decades. As a result, they will need to make concessions and implement changes in order to compete in today's marketplace.

Consequently, we do need to realize that in the field of education, as well as any other professional area, there are good and bad employees (instructors). While some faculty members may not want to teach in any other environment, but the regular

Face-to-Face (F2F) classroom, they may be seeing a change of venue or being told to adapt. Therefore, we have to ask as to what are the characteristics of a good and bad online instructor? Roueche, Roueche, and Milliron (1995) stated, "Adjunct faculty are increasingly important players in the teaching and learning process. It is in the college's best interest of appreciating the investment value of them, and ultimately in the interest of establishing and maintaining the college's reputation for teaching excellence." Many academic institutions have found that this helps to reduce some of the administration of benefits and pay. Why? Well, some of these part-time faculty members may have been recruited as a "quick fix" for the school's current need.

In light of thesde "quick fixes", we have to wonder about the various teaching methods and effectiveness issues. We have to wonder whether or not certain teaching approaches or strategies are still as useful today or are they just used as a method of traditional teaching? As we know from the literature, the learning environment utilized by Socrates many centuries ago may have been in an outdoor setting with an evolution of academic developements which would later take teaching inside in later centuries. As technology has changed the lives of people and students, it has also affected those service providers that helped to contribute to society, namely, educators. Nonetheless with any continuous improvement movement, careful monitoring, reviewing, and evaluating are necessary strategic management tools in both types of learning environments.

Therefore, what do these changes in the learning environment and teaching profession in general mean? As we can see changes in technology and student needs, the search for new applicants to fill online learning positions has presented a challenge to human resources in universities and training department. It has been noted that one current barrier that online administration face when hiring online instructors is their mindset. Thus, some new applicants may still adhered to the antiquated teaching methods and techniques, and they believe that learning only occurs when there are lectures, labs, small group activities, and other face-to-face classroom strategies (Levy, 2003). Consequently, there are some new or current online instructor currently using or willing to use new technological applications (i.e., streaming video, flash, etc.) to change the method of instruction for adult learners. As a result, many of these part-time instructors have begun to lead in the online teaching movement. On the other hand, some of these part-time instructors may have to work twice as hard in roder to prove their teaching skills and overall commitment to the teaching and learning envrionments. In any event, this new bread of academic faculty are bringing a variety of experiences and classroom knowledge to the various courses and programs. Some of these instructors believe in real world work versus book work. As a result, some of the newer members bring into the classroom more realistic and "real world" applications in terms of paper, projects, and portfolios.

Learning activities of previous decades have been developed and implemented from a teacher-centered approach, but today's learning environments are steering towards a completely new approach to one that focuses on the learner with a new learning strategy, known as the learner-centered approach. Given that the learning approaches and strategies have started to evolve into a different manner and phase of development, these teaching professionals realize that the learning activities and applications must be reflective of a new breed of student learners, as well as adapt to more learning technology.

3. Adult Learners and Learning Needs and Wants

The key focus of this paper will center on the instructional side of adult learning involving the evolution of learning activities designed to achieve ever-changing learning objectives, learning needs and wants of today's adult learner, as well as attract more learners to successful programs/courses geared to the specific needs of the business community and workforce. Not all courses will prove to be attractive or stimulating to all

learners, but it is important for today's curricula be reviewed, evaluated, and modified to meet learning needs. This paper will focus on an international business course as it is undergoes academic and business review, evaluated to meet accreditation requirements, and modification of its learning activities.

Historically, the learning activities for various levels of learning in both undergraduate and graduate courses have varied and have showed increments of varied learning intensity and requirements, there is a trend in online education to provide learning activities that not only means accreditation needs in terms of learning objectives, but yet also provides a real word application approach from the traditional paper requirement to more practical project management.

4. Application Work and Project Management

As more courses go online, the use of various teaching strategies and approaches may be left up to the individual instructor or they may be incorporated directly into the lesson plan. As a result some "pre-designed" learning activities may control, but guide, the instructor as will all courses vary in some cases (or be similar in scope). Thus, this leads us to a key question to contemplate. What makes a creative and innovative instructional strategy? What is the importance of the variety of strategies? One of the key problems that online consultants and evaluators discover when reviewing any type of learning environment may be focused on the effectiveness of not only the educator, but also the instructional methodologies used (or perhaps not used). Zhu, Payette, DeZure (2006) wrote about several areas of consideration when one is creating an online course: 1) course content; 2) delivery of instruction; 3) communication and interaction; 4) student time spent on learning tasks; and 5) assessment of student learning. While the course content may remain the same, the delivery of instruction will be given either synchronous or asynchronous learning formats. Instead of live discussion in a physical classroom, the discussion/dialogue portion may be done in a chat session (later archived for students), discussion thread, and/or video session. We should note here that the student's participation in the course will depend on the learning format, as designed. Also, assessment of student learning can be done in terms of live chats, discussion threads, assignments, quizzes/exams, and/or projects. Finally, in order to consider such items within a course design, one needs to look at key areas to incorporate each of these items.

The world of business is never ending, and change is a constant mantra for top CEOs. Holt Quelch, and Taylor (2004) wrotge that if we look at the world of business, when "a brand expands it reach around the globe, it achieves favored perceptions that are greater than the sum of its national parts."[7]. Thus, this type of branding, known as global branding, relies on the input of the various stakeholders and how their cultural differences can enhance the quality and acceptance of such a brand. In the realm of academia, one needs to understand how these new virtual learning communities in online learning have created a new type of global branding of education in terms of linking various stakeholders throughout the world into a stronger and more diversified learning environment. Thus, we are starting to see a new, global branding of course management systems, which affects and supplements the needs of growing, virtual learning communities. As we consider these technological and global changes, there is yet another área that has to be revisted here, the world of academia. Are colleges and universities today able and prepared to offer newer and improved methods of education, as well as provide meaningful learning experiences for our students as they prepare for their next career or profesional move towards advancement? Due to the limitations of the amount of text for this particular paper, this section has been limited, but yet open for further debate.

5. Conclusion

Knowles (1980) noted that "adult [learners] see education as a process of developing increased competence to achieve their full potential in life. They want to be able to apply whatever knowledge and skill they gain today to life more effective tomorrow."[1] Thus, this raises the question of whether or not today's academics are offering enough enriching and meaning learning opportunities to help satisfy the needs, as well as wants of today's adult learner, as well as meeting the growing workforce needs of society's business needs. Adult learners today want variety, and they are seeking academic institutions that offer vareity, good technological tools, and instructors who seek to stretch their minds and keep them continously engaged and motivated.

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FRAMEWORK OF MANAGEMENT AND DEVELOPMENT ORIENTED TO E-CONTENT

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Abstract

This article provides an overview of e-content management and development oriented educational materials through a collaborative environment involving experts in the construction and development of academic and multimedia components. This is based on defined production phases through a workflow, setting the standard for communication between the different roles that interact on the platform, where all change and adjustment entered will be notified immediately to the responsible party for carrying out the task, in order to facilitate the processes of authoring, development and tracking of e-content, under the different principles and guidelines, in the production of quality educational material to have a lower cost in resources and time. Due to the analysis of a case centered on the process of building up e-contents, it has been possible to collect enough information on the development standards of this activity in order to optimize processes and resources as of interaction and collaborative work.

Keywords: framework, e-content, communication, education, collaborative.

1. Introduction

In recent years the production of e-content oriented methodologies related to e-learning has become a critical part of education in different academic levels, implementing support mechanisms in education through technological innovation in the development of tools in education, and this has allowed the creation of new methods aimed at supporting the teaching and learning process more efficiently with quality content, looking for educational standards focused on e-content and which are at the forefront of what society needs. The development of tools and mechanisms for e-content production is intended to reduce construction periods for educational material, these processes can be optimized through collaborative work in real time, meaning that different tasks can be made synchronously, as opposed to comparing different methods of content authoring, which can generate increased cost in resources and time.

The framework allows the construction and tracking of e-content through roles and functions, which allow you to share information a quick way using a notifying component that owns the framework, the activities put into progress of e-content are monitored by an administrator, and this allows task control volume acquired by each participant of the framework and more resources can be added if necessary, furthermore, it allows the viewing of the production time in every phase of the development of educational materials and the implementation level in order to analyze the process and be able to make new production strategies. Finally, the result can be displayed in a tool to manage information in an interactive way to the user.

2. Information flow diagram

"*Design patterns are the skeleton of the solutions to common problems in software development.*" (Tedeschi) In other words, it must be considered a design

pattern that meets some key features, such as the effectiveness in solving problems of indexing and data reuse (Buschmann, Meunier, Rohnert, Sommerlad, and Stal, 1996). Based on different methods of information processing a push and pull mechanism is established that can integrate various information flow diagrams based on the pattern, one of them is the Pattern DAO (Data Access Object), this scheme is a software component that consists of 3 layers (Mangana, 2011): A Data Source Interface methods that performs insert, update, retrieval and deletion that are elements of access and interaction with the data source, an Object Transfer which performs the requests that are made to the source data and the answers that are needed by the Application Manager. The method mainly allows independence between business logic and the persistent layer with the object of having a highly decoupled system which will provide the possibility of changing the storage system (Santosh, 2009).

Another scheme that enables communication between data is the MVP pattern (Model-View-Presenter), this is a software component which has as its main feature that the entire logic of the user interface is done in a separate layer called Presenter achieving the separation of the interface from the logic of the application (Osmani, 2012).This basically consists of 3 layers:

- *View:* Consists of windows and controls that make up the user interface of the application.
- *Model:* Is where all the business logic takes place.
- *Presenter:* Will make the link between the model and the view. Aiming to receive events that are sent by sight, to implement the necessary actions in the model to meet the requirement by generating a response sent that the presenter codes and sends to view through the interfaces that the view must implement depending on events that requested it.

This design allows us to free the model of the user interface achieving independence between layers which helps to generate a scalable architecture (Ramsdale, 2010) and interoperability as our application can run as a desktop application, Web or as a mobile application.

3. Service Oriented Architecture

It is software design composed of different parts that interact with each other, receiving the name of services. Services are characterized by a defined contract, which is responsible for defining what request one is entering and what service returned in response with the main advantage of communication between different platforms achieving the minimum coupling possible that allows not only the use of this service in a single application, but in multiple (Erl, 2005), between different services using REST (Representational State Transfer) this architecture has the characteristic of its simplicity and effectiveness, now that it is used as the HTTP transfer protocol which is the most widely used interface and is supported by most applications. Besides that, it requires little infrastructure, is easy to build and adopt, and their components are loosely coupled, making it one of the most used web services (Los Santos, 2009).

4. Collaborative Workflow

The generating of quality educational material through the implementation of collaborative environments focused on virtual education in recent years has become very important for web services in streamlining the processes of authoring, development and monitoring in the developing of e-content under the different principles and guidelines in its production causing to achieve a lower cost in resources and time.

Roles is essential in facilitating the production process of e-contents, through an edition line that goes from the author to the person and finally approves the contents; the contents manager must be able to facilitate the communication between all

members involved in the process, this allows the follow up of each role of the work process in which case be (Nova, Quintero and Jaramillo, 2012):

Manager: corresponds to management users, assigning tasks, and correcting and approving the educational contents.

Author: defines functions that are dealt with by specifying textually and graphically what is the appropriate thematic for the e-content.

Instructional Designer: supervises the author during the process of building up the e-contents.

Multimedia Developer: develops the multimedia contents requested by the author, assigned by the manager, and validated by the instructional designer; once this has been done, it will be loaded onto the framework again in order to integrate all the pertinent contents required to build up an e-content.

Generated and implemented the system architecture is tested displaying as resulted the construction of educational content through roles and functions but not tracking, reporting or sharing of information in a timely manner, because there was no mechanism to enable this function within the platform, creating a turning point.

For this reason a new system which within its architecture has the function of monitoring activities realized in the development of material, the sharing and prompt notification of information, and the control of the volume of tasks acquired by each participant of the platform. This "has established a development process and interaction since its creation and allocation of content, and ends up with its integration. From this model and with the aim of identifying how the interaction occurs between each of the roles involved in the platform, a guide of guidelines is obtained of teaching materials where the steps required are described, the role to be taken into account and its interaction with other participants. (Gutiérrez, Nova, Quintero, and Jaramillo, 2013).
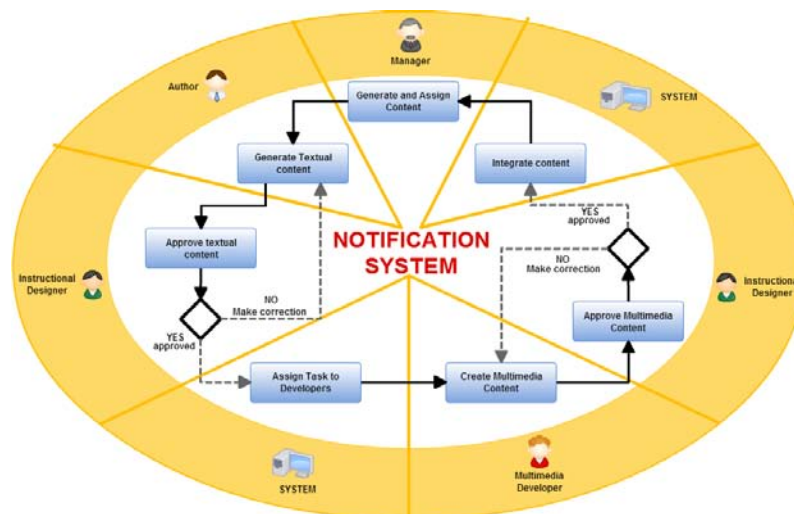
Figure 1. Diagram of framework environment

Once generated the notification system (see Figure 1) is built as a modular service, along with other services aimed at extracting information produced on the platform, which is displayed in different applications called viewers of e- content information. In this way, an overview of information delivery is created that can be executed by any system, regardless of which operating system, programming language or platform achieving a complete system of e-content management and development oriented to the development of educational materials through collaborative work, which involves experts in the construction and development of academic and multimedia components.

The obtained structure of workflow used for the construction of content, the architecture of the system is established out of the collaborative environment from the proposed flow. The architecture has the characteristics generated in the 4 sub model divisions described below:

Data Model (DM) is responsible for establishing the structure and data types that have the platform. To generate this mode it is essential to be clear about the roles and functions of each participant as well as the content that is generated through the platform, to avoid problems of loss or lack of information generating a restructuring of the application.

Uncoupling Model (UM): Integrated in turn by the pattern DAO and Pattern MVP models that seek to establish independence between the client and the data source providing the possibility of sending the application to another data source without there existing major changes to the system architecture.

Communication Model (CM) is responsible for determining how each of the components interacts and what request and response should be generated within the application.

Service Model (SM): Communicates and coordinates the actions that the user wants to perform by exchanging messages with the data model allowing to organize and create multiple packages of assembled services (Tasks within the application) that can be used in a future moment for more applications (multiplatform viewers that can view the e-content created). (Los Santos, 2009).
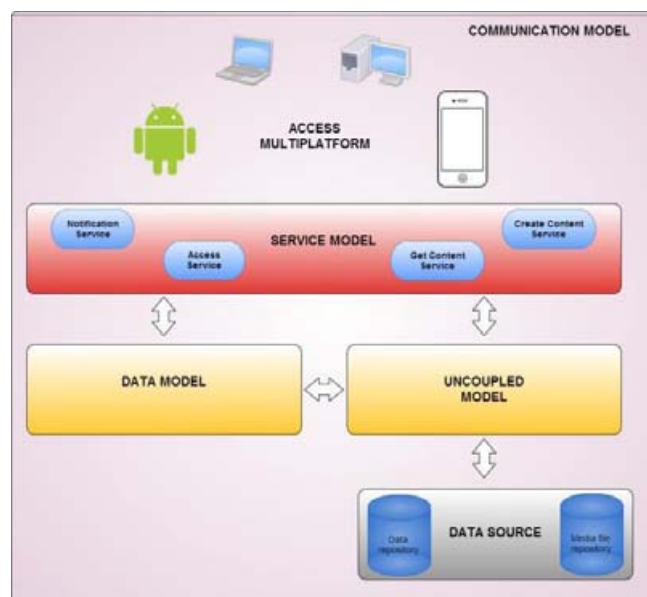
Figure 2. Collaborative communication environment.

In Figure 2. The architecture proposal is shown for the development of collaborative environment, comprising of the three sub models, the interaction of each of these and specific components that make up the platform, in this way enabling the generation of a decoupled architecture and flexible in adapting new components that need to be added (Osmani, 2012).

The construction of educational content in collaborative environments focused on virtual education today is limited to predesigned templates and predefined

generation of interactive content. These characteristics may generate flaws in the process of building content, because there is no tracking and monitoring of the creation of quality study material, nor is there an allocation of roles and functions that could cause all personnel to be involved in the process that can modify without authorization or without being the expert on the subject created by poor quality.

This framework of management and development oriented to e-content helps speed up and control processes by means of defined roles where each one has assigned its rights to the edition and interaction of educational material, as well as a monitoring of all materials created, by experts streamlining the processes of authoring, development and monitoring in the creation of e-content under the different principles and guidelines in the production of quality educational material achieving a lower cost in resources and time.

The main result with this work is to allow multiple connection or integration with any tools of visualization for the e-content, because it is important to mention that the architecture of software was built allowing integration of information able to be connected with any tool.

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SELF-ASSESSMENT IN VIRTUAL ENVIRONMENTS

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Abstract

Self-assessment offers students the opportunity to monitor their learning in an autonomous, free and continued manner. In this sense, self-assessment provides a great chance for students to learn from their mistakes. Therefore, it could be considered a new model for the teaching-learning process. In addition, several studies have shown the advantages of ICT for the improvement of students´ learning. Based on ICT, the majority of universities have developed virtual environments with diverse functions, among them; the application of self-assessment systems is highlighted.

Taking these considerations into account, the aim of this paper is twofold. Firstly, a comparative analysis of the characteristics of self-assessment in the virtual environments most used in Spanish universities. Secondly, an analysis of the students´ perception regarding the usefulness of self-assessment as a self-learning tool. This study is developed by the teaching group of innovation "Producción de Materiales de Evaluación para Entornos Virtuales en Finanzas, Contabilidad y Organización de Empresas" (Production of Assessment Materials for Virtual Environments in Finance, Accountancy and Business Organization) of the University of Almería. As the main findings, the virtual environments analyzed concur in offering a self-assessment that can be drawn up with questions using different formats (multiple choice, true or false etc.). In turn, there is a growing trend where the professor can access the self-assessment results. With respect to the perception of the usefulness of self-assessment, in general terms, the students are aware of the benefits of this tool for the improvement in their academic performance. However, they do not unanimously agree on the possibility that the professor can identify who is using this tool. Finally it is worth mentioning that the outcomes indicate that the implementation of this tool in universities is still in an emerging phase.

Keywords: self-assessment, virtual environment, ICT.

1. Introduction

The self-assessment system is an autonomous learning process. This new teaching approach makes students the principal of their learning, while the professor assumes the role of tutor giving support in that learning process (Capella, Ors and Marti, 2004). In this sense diverse authors note the multiple benefits that this technique offers for the improvement of students' academic performance, particularly by: a) fostering a proactive attitude for learning; b) improving comprehension of the content; c) identifying which are the concepts that should be reinforced (Costa, Espasa and Sorribas; 2010; Calleja et al. 2010).

Thank to ICT (Information and communications technology) the virtual environment has been created as a complementary tool for any subject or course (García-Beltrán and Martínez, 2002). Today, many universities have implemented virtual environments in order to improve the teaching-learning process (Castillo and Cabrerizo, 2003). Among the tools that provide this online platform, self-assessment is highlighted. In this regard, García-Beltrán et al. (2006) show that it is an excellent mechanism for tracking the individual learning of the student. Likewise, the authors point out that, self-assessment gives temporal and spatial flexibility for both professors

and students due to the exercises that can be developed and carried out at anytime and anywhere. In spite of its usefulness, Celia García, Herrero and Clemente (2010) note the need for carrying out studies to improve their efficacy and therefore, to boost its use.

Due to the benefits that self-assessment and virtual environments offer, this paper is twofold. Firstly, a comparative analysis of the self-assessment characteristics in the virtual environments most used by Spanish universities. Secondly, an analysis of the students´ perception regarding the usefulness of self-assessment as a self-learning tool. Therefore, this study contributes to identify not just the coincident aspects but also the divergences among the virtual environments analysed. In addition, through identifying students´ opinions on self-assessment, those aspects that should be improved could be identified.

2. Methodology

To achieve the first objective, a comparative analysis was performed with the five virtual environments most use in Spanish universities: "Moodle" "Aula Web", Sistema Automático de Generación y Corrección de Exámenes Tipo Test "SAGET"; "E-valuate!" and Blackboard (García-Beltrán and Martínez, 2001; Díaz et al., 2003; Costa et al, 2010). For the second objective, a survey of 113 students of the "Introduction to Finance" course was carried out. This course is obligatory for all degrees that belong to the Faculty of Economy and Business at the University of Almeria (Spain). In this university, the virtual environment used is "Blackboard". The survey is composed of 14 questions, 12 of them follow a likert scale (5 points) that ranges from totally disagree (1) to totally agree (5). Question 13 presents a dichotomous system in order to identify the general perception of the usefulness of self-assessment as a learning tool. The last question aims to detect the number of courses in which the students have the opportunity to carry out a self-assessment. From the total of the sample, 112 students answered all the questions; therefore, our survey received a high percentage of answers (99.12 %). The analysis period was April-May 2013.

3. Results

3.1. Comparative analysis of virtual environments in Spanish universities

As we can observe in Table 1, "Aula Web" followed by "Moodle" and "Blackboard" are the virtual environments that present a greater amount of possibilities in order to develop the self-assessment test. Among the common aspects, there is unanimity in providing the possibility that the students can select the level of difficulty of the test (see C11). In turn, in 80% of the cases analyzed the self-assessment can be drawn up with questions with different formats (e.g. multiple choice, true or false, etc.), or the possibility of developing the test via randomly selected questions from a database. Besides this, in most of the virtual environments analyzed, the student can know the total of answers that they have answered correctly. In contrast, only "SAGET" gives the opportunity of creating a correction template that helps professor manually revise the test. Likewise, only "Blackboard" does not allow the outcome of the self-assessment can be known to the professor.

Table 1. Characteristics of self-assessment tests in virtual environments

Characteristics	MOODLE	AULA WEB	SAGET	E-VALÚATE!	BLACKBOARD
C1. Within the same test, different types of questions can be performed (multiple choice, true or false etc..)	x	x		x	x
C2. The students can select the number of questions that they want to answer		x	x		

C3. The questions are randomly taken from a database	x	x	x		x
C4. Each time the self-assessment is accessed, different questions will be displayed	x	x			x
C5. The order of the questions may be modified	x	x			x
C6. Different scoring patterns can be established for each question.	x	x			x
C7. The possibility of repeating the question as many times as the student wants.	x	x			x
C8. When the answer is incorrect, then the correct answer is indicated	x	x			x
C9. Tests can be can be registered and saved, including the questions answered by the student, number of tries for each question and the final mark obtained	x	x			
C10. The questions can be classified by subject	x	x			x
C11. The possibility of establishing different levels of difficulty	x	x	x	x	x
C12. The possibility of comparing the level of difficulty with the coefficient of difficulty*		x			
C13. Create a correction template that helps professor in their manual correction			x		
C14. The student can select the level of difficulty		x	x		
C15. The possibility of limiting the time period for carrying out the self-assessment	x	x			x
C16. The student can know the number of questions they got right	x	x	x		x
C17. The possibility to create multiple choice questions with one or more correct answers	x	x			x
C18. The possibility of creating statistics	x	x			
C19. The possibility of creating multiple choice questions with only one true answer	x	x		x	x
C20. Each self-assessment can have different formats for questions and answers				x	x
C21. The possibility of displaying an explanation of why an answer is correct or incorrect	x			x	x
C22. The possibility of automatically generating a test for examination			x	x	
C23 The possibility of generating a test for examination designed by the professor	x			x	x
C24. The self-assessment results are not provided to the professor					x
Note: *Ratio of the number of times that the question has not been answered to the number of times the question has been included in some exercises					

Source: personal compilation

3.2. Analysis of the students´ perception regarding the usefulness of self-assessment in virtual environments

In Table 2, the outcomes from the twelve questions made on a likert scale are shown. Among the answers with a higher level of agreement, the very positive perception by the students' of the possibility of repeating the question as many times as necessary until they achieve the correct answer is highlighted. Likewise, the students concur in perceiving the self-assessment tool as being easy to use. Moreover, the students agree that this kind of test should be implemented in other courses in order to improve their learning. However, there is a diversity of opinions on whether or not it is a positive aspect that the professor does not know the results of the student's

performance of the self-assessment.

Table 2. Results questions regarding self-assessment in virtual environments

Questions	% Frequency					Mean	SD
	1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree		
1. ICT use is very important for my learning	1.79	3.57	23.21	31.25	40.18	4.04	0.97
2. The self-assessment tool is difficult to use	68.75	15.18	10.71	3.57	1.79	1.54	0.94
3. The self-assessment tool helps me to identify my errors	0.89	6.25	17.86	38.39	36.61	4.04	0.93
4. The self-assessment tool encourages me to study in a continuous manner	5.36	15.18	32.14	28.57	18.75	3.40	1.11
5. The self-assessment tool fosters my learning to enhance the comprehension of the contents rather than rote learning	8.04	15.18	26.79	32.14	17.86	3.37	1.17
6. It is positive that the professor does not know the self-assessment's results	4.46	5.36	18.75	21.43	50.00	4.07	1.14
7. It is positive that the professor does not know whether or not the student carries out the self-assessment	16.96	13.39	23.21	21.43	25.00	3.24	1.40
8. It is positive that self-assessment's mark is not included in the marking criteria of the course	3.57	6.25	18.75	18.75	52.68	4.11	1.13
9. It is positive that the student can repeat the self-assessment as many times as they wish until the correct answer is achieved	2.68	2.68	9.82	14.29	70.54	4.47	0.96
10. The self-assessment helps me to be aware of my level of knowledge in regards to the contents of course	5.36	8.04	23.21	38.39	25.00	3.70	1.09
11. The self-assessment tool should also be used in other courses	0.89	6.25	12.50	25.00	55.36	4.28	0.97
12. The self-assessment tool is an innovative learning mechanism	2.68	10.71	28.57	33.04	25.00	3.67	1.05

The data from Table 3 indicates that, in general terms, the majority of the students value the self-assessment tool as a way of boosting and improving their learning.

Table 3. Results of the general perception of the usefulness of self-assessment in virtual environments

	% Frequency	
	Yes	No
13. In general, the online self-assessment tool is a useful mechanism for my learning process	98.21	1.79

In spite of the positive perception of the utility of self-assessment, the percentage of courses that provide this tool in virtual environments is quite low (see table 4).

Table 4. Results of the courses that provide self-assessment in virtual environments

	Mean %
14. From the total of courses enrolled, how many of them provide online self-assessment?	36.74

4. Conclusions

In general terms, self-assessment offers professors a wide range of possibilities to develop a tool that lets students reinforce the knowledge achieved during the course. Nevertheless, it would be very interesting go further in this field in order to develop new characteristics that would make it more attractive for both professors and students to use. Moreover, the students perceive self-assessment as a mechanism that helps them in their learning process. In spite of this, there are divergences regarding the use of the results obtained as part of the marking criteria of the course. In this respect, it is possible that the most diligent students prefer to show their continued effort in the course and, in this instance, they want to be rewarded. Hence, professors should encourage students to use self-assessments as a new system of study rather than as an exam to pass the course. However, it is important to stress that, as a consequence of the self-assessments, their academic performance will be improved as will their final mark for the course.

Finally, it is observed that the implementation of this tool is in an emerging phase. Therefore, universities should promote a greater use of self-assessment in virtual environments by offering training courses and technical support.

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NETWORKED EDUCATION: AN ANALYSIS FOCUSED ON DIGITAL INFORMATION AND COMMUNICATION TECHNOLOGIES

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Abstract

With the rapid advancement of Digital Technologies of Information and Communication (DTIC), develops a new concept of Education focused on the use of digital social networks that has as main characteristic interactions and collective sharing of contents. We're facing and witnessed moments of expansion of communication and information tools, such as Digital TV, the Internet, and in particular, the use of social networks, smaller devices but with greater storage capacity. Within this scenario, several changes are transforming the way people are constructing knowledge. In education, the change is already occurring with new methodological approaches through the DTIC, on supporting the teaching and learning process. Public policies are also being created in order to democratize access, search for "digital inclusion". Currently, spreading an idea of connectivity, in which is argued on the possibility of being part of a digital universe, where information circulates quickly and relatively accessible to all. We argue that the integration of pedagogical knowledge with the knowledge generated by DTIC demands profound educational reflections, in which predominates the use of critical information for the construction of new ways that actors involved in the educational process performed their roles. It is in this scenario, that this paper proposes a discussion about the new epistemological bases that are gaining form, due to the massive growth of informational apparatus, through the expansion of technological artifacts increasingly efficient in terms of production and distribution of digital contents.

Keywords: DTIC, social networks, digital contents, network education.

1. Introduction

Based on the observation of current social scenario we faced an incessant production of diverging information from various resources such as television, radio, mobile phone, computer (Internet), funding equipment and image production (cameras), whether or not integrated with each other, that have the potential of interaction between people from different geographical and cultural spaces.

It is pertinent to put that any subject, especially those who haven't mastered the technical knowledge of such technologies, as a spontaneously potentially of handling and exploit them to transform his reality. Current generations prematurely experience the technological assets and grow with the constant advancement of the same, building a contemporary common language to a large part of social contexts. So much information is heavily represented by images, especially those that move.

Undeniably, constant and accelerated information and communication technology advances has modeled a new format to access knowledge, making it a non-linear construction with greater evidence, lead mainly by the same dynamics of the media. As Kenski said: "Mediums, derived from English, mass media, or in Portuguese, means of mass communication" (2007, p. 27), they represent one of the most productive tool that establish various languages arriving at any moment by equipment that updated faster than their own apprehension speed.

Media and language are historically interrelated; together they make up the structure of communication. What comes as a result of that relation is selected by an individual, a group with a specific intent and information relevance. To clarify, let us make a brief history of the evolution of this communication structure.

The Oral Language was the first phase of this evolutionary process when "Common Signs of voice, which were understood by members of a group, people communicated and learned" (Kenski, 2007, p. 28). In those early days of civilization, people needed to be as close to support communicating, creating signs for it, organizing themselves in confined spaces and places, and at the same time defining cultures.

With new forms of land use (particularly cultivation) the advent of Written Language arises. Pierre Levy says the word page come from the Latin *pagus*, meaning field prepared for planting. Since then, new tools began to establish a transformation in the way of communicating, expanding the sense of space. Through letters, newspapers, magazines, the writing was exerting its function.

Currently we construct the concept of Digital Language linked to new ICT, with the emergence of forms of expression driven by the image. The direction of image seen here is the same given by Aumont (2007):

> "(...) has the prerogative analysis of the visual image in its multiplicity of structures ranging from the physiological process of the eye in visual, mechanical perception of light, to the psychological and sociological processes related to the look and aesthetic representations of the image throughout history."

We will not stick to a social history of the look, but instead at the historical moment that look which is tied. The chronological time, at which the images are produced in modern-day, appear to have been constructed by means of the digital, which in turn greatly expands the universe of imagistic constructions, with its multiple production systems and imaging programs. The imagery can be everything that makes up the field of ideas, of thought; a construction of images belonging to memory or projections. Within that time, we notice that there is no need of individuals and groups are in the same space and time to enforce communication and share the desired information.

There is a new configuration of relations between social actors. The ratio of individuals in space and time pervades the relationships that they establish with their own bodies, their peers, within the spaces they live (house, neighborhood, cities) and the places they inhabit. It is the city that provides the experiences to be lived and felt by all who relate to each other, with other geographical spaces and the people who live there. In this configuration the bodily experiences in the city do not operate in the city space, they create the city itself. Identify and know a city is not only known architecture, geography and crafts, is to know the different places where the social actors living in moving's. The image that we have of a certain city determines what actually are or want to appear to be urban dwellers.

2. The New Learning Environments

On one side of the cities are individuals, on the other technology; for the interconnected in this relationship is necessary that educational processes occur. The schools have historically played the mission of transmitting and stimulate to produce knowledge. Within this tangle of relationships established among individuals nowadays, especially in school, it is the reflection that pursuing the premise of democratic school model training needs not urge unilaterally by the students, but also from the teacher's work. Teachers need to feel or feel the need to work with integrated *curricula* and

giving meaning in the lives of students, especially considering their participation in the choice of such content.

Analyze, understand and experience methodologies and technological tools within the current time and space creates another exploit for the professional field of teaching. The task is not configured as impossible, or as simple, complex we say! At this point, the technologized society digitally outlines new economic, social, political and cultural maps are placing new demands on the school institution. The intensive and large-scale microelectronics and digital electronics will undoubtedly change the conceptions of the worker profile, and then will have a great impact on the way to think and imagine the place for school education, and mostly for schooling itself.

The contemporary school movement should be to think of schooling and how each individual goes through the public areas of education that does not focus solely on school walls but instead becoming part of the school focused on public policy. The teacher is now facing a new challenge: in addition to enabling learning situations in which students experience contact with the technologies, he stands as an apprentice in this process, seeking to expand their horizons of possibilities for the virtual universe that a large part of the social culture was infected.

3. The Content Production at School: further than the simple transmission

Whereas learning spaces are increasingly dynamic, facilitating access by different routes and integrating sources (Radio, TV, Internet), in real time, or not, in person, or not, with the interaction between individuals within an information network, ask yourself: What are the purposes of school? When Moran (1994) wrote "The Media School" noticed well that the School needs to rethink itself in its relationship with the media, bringing them as allies in the learning process; their role shouldn't be simply to imitate his playful and entertaining function, but to use them as organization tools to reframe, understand and interpret the world.

Giving to the school a role to determine what can and cannot be seen, witnessed, used, finally, what can be learned may not be an easy task, or even possible. Moreover, perhaps not the most appropriate thing to do. Probably because there is no way to "control" what learners capture from the spectrum of images, which they insert in their imagery, namely what may or may not be part of a process of a critique construction and re-construction of reality.

At school with their consistent methodologies with the context in which it operates, contemplating their conflicts and emerging challenges, rest the function to develop strategies that reflects this digital language that "(...) impose changes in the forms of access to information " (Kenski , 2007, p. 33).

The change has already begun by the student, which as previously mentioned, is already experiencing the early new technological tools, accompanying them in their advance. And to set the path that is interesting to follow to enable the critical learning and transforming society, it was thought initially the teacher as the first to seek a change in its perspective.

One alternative examined was teaching video production school, by teachers and students in order to explore its contents, and at the same time, allow the appropriation of technological tools of information and communication technologies (ICT). By manipulating this technical and technological initially acquits, the teacher can develop skills to plan ways to integrate the use of appropriate content, encouraging critical positioning and designing concrete transformations in reality. The aim is to change the position of teacher and student while using TDIC, surpassing the role of mere consumers of information to an active and reflective social actor, producer of information and knowledge builder.

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THE AUSTRALIAN NATIONAL CURRICULUM LANGUAGES: FOCUS ON ITALIAN

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Abstract

The aim of this presentation is to unpack the Australian Curriculum Languages material currently under review by teachers and key stakeholders. The two priority languages chosen for the initial writing phase of the Australian Curriculum Languages are Italian and Chinese. The current situation in the Australian languages context is alarming. Student numbers undertaking language study throughout the secondary and tertiary years are declining. The Government proposes to raise Australian education standards by 2025 to the levels achieved by leading OECD nations. Furthermore, the change in government, effective in 2013, presents additional challenges. The current Education Minister has recently announced that the new National Curriculum will now be reviewed to ascertain relevance. What will this mean for Foreign Language Programs in New South Wales? Will a National Curriculum for Languages lead to increased student engagement in language study? What is required to encourage students to continue with language study? Past programs and collaborative projects will be evaluated to measure success in terms of student engagement. Student engagement is critical if the previous government's vision for all Australian students to become "Asia literate" is to succeed. The focus of this presentation centres on the immediate impact implementation of the Australian Curriculum Languages will have on delivery of the Italian language program at Oatley Public School and feeder secondary schools in the local area. How can continuity between primary school language learning and secondary school transition be optimised? In an effort to explore and develop opportunities for peer support in language learning, links with local high schools have been established as a starting point.

Keywords: Australian National Curriculum, student engagement, italian, language learner.

1. Introduction – Background

The current situation in the Australian languages education context is alarming. The future for languages programs within the education system nationally looks bleak and uncertain, impacting on all levels of education, particularly at the primary level. Government funding injected into programs such as The National Asian Languages and Studies in Australia Strategy (NALSAS), has primarily supported language programs with a focus on Asia, Asian languages and Asia's relationship to Australia. The resources committed to the NALSAS strategy by the Australian Government, and State and Territory Governments have been substantial. From 1994–95 to the end of 2002, the Australian Government provided over $208 million to support the Strategy. The Australian Government continues to support the Asia Education Foundation (AEF) with an annual core grant of $1.2 million to promote and support studies of Asia across all curriculum areas. The programs associated through NALSAS aspired to develop an "Asia-literate" population (Curriculum Corporation, 2003).

The federal government set up the National Asian Languages and Studies in Schools Program (NALSSP), to operate from 2008-12, and committed $62.4 million funding 'to significantly increase the number of Australian students learning the languages and understanding the cultures of countries in the Asia Pacific Region - China, Indonesia, Japan and Korea. The program's aim is that by 2020 at least 12 per cent of students will exit year 12 with a fluency in one of the target Asian languages. This outlook could be considered ambitious (SMH, 2011). A change in government,

effective in 2013, has presented additional challenges to this idealistic vision. Declining numbers of students undertaking language study at the secondary and tertiary level signal the need for immediate action based on a broad discussion and extensive analysis of successful language programs to address future directions in the area of languages education. The previous Government proposed to raise Australian education standards by 2025 to the levels achieved by leading OECD nations. The progress required to achieve such aspirations now appears to have been derailed by the current Government's proposed funding cuts to all levels of education. The current Minister for Education has recently announced that the new National Curriculum will now be reviewed to ascertain relevance. Teachers, consultants, academics and all stakeholders involved in writing and implementation of the curriculum are left wondering about the future. What will this mean for Foreign Language Programs across the various states and territories of Australia?

Funding cuts in the areas of education present further challenges and frustration for language teachers and educators employed at all levels of education. Universities have cut back language programs within their graduate and post-graduate courses even where there is adequate student demand and interest in the area of language study. This factor alone signals a crisis in future directions of languages education in the Australian context, particularly where we are seeing a language teacher shortage that is not being sufficiently addressed (Clyne, 2005). The question remains: What can teachers, at the grassroots level, do to advance a renewed focus on the importance of languages education within Australia, beginning with the formative primary school years?

2. The Shape of Australian Curriculum: Languages

The Shape of the Australian Curriculum: Languages document was published in order to guide the development of languages curriculum by the Australian Curriculum, Assessment and Reporting Authority (ACARA). This document provides an overview of the structure of what Curriculum will look like. The various states and territories may adapt the Curriculum to their specific context as has occurred with both the Mathematics and English Curriculum in New South Wales (NSW) (ACARA, 2011).

The shape paper, released by ACARA, states that students in NSW should have access to 300 hours to 400 hours of language education from kindergarten to year 6; 130 hours to 160 hours in year 7 and year 8; 130 hours to 160 hours in year 9 and year 10 and 200 hours to 240 hours in year 11 and year 12. The Australian Curriculum: Languages is being developed on the assumption that all students will learn languages across from kindergarten (Foundation) to year 8. (ACARA, 2011)

An OECD report, Education at a Glance 2013, states that in 9 countries where data is available, students spend the largest proportion of the compulsory core curriculum studying modern foreign languages. In Luxembourg and Denmark, lower secondary students spend more than 20% of compulsory instruction time studying modern foreign languages. In NSW it has been zero and about 2 per cent, respectively (OECD, 2013, p353).

Learning a language in NSW is an area where many teachers and parents feel the state is lagging. Language learning is mandatory in Queensland, Victoria, the Australian Capital Territory and South Australia but not in NSW, Western Australia, Tasmania or the Northern Territory. Language education has been in serious decline in NSW for various reasons: The Curriculum is felt to be too 'crowded' to include languages. The study of languages other than English is viewed as an extracurricular option, rather than as a valuable addition to overall learning. The focus on English literacy and numeracy has overshadowed the importance of foreign language study, due to the competition arising from the requirement of reaching desired benchmarks in literacy and numeracy prescribed by the National Assessment Program – Literacy and Numeracy (NAPLAN), (SMH, 2011).

Unfortunately, historically languages have been viewed as an extracurricular option for too long. These misconceptions about language learning in Australia are partly responsible for the resistance to the study of languages. Learning another language has shown, through research, to extend students' intellectual and analytical capabilities, thus strengthening their learning capabilities generally, such as creative and critical thinking (ACARA, 2011).

Chinese (Mandarin) and Italian are the two priority languages chosen for the writing phase of the Australian Curriculum: Languages, launching language education in primary schools. Mandarin is seen as a priority language in Australia due to the proximity and growing commercial links with China. Italian was chosen because it is a language that is well established due to previous Italian government funding initiatives and also because it is a language learned by the largest number of students nationally in the primary years and has the second-largest number of student enrolments overall. French, German, Indonesian, Japanese, Korean and Spanish comprise the second stage of development in coming months. Arabic, Modern Greek and Vietnamese make up the third stage. Also under development is a Framework for Aboriginal Languages and Torres Strait Islander Languages. The process and timelines for developing Australian Curriculum in additional languages, such as Auslan, Classical languages, Hindi and Turkish are currently underway (ACARA, 2013).

The Australian Curriculum: Languages is designed to enable all students to engage in learning a language in addition to English. The shape paper presents a rationale for learning languages and describes key concepts and understandings that inform languages education. It describes learners of languages, the pathways for learning, and a structure for organising curriculum content and achievement standards. It includes a description of general capabilities and cross-curriculum priorities and a set of key considerations for developing the Australian Curriculum: Languages. (ACARA, 2011)

Languages programs must be accessible for all students in Australian schools who bring their individual linguistic and cultural profile to their learning, whether this is English or the target language or various combinations of languages. There must be a clear commitment to and positioning of Aboriginal languages and Torres Strait Islander languages. Structure and organisation of the curriculum must address the complexity of language learning in relation to the two key variables: learner background in the target language and time on task (hours of study). The expectation of a substantial time allocation is probably unrealistic given the current political climate. The curriculum must be language specific and address language-specific achievement standards, which focus on the active and proficient use of the language being studied. While some progressive initiatives designed to raise the profile of languages education across Australia have improved attitudes towards foreign language learning, Australia lags behind other nations who recognise the importance of integrating language programs into the school curriculum. (ACARA, 2011)

The development of the Australian Curriculum: Languages provides an opportunity to ensure that all students benefit from learning languages. Australia has a strong history of national collaboration in languages education. This curriculum development involves a network of contributors including teachers, parents, Aboriginal and Torres Strait Islander and other language communities, jurisdictions, professional language associations, language teacher educators, linguists and researchers. Their expertise and experience are essential to meet the challenge of productive innovation that will strengthen curriculum design, teaching, learning and assessment in languages education (ACARA, 2011).

The development of the Australian Curriculum: Languages builds on past experience — on the history of languages policy and developments in languages-in-education in this country. This history includes many voices and perspectives and some particular challenges. Lo Bianco (2009, p. 25) comments on the diversity of interests that have shaped debates about languages policy and language education in

his review of languages and Australian schooling. Language professionals have argued for improved learning of second languages and for investment in research and in public services dealing with languages. Immigrant groups have sought support for the intergenerational maintenance of home languages as well as English as a Second Language (ESL) provision. Aboriginal and Torres Strait Islander groups have advocated for language recognition, for the rights of land claims based on language continuity, for the documentation of languages, for language revival initiatives for languages at risk of extinction, and for the value of bilingual programs. Diplomatic, business, and trade circles have recognised the importance of a capability in languages and multilingualism in economics, diplomacy, trade, cultural exchange, and national security.

A substantial amount of research and development has been undertaken in recent years, primarily in the context of The National Statement for Languages Education in Australian Schools: National Plan for Languages Education in Australian Schools 2005–2008 (MCEETYA 2005), and with the implementation of the National Asian Languages and Studies in Schools Program (NALSSP) 2008–2012. Despite ongoing policy discussion, research and development work, provision of languages in schools within Australia and elective language selection by students remain fragile at all phases of schooling. Experience shows that for sustainable languages programs to be successful, certain conditions are necessary: Schools together with the wider community must view language education as a valuable part of the education system; availability of an adequate supply of appropriately qualified teachers who are supported by ongoing professional learning that is linked to current and best research; appropriately sequenced curriculum and assessment guidance and support; and availability of quality resources which promote engagement. Most importantly, appropriate time allocation for language learning requires significant time, regularity, and continuity (ACARA, 2011).

3. Impacts on Oatley Public School Primary Italian Program

Successful primary languages programs are dependent upon the audacity and effectiveness of quality language teachers who remain committed to advocacy for inclusion of languages in discussions concerning the education system. Existing language programs in primary schools in NSW depend on the resourcefulness of teachers, the support of Principals and the wider school community. The delivery of the Italian language program continues at Oatley Public School due to support of the Principal and members of the school community who value the Italian language program as an integral part of the whole school curriculum.

The most important challenge confronting the Italian language program at Oatley Public School relates to time allocation. How can appropriately sequenced and educationally challenging pathways, designed to promote worthwhile gains in language learning be made with a maximum time allocation of face to face tuition comprising 1 hour per week? Provision of appropriate time allocations for language learning at both primary and secondary levels within a 'crowded curriculum' provides for consistency and continuity. One major obstacle for retaining students throughout the secondary years is dependent upon the availability of language choice. Ensuring availability of language choice and implementation of digital technology together with promoting student engagement will ensure retention rates in language programs and encourage more students to study languages at senior secondary levels, thus increasing Australia's overall languages capability (ACARA, 2011).

The Italian language program at Oatley Public School is predominantly designed to engage students with formal foreign language learning experience. Students develop knowledge and understanding about language as a system and skills which will enable transference to any future language learning experiences. Links with high schools in the local area are currently being explored to create a sense of

continuity and promote student engagement. Fortunately the feeder high schools in the local area offer Italian. Logistics regarding timetabling are presenting an immediate challenge to date.

4. Conclusion

All students should experience well designed and supported language programs, taught by well trained and supported language teachers, in schools that actively support language teaching linked to universities that are fully committed to widespread and successful language study. The principal reason is to for language teaching, to instil knowledge, to deepen understanding, to stimulate reflection and to foster skills. Languages are intimately linked to the essentially humanistic, cultural and intellectual reasons for making education compulsory. (Lo Bianco 2009, p. 64)

Educators across Australia are awaiting the much anticipated National Curriculum for Languages and hoping implementation will lead to increased student engagement in language study, by raising the profile of languages in the classroom and across all education sectors. Processes will need to be developed to monitor and measure the impact of the National Curriculum on student learning and student engagement. Student feedback and student reflection is one way of determining varying degrees of student engagement. It is necessary to listen to students to establish what motivates them in regards to language learning. Past programs and collaborative projects are currently under review to measure success in terms of student engagement with language learning programs. Student engagement is critical if the previous government's vision for "Asia literate" Australian students. Students must have access to languages that they are interested in and motivated to learn. Only then will a successful outcome be achieved. Only time will determine whether the impact of a national focus on languages education will revive the interest and encourage students to undertake language study throughout their schooling from the primary years through to university.

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HOW HAS LEAN METHODOLOGY PERMEATED IN THE MBA PROGRAMME AT UPAEP

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Abstract

A new approach into a well-known theme nowadays; we shall explore the implementation of Lean Enterprise Methodology in MBA final subjects, where the student works on a practical project which he will later have to defend on an exam panel in order to obtain the MBA degree. This methodology, begins with a necessity diagnostic of the company where the student in question is physically working, the student will choose a process which he considers can be improved. Starting with the diagnostic, the feasibility of the project is elaborated as well as the involvement of the management so as to obtain the resources and time needed.

With this new form of teaching we will work together with the students in order to demonstrate the benefits of these projects for: the STUDENT; the PROCESS; the COMPANY, the FACULTY, the POFESSOR, SOCIETY, and SUSTANIBLE ENVIRONMENT as this philosophy and methodology of "slenderness" permeated in habits of people, raises awareness of the use of resources, the reuse, recycle and reduce to the benefit of our planet.

In this new form of teaching the final subject ("Integrated Seminar") of the entire programme of MBA, old paradigms are broken in traditional education. For this matter the steps we pretend to apply are: Involve students in the knowledge wise, integrate Lean Thinking into higher education institutions, both undergraduate and graduate programmes. Also we suggest the integration of Lean Education indoors the curricular re-design of programmes in a transversal approach.

Keywords: *lean en   terprise   transformation, a   dded Va   lue, com   petitiveness, pr   oductivity, postgraduate education.*

1. Introduction

To talk about education in Mexico, is a whole subject that is in our minds and that mainly makes us contribute on raising the levels of graduation in the graduate programmes. Throughout our history, a main section is the education as a starting point in order to better a country, in this sense, the Educational System, has had a very important role in the social and economic development, the Mexican educational system has suffered lots of changes and reforms in the last decade. We are facing new challenges and opportunities that even some organizations as UNESCO, consider it a strategic factor on behalf of change and progress[i]. We shall now see data relating to the performance of graduate programmes and graduate students in our country.

2. Graduate programmes in Mexico

You can find a total of 2,674 higher education institutions in Mexico that offer graduate programmes, historically the student body has concentrated in the public universities and yet in the last few years, graduate programmes in the private universities

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[i] "If it is true, change and social progress is only possible if higher education is able to transform" (UNESCO, 1998, quoted in Maya (2012).

have had a rise in the preference of students, achieving a total of 105,000 students of the 178,000 students registered for graduates studies in Mexico[ii].

2.1. Graduate programmes at UPAEP and its contribution to the local, regional and national indexes.

It is within this context that the Universidad Popular Autónoma del Estado de Puebla, establishes an agreement with ministry of education (SEP) of the state of Puebla which has three central purposes: 1) Take mutual actions in order to elevate the teaching profession to a higher estate, benefiting the development of the educational sector of the state, 2) Help the curricular integration of the communication and information technologies (TIC) and knowledge and learning technologies (TAC) in the state educational system and 3) Eliminate the economical obstacle, through a scholarship programme for teachers.
The graduate programmes that were offered at the beginning included; graduate programmes in maths education, education technology, administration, pedagogy and later one in family development.

	Students
Total beneficiaries attended Spring 2007 Spring 2013	4143
Total beneficiaries in the SEP Agreement	3459
Total benefit of private schools	684

Table 1. Data consulted on the institutional data service (UNISOFT) from UPAEP

As of the summer semester of 2014, there are a total of 1,475 students enrolled in the different graduate programmes within the (SEP) ministry of education agreement, having the largest enrolment the Pedagogy programme. It is important to mention that most of our students belong mainly to basic level schooling as well as high school levels; this means that the benefit as a common good is targeted to a low economic sector of the population, as most are public institutions[iii].

The age of our students fluctuate within the 27 to 55 years of age; 55% of them come from rural communities; their income is between C ($11,600 - $34,999) and D+ (6,888 - $11,599)[iv]; and their undergraduate studies are 50% in the humanities and educational areas, 25% in engineering, 20% in business and other areas are 5%. In the same way the research lines for the final degree papers settled so that they could impact both the institutions of origin of the students and the State educational system. These lines are: a) development of teaching material, b) teacher training programmes, c) proposals for curriculum enrichment, d) improving educational management) and (d) proposals for educational intervention.

For spring of 2013 had graduated 1415 all designated Masters students, of which 1127 students, thus achieving a terminal efficiency of 80% have been entitled.

3. Proposal

3.1. Linking the UPAEP and development of innovative graduate programmes

The University is a relatively young, has 46 years of being founded, it has:

[ii] For more estatistics information in Education in Mexico, you can consult ANUIES. Available on:
http://www.anuies.mx/content.php?varSectionID=166>
[iii] Public educational institutions in Mexico are primarily targeting the middle and lower sectors of society with low purchasing power.
[iv] C ($11,600 – $34,999) equivalent to (896 – 2705 USDll per month) y D+ ($6,888 – $11,599) equivalent to (532 – 896 USDll per month)
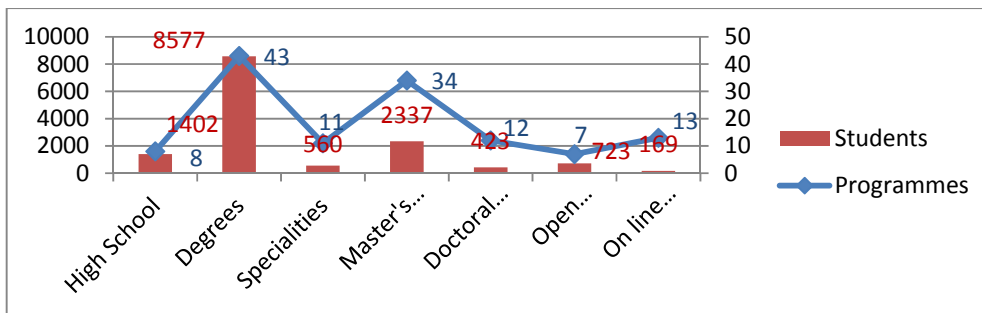
Governing currently includes 5 lines, they are:

1.-Daring to live congruently our identity. 2 -. Privilege, through academia, the Christian humanist education in search of scientific and professional excellence. 3.- Creating Authentic Academic Systems Social Relevance. 4 - Engaging an intercultural training and development of the university community through internationalization and links areas.5 -. Achieve environments of trust, cooperation and service.

In this work the guiding lines 3 and 4 are considered. Inside Line 3 above indicated, we noted that in just a few years UPAEP has positioned itself as the fastest growing private university in the country and the second highest amount graduate students.
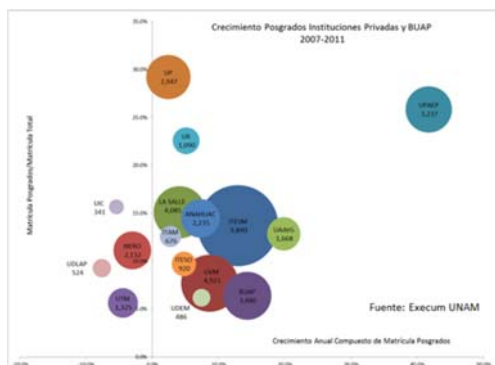
In this graphic we can observe, that UPAEP is the University with more growth in graduate enrollment and more programmes offered.

Within the guiding line 4, the UPAEP has established strategic alliances with several universities, throughout the world, adding to date in agreements for postgraduate studies 43, to double degrees, mobility of students and professors, research at universities in the United States, Canada, Argentina, Chile, Spain, France, Germany, Holland, India and China, to name a few.

Due to the proximity with the United States, Mexico is strongly influenced by American Universities within the conventions established by UPAEP, are institutions of great renown such as OSU (University of Oklahoma), UTC (University of Tennessee), UTC (Purdue University), as well as Harvard and MIT (Massachusetts Institute of technology), which have very significantly strengthened academic programmes Graduate University offers. In the agreement which you have with MIT, since 2007,

UPAEP is an active member of the academic network EdNet created by MIT LAI, and recently incorporated to the IIE (Institute of Industrial Engineers) for dissemination, research with a quality release of the philosophy and methodology of Lean Enterprise. In 2012, MIT LAI was promoted through the UPAEP the creation of LAI Mexico *(www.clusterlean.mx)*; a group of organizations focused on work and develop this management philosophy, using the resources of LAI and those relating to UPAEP to boost competitiveness and productivity of companies, organizations and Government in the region. It should also be noted that application is already very common and

implementation of this philosophy and methodology in the industry, this has focused on the constant search to reduce operating costs and thereby to improve the productivity and competitiveness of multinational organizations. They have reached optimizations, reducing costs and creating value for products and processes; However it is less frequent as recently as a few years the application and implementation of Lean in administrative processes and services. In this sense, LAI-Mex, after training, consulting and make workshops in companies, realized that could permeate more incisive way philosophy and methodology if it is incorporated into academic programmes.

4. Project

Inclusion of the Lean philosophy and methodology in graduate programs inside the area of business administration at UPAEP. For several years, teaching Lean in universities and make real projects with students in academic programs is not new, it is being made in many programs, mainly in industrial engineering, where students have contact with the real world, then What is what makes this project innovative?, our institution is to implement innovative projects such as Lean methodology projection means for students to be champions of improvement projects in institutions or companies in which they work, as does the MIT in many of their courses because they want to train students to be seeds that germinate in their own institutions, organizations and companies. It is intended to have a holistic view of the company you do not run into a single improvement project, but actually make a business transformation.

4.1 Objectives

Create Lean seedlings with students, develop and implement improvement projects through the Lean philosophy and methodology, to increase competitiveness and local and regional productivity as well as increase the efficiency of terminal graduate in Business Administration.

4.2. Development

In the Spring, 2013 the initiative was incorporated the Lean methodology in postgraduate academic programs supported by LAI-Mex, starting with a pilot group of Masters in Business Administration from which lines referenced above was launched; in this order, it was included in the final subject called *Integration Seminar,* application and implementation of the methodology and tools to perform jobs that have terminal benefits to all stakeholders that are listed below:

- The *STUDENT*: Who can integrate all the knowledge that he has gathered throughout the graduate programme towards to apply it on a real life project that will in turn be the graduating project and in turn be positioned as improving agent or champion for a transformation Business as suggested roadmap by MIT;

- The *PROCESS*: flow betterment, resource optimization, elimination and/or minimization of waste, Lead-Time reduction and incrementing added value.

- The *COMPANY*: improving the efficiency and effectiveness indexes in the processes, and the adoption of a new change culture with "Lean Thinking" into the employees.

- The *FACULTY*, the graduate programmes at UPAEP an increase of graduate alumni in the best time frame possible.

- The *PROFESSOR*: has been allowed to sow basic knowledge for their own students, who will be drivers of lean thinking, it should be emphasized that success is always shared and you can see the results much more quickly and efficiently when working collaboratively.

- The *SOCIETY* for obtaining more equitable outcomes on issues of working conditions, allocation of private resources and government resources and creation of new opportunities.
- *SUSTANIBLE ENVI RONMENT* as this philosophy and methodology of "slenderness" permeated in habits of people, raises awareness of the use of resources, the reuse, recycle and reduce to the benefit of our planet.

5. Results

The results a year away from having started this pilot have been very favorable, some indicators are expressed: 4 courses taught integrative seminar; 68 students involved; 19 projects to improve; 7 recipient organizations and institutions; increase in the terminal efficiency from 74% to 88% with the inclusion of this methodology. Of the 68 students who take the course, 60 were graduated; It has also permeated very favorably Lean thinking in the participating enterprises, in fact some are already taking all the Lean methodology as a means of business transformation.
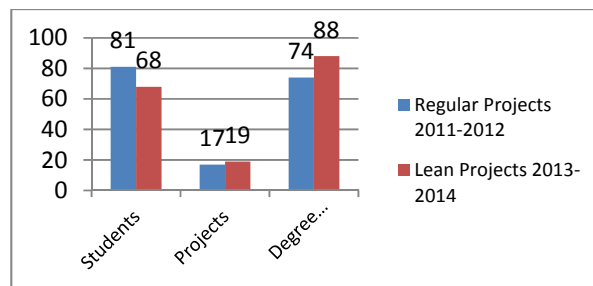
6. Next Steps

It is important to underline that the improvement is continuous, so it is recommended that every 6 months perform a new analysis for change of habits and determine if the actions implemented are appropriate, if they are reached the goals in terms of reducing costs and above all if philosophy has permeated enough. (Referring to the identification, minimization, disposal of waste and value creation). Continue to implement their projects with experts of LAI-Mex. Also the integration of education in curriculum redesign Lean transversely suggested.

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DOES CREATIVITY RELY ON EXPERTISE?
- HOW THE DANISH REFORM-PEDAGOGICAL AGENDA IS RELATED TO PRESENT ATTEMPTS TO UNDERSTAND AND FACILITATE CREATIVITY AND PERSONAL EXPRESSION AMONG CHILDREN

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Abstract

According to the main part of creative theory, expertise is considered a precondition for creativity. The assumption is that the individual must master the common and accepted rules and techniques in order to create something new and valuable. Plenty of empirical documentation supports this hypothesis. On the other hand "real life" cases demonstrate that this assumption may be a bit too simple. Occasionally people achieve great success as creative individuals without much expertise. Additionally, empirical studies show that expertise sometimes may inhibit creativity instead of promoting it. In a pedagogical setting these ambiguities seems to be further reinforced by contemporary trends such as technology, globalization and individualization. Do we need to learn basic skills if we can apply technology? How can general rules and individual preferences and expressions coexist? In the paper, the balance between creativity, learning and personal expression are discussed from several angles. First, the authors seek to sketch a specific Danish historical inherited approach to creativity. Second, the authors present exploratory fieldwork that suggests new ways to understand and facilitate creativity among children.

Keywords: expertise, creativity, pedagogics, music, drama.

1. Expertise and creativity: Contradicting interpretations

In the main part of creativity theory, it is a common notion that creativity rely on knowledge and expertise (e.g. Csikszentmihalyi 1999, Gardner 1993, Sternberg 1999). If we examine pedagogical literature, concerning aesthetic and creativity, we find the same trend. For instance Malcolm Ross points out that:

> …[The children] need the craftsmanship that will enable them to manipulate media and associated technology with ease and precision; without such skills they must feel themselves inhibited rather than liberated by media. Lacking effective control, they will never be carefree enough to play with media imaginatively or to improvise; both these activities are achieved only after the groundwork has been properly done. (Ross 1978: 69)

A similar approach is suggested by Anna Craft, who argues that, "the domain provides a knowledge context within which to be creative. This means that teachers need to be sufficiently knowledgeable of the subject domain to bring learners to the edge of their knowledge, and to enable pupil creativity within the domain" (Craft 2005: xx). The basic rational within the field of creativity theory as well as within the field of pedagogical and didactical theory is quite identical: In order to create you have to acquire some basic skills. If you want to draw, you have to learn something about drawing, if you want to make music, you have to learn something about music, etc. (e.g. Csikszentmihalyi 1999). It sounds reasonable. However, in the Danish pedagogical community we have a strong tradition for thinking otherwise, or, in other words, our pedagogical approach in Denmark is in several ways connected historical to the reform-pedagogical movement, within which, the ability to create spontaneously without much expertise is repeatedly stressed. In a Danish context the origin of this pedagogical movement may be dated to the late 1920s. However, the Danish tradition

is in various ways connected to artists, philosophers and pedagogical thinkers in the global community in the 19th and the 20th century, such as Rousseau, Fröbel, Montesorri, Dewey, and Carl Orff.

2. The rise and the fall of the Danish reform-pedagogical movement

One of the main characters in the reform-pedagogical movement is Astrid Gøssel (1891-1975) who is a well-educated and skilled concert pianist and music teacher. In the 1920's Gøssel is teaching music and piano to adults as well as children, including the very small children. The following story is about how Gøssel more or less turns the music-pedagogical world up site down, at least from her own perspective. The narrative is quite symptomatic for Gøssel's early writings, and might be summed up as "the day Gøssel opens up her eyes and finds beautiful singing and dancing children instead of potential concert pianists and disciplined anonymous choir members and citizens". This interpretation may sound a bit romantic (or sarcastic), but nevertheless, when reading the article from 1930 one cannot help feeling that the little story marks a dramatic turning point in the way children's expression might possibly be interpreted, described, and guided.

Picture the following scenario: We are in the late 1920's. Astrid Gøssel is sitting by the piano. In the room, young children are dancing. She is playing a song called "Circus Horse". By the use of the piano, Astrid Gøssel is able to control and inspire the children's dance. If she plays allegro, the children will move fast. If she plays adagio, they will move slowly, etc. By adopting such exercises, a lot of basic musical elements may be practised such as accelerando, diminuendo, piano, forte etc. Now, the little 8-year old girl named Ruth is dancing to the "Circus Horse". She is trying to find corresponding movements to the rhythm. However, eventually Ruth feels like doing something else:

> This child's body-rhythm is so strong, that the music has to give up. When I understood the child's artful work with her body, I did the opposite of what was intended and changed the music in order to make the accompaniment correspond the child's dancing. (Gøssel 1930/1981: 14)

From a reform-pedagogical point of view, this pedagogical shift of perspective is not only a minor shift of leadership in a musical dialog. First of all, it's a major redistribution of power and initiative in the interaction between the expert and the novice. The child is not the "listener" and the teacher is not the "speaker" anymore. The child and the novice becomes the "speaker" and the teacher becomes the "listener". Secondly, the child is not really a novice any longer. The child is expert on herself, her own body, her own movement, her own rhythm, etc. Nothing really overmatches the individual idiosyncratic natural expression. What is beautiful and artful is not reproducible, schooled, cultured, and disciplined, but rather unique, unrestrained, and uncultured.

During the thirties and the forties the reform-pedagogical methods and thoughts inspire pedagogues in many Danish Kindergartens. Gøssel is traveling around like a kind of a consultant, and, accordingly, she has the opportunity to study the result of the reform-pedagogical work first hand. However, she doesn't like what she sees. Thus, she concludes, that the sided focus on the child's expression and production apparently has a negative side effect. The children simply don't learn enough. The music played by the children in Kindergarten is not beautiful but rather the opposite. Actually, according to Gøssel's descriptions, this kind of musical activity may be defined as "junk" rather than music (Gøssel 1956/1981: 46).

3. Expression, expertise, and the reform-pedagogical movement

The fact that Gøssel changes her mind during the forties and fifties is quite interesting and informing in regard to the outlined paradox. In a modern context most

creativity theorist would agree with the late Gøssel and argue that children need to learn rules and technics in order to be creative and produce artifacts of quality. But is it possible at the same time to preserve the intuitive "naturalness" that Gøssel emphasizes? According to Gøssel, it is actually possible in the sense that she often describes the adult Afro-American jazz musician as "natural". Furthermore, it is quite normal in a present context to praise professional adult musicians for their "naturalness" and "intuition". However, the complex relation between intuitive expression and formal training is still an ongoing question among contemporary researches and theorists. Some creativity researchers suggest that the child loses the intuitive approach as a result of the introduction to a specific knowledge-domain. According to this theory, the child may regain the intuitive competence later in life, when he/she learns to master the technics and rules belonging to a certain domain (e.g. Gardner & Winner 1982). The novice-expert taxonomy, suggested by the Dreyfus brothers, may support this thesis in several ways (Dreyfus 1988). Nevertheless, empirical data points in various directions and the question still embodies an essential pedagogical paradox (Hickey 2003).

4. Pedagogical research and innovations related to the reform pedagogical agenda

As noted in the introduction, it is suggested in this article that the reform pedagogical agenda is somewhat intertwined with present attempts to facilitate creativity and personal expression among children in Denmark. In the following, two resent projects conducted by the authors of this article will be outlined. The two projects are very different in regard to the didactical designs applied. However, in both projects, the attempt is to facilitate creativity and personal expression.

4.1. Using technology as a shortcut to creative expression

It is a general notion within the field of pedagogics and education that technology might represent a shortcut to creative activity (Manovich 2001, Sefton-Green 1999, Folkestadt 1996). The assumption is, that the computer might enable creativity among people without any specific professional competences in the sense that it is possible to create music without knowing how to play an instrument, and it is possible to draw a sketch of a building without knowing anything about perspective, etc.

> The technology's ability to manipulate audio has meant that many people, who up until now did not perceive themselves to be musicians, can handle, create and communicate music using their computers. They employ inexpensive music software and hardware, which does not require 'traditional' musical skills or conceptual understanding. (Crow 2006: 123)

The assumption is contested, of cause, and might be the result of a utopian technophile discourse, rather than a result of actual experience (Dyndahl 2002). However, in the project outlined, the starting point is that digital technology actually offers an alternative pedagogical setting that might lead to valuable creative activities.
The pedagogical project includes different workshops conducted within as well as outside a school context. The music software Garage Band is applied as the main tool. Different ages are involved in the study and both children and adults with and without formal musical training are included. The workshops are comprised of several assignments, games and constraints. However, the general focus is to create music. The created compositions are finally evaluated by the children themselves as well as by other groups of people.
The connections to the agenda and the learning-designs of the reform-pedagogical movement are quite visible. In the reform-pedagogical movement the so-called "Orff-instruments" is applied in order to enable musical improvisations and ensemble-play among young people without comprehensive musical experience. The

Orff-instruments are designed as very simple musical devices only including few tones belonging to a specific musical scale. Thus, it is possible to improvise without knowing anything about music theory. The same method is applied in the design of the music software Garage Band. The software consists, among other features, of different kinds of prerecorded musical material that might be combined in different ways. However, the different musical material is limited to a specific musical key. Accordingly, it is possible to combine music that fits from a normative point of view without knowing anything formal about musical harmonies.

One of the interesting findings in the study, is that young people without musical training quite often produces music that is evaluated more positively than music composed by adults with comprehensive musical training. In the sessions of evaluation the assessment group, unaware of the composers age and level of musical competence, is typically emphasizing the originality and the spontaneity of the young people's compositions as opposed to the conformity of the adults compositions. The referred finding might support the notion of technology as somehow enabling musical expression among people without musical competence and equally question the unambiguous benefits of musical training. Thus, a link to the reform-pedagogical agenda and core values might be established. However, the empirical data also points in other directions in the sense that the evaluation group considers some of the music, produced by young people without musical training, plain "noise". Thus, it seems like the pedagogical dilemma regarding musical training as both inhibiting and promoting musicality, faced by Gøssel seventy years ago, still accounts.

4.2. Teaching specific skills in order to facilitate personal expression among children

In the pedagogical project, unfolded below, digital technology does not occupy a privileged position. Instead traditional art forms and technics are applied in order to facilitate creative expression among school children in the age of 10-11. The title of the course is "The Hub of the Universe", emphasizing that the main focus of the workshop is the children's own life and experiences. In the course, the children are working with four different topics, each of which is aimed at the children's idiosyncratic perspective on the world. The four topics are; what makes me happy; what makes me sad; what am I dreaming about; what are my fears? In the workshop, different forms of art is applied in order to work creatively within the frame of the four topics, including writing, painting, drawing, drama, singing, and dancing. As opposed to the music workshops described in the above, the children are being taught specific technics in order to work creatively. In other words, they are not writing poems without initially learning something about poetry; they are not doing drawings without learning something about colors and drawing technics; etc.

Some of the interesting findings and results of the workshop is the children's surprising, original, and reflective perspectives on the world. E.g. the topic "what are my dreams?" results in some very reflective, humorous, and still conscientious answers. In the following a teen years old schoolboy is imagining a world where there are no adults to rule.

> Most children would decide that it should be free to buy a lot
> They also say they would have money for going to school
> It would be chaos: Rubbish on the streets. And banks would be robed.

The parallel to the reform-pedagogical agenda seems obvious. As is the case in the described workshop, Gøssel compose music together with the children, involving the children's own world, e.g. the weather, the children's toys, the parents profession, etc. Furthermore, the political implication seems comparable in the sense that the children in the referred workshop are invited to reflect upon their life, their future, and their dreams, and thereby hopefully building up a sense of democracy, citizenship, and

empowerment. Such political and ideological ambitions equally represent a significant part of the reform-pedagogical core values.

5. The basic dilemma, now further complicated with an actor-network perspective

In the article, it is suggested that the relation between expertise, training and skills on the one side and creativity, individuality and spontaneity on the other, represent a genuine pedagogical dilemma. However, the latest example, "The Hub of the Universe", might be interpreted as a possible way to introduce the children to basic technics while still leave room and space for the children's idiosyncratic expressions. Hence, it may be argued that these technics and skills enhance the children's control over the creative process and accordingly permit the children to express them self more directly. However, it would be questionable to suggest that skills lead to clear artistically control. According to present theory preoccupied by materiality, including actor-network theory, a media like for instance a musical instrument, a computer, a paintbrush, is not transparent but rather pushes the creator in specific directions (Latour 1999, Dyndahl 2002). Furthermore, the media are connected to technics, rules and norms in subtle networks, promoting a specific culture and tradition (Latour 2005). Thus, it would be simplistic to suggest that learning skills, in order to gain control over a certain media, enhances personal expression per se. So, it seems, the practical and theoretical struggling with expertise, creativity, and personal expression continues.

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A CONTINUOUS COLLABORATION MODEL TO UNDERSTAND SOFTWARE DEVELOPMENT CAPABILITIES FOR SOFTWARE ENGINEERING STUDENTS IN COLLEGE

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Abstract

Status: A large number of software-related learning materials can be accessed by software engineering students from any trustable resources.

Problem: However, it is generally difficult for college teachers to continuously evaluate the performance of such post-practices, as well as to further introduce the attending students to the specific industry based on the assessment results.

Method: This paper proposed a continuous collaboration model (CCM) to lead a group of the college students to develop a software tool by using some existing software development methods and tools. These selected methods and tools include programming languages (Java and Python), markup language (XML; Extensible Markup Language), information exchange standards (XMI; XML Metedata Interchange), modeling language (UML; Unified Modeling Language), model-view-controller software framework (Graphical Editing Framework), virtual machine handling (VMware Player), interface development environment (Eclipse), version control platform (Github), knowledge management (Moodle), software documentation (Javadoc), and software unit tests (JUnit).

Results: There are three teachers who come from two distinct colleges to share their learning experience. Meanwhile, 26 college students attend this CCM project and elaborately develop an open-sourced requirements elicitation and analysis tool, OpenNeeds, in one year. All sources, documents and experiences are logged in the Github and Moodle. Some statistical diagrams are shown to prove the collaborative outcomes from students.

Conclusion: The teachers can truly understand the fortes of the individual attendee through the attending performance and promote his/her merits in the future tasks. Furthermore, their industrial practices and related outcomes might disclose that the proposed CCM is feasible and trustable in college environment, especially for the software development activities in the software engineering field.

Keywords: collaborative learning, management tools, open source, respectful leadership, software development.

1. Introduction

A large number of software-related learning materials can be accessed by software engineering students from any trustable resources. However, it is generally difficult for college teachers to continuously evaluate the performance of such post-practices, as well as to further introduce the attending students to the specific industry based on the assessment results (Cheng, 2010). Therefore, it is necessary to utilize a continuous approach to smooth or even solve this kind of the problem.

Based on the studies of Kolb (1984), Hmelo-Silver (2006) and Cheng (2008), this continuous method should basically include the following four characteristics. (1) It provides continuous observation on students and enough chances to correct their learning behavior; (2) It can correct students' learning blind spots in time; (3) It can exactly distinguish students' merits and learning strength; and (4) It can seamlessly integrate with industry. Subsequent paragraphs illustrate these facets in detail.

First of all, the Capability Maturity Model Integration (CMMI), inheriting the spirit of Capability Maturity Model (CMM), is a series of standardized guidelines (CMMI Product Team, 2010; Curtis et al., 2001) in software engineering field and focuses on specific project or organization for continuous observation and correction to meet the higher capability maturity. Continuous observation and correction activity is a kind of learning behavior. Hence, the CMMI can treat project as a learning activity with continuous observation and correction. Further, the People Capability Maturity Model (P-CMM) is derived from the concepts of CMM. The P-CMM focuses on the capability assessment of software engineers in an organization. Therefore, it is suitable to utilize the P-CMM to evaluate the student's learning activity with continuous observation and correction inside a project team.

On the other hand, students tend to ignore their learning blind-spots and so it is difficult for them to correct in time (Mckenna, 2013). Even if he tries to correct his blind-spots, the information channels are so diverse that it is hard for him to judge whether the knowledge is correct. Hence, students continuously co-learn specific knowledge with their teachers and other students might be a better way.

Furthermore, most students cannot understand what kind of courses will fit his interests. Teachers can discover his exact interests and merits, and understand the strength of the post-practice capabilities through teaching activities. Therefore, it is necessary to implement an activity to group teachers and students to learn together.

2. Methods

This research proposed a continuous collaboration model (CCM) to lead a group of the college students to develop a software tool by using some existing programming languages and software development tools. The CCM is a circular process (see Fig. 1) and includes six steps such as course classification, colearning axis, award mechanism, adapting sources, continuous understanding and industrial assessment.
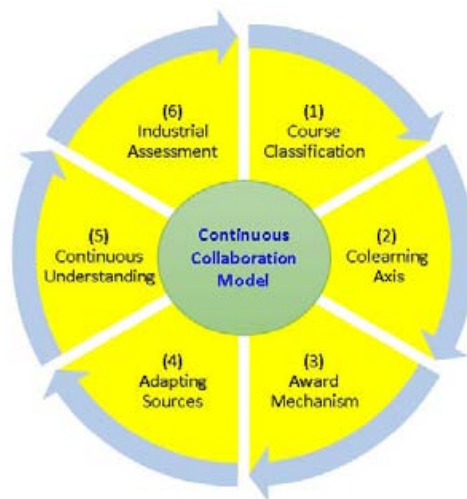
Figure 1. Process of the continuous collaboration model

The first step of the CCM is to proceed with the course classification. The college courses of specific department are categorized by the phases of the life cycle for selected learning field. Then, we append knowledge sharing and knowledge adapting categories into the categorized groups. For example, the department of software engineering can categorize its courses by software development life cycle and also appends knowledge management groups.

Then, the colearning axis has to be selected by experienced teachers. It is appropriate to execute the CCM activities by supporting via teachers' project. Meanwhile, the colearning group needs to invite teachers with distinct talents that are

matching the selected colearning axis. To tightly couple the students and teachers, it is necessary to invite the students with higher learning motivation such as the students who are belonging to the teachers' laboratory.

The third step is an important confirmation phase to verify the award mechanism and attract the students' attending strength. There are several explicated award-giving methods such as research assistants, course assistants, book writers, and regular dine together. We can create more award-giving methods to the CCM and it is depended on the teachers' teaching and financial conditions.

The adapting sources phase collects the materials from the first three steps and assigns them to the CCM. That is, teachers have to select appropriate techniques and tools, and confirm the willingness of the participants. Then, teachers should preliminarily confirm the responsibilities of the participants that are based on the participants' willingness. Finally, teachers have to fine-tune the colearning target and plan an appropriate schedule.

The fifth step, continuous understanding, is the major and long-term phase for participants to understand the post-learning capabilities of students via the direct observations of the teachers and indirectly discussions among teachers. Inside this phase, students have opportunities to exchange their responsible tasks and teachers can fine-tune the task details that are based on the colearning axis to fit the participants' capabilities.

After at least half of year of colearning activity, several industrial assessments could be adapted to the CCM to obtain external feedbacks from the third-parties. The outcomes of the students' services in the industry help teachers to further fine-tune the colearning axis for individual student to strength his or her capabilities and/or correct his or her drawbacks. Students can also take any out-sourcing opportunities from the third-parties; however, the feedbacks from this kind of the assessment will be implicit and might be distorted. Furthermore, teachers could incubate students and encourage them to open their new companies. Up to the research-oriented students, they can understand their research capabilities and pace forward without hesitation.

3. Results

The following subsection illustrates the CCM adapting process by a software development activity with relative outcomes in the department of software engineering.

3.1. Course Classification, Colearning Axis and Award Mechanism
Based on the software development life cycle, the courses in the department of software engineering are categorized into eight groups and append two knowledge management groups. That is, the ten capability groups include requirements analysis (RA), software design (SD), software programming (SP), information standardizing (IS), software testing (ST), software configuration (SC), project management (PM), project documentation (PD), knowledge sharing (KS) and knowledge adapting (KA).

Then, the project investigator planned to fix the colearning axis on an open-sourced software development and tried to earn some governmental projects to support such an educational activity. Meanwhile, two teachers and 26 college students were invited to join these projects. For example, Professor Chen focuses on the software testing and Professor Fu tries to devote his efforts on programming.

The research team also designed a series of award mechanisms to cheer up the participants. For example, this activity provides a number of opportunities such as eight research assistants for one year, five teaching assistants in two semesters, a Python book writing, and regular dine together.

3.2. Adapting Sources
This research adapts courses and sources to the CCM and then leads a group of the college students to develop an open-sourced software tool, OpenNeeds, by

using a number of software development methods and tools. To summarize the adapting sources, a table of these supplements is shown in (Table 1). Meanwhile, the teachers confirm the willingness of the participants, the responsibility of students, and the goal of the colearning activity before executing this educational activity.

Table 1. Supplements in the CCM for OpenNeeds software development

Capability	Selected Courses	Selected Methods and Tools
RA	Requirements analysis (3a)	Xmind, Unified Modeling Language (UML)
SD	Software design (3b)	UML, Graphical Editing Framework (GEF)
SP	Programming I (1a)	Python, C
	Programming II (1b)	Java, C#
IS	Information exchange standards (2b)	Extensible Markup Language (XML), XML Metadata Interchange (XMI)
ST	Software tests (4a)	JUnit, code review
SC	Programming II (1b)	Eclipse
	Operating systems (2a)	VMware Player
PM	Project management (2b)	Github, EGit, Javadoc
	Special topic (3b, 4a)	Skype meeting, Microsoft Project
PD	Information management (1a)	Moodle
KS	Information management (1a)	Evernote, Dropbox
	Software engineering (1b)	Pair programming
	Special topic (3b, 4a)	Moodle
KA	Information management (1a)	Industrial cooperation
	Software engineering (1b)	Pair programming
	Special topic (3b, 4a)	(Will be specified after discussion)

3.3. Continuous Understand and Industrial Assessment

Teachers continuous understand the students' strength of the technical capabilities of their post-practices through the continuous colearning activities, such as the Graphical Editing Framework (GEF) workshop, the virtual machine utilization, and Eclipse plugin programming. A number of the assigned tasks are exchanged after teachers' discussions. A statistical diagram (Fig. 2) is shown to prove the students' post-practices status in May 31, 2014.
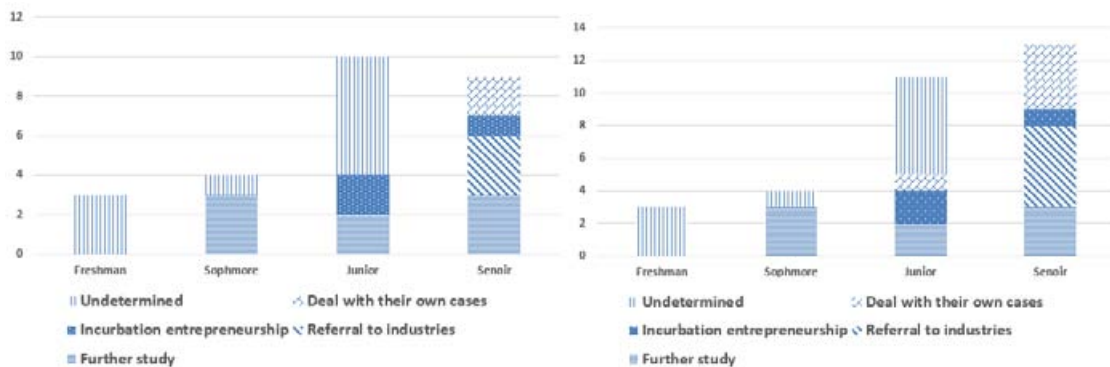
Figure 2. Statistics: (a) count of students' decisions; (b) cumulative numbers of occurrences

For example, two of them are introduced to attend an intensive part-time job in the medical center in 2014 spring break and teachers enhance students' capabilities via industrial feedbacks in the 2014 spring semester. Furthermore, an essential teaching book for Python programming language is planned to be published in 2014 summer. Note that it is normal that the cumulative numbers of occurrences are larger than the count of students' decision, because there are open opportunities for students to try their temporary decisions.

4. Discussion

There are several constraints on this research. Firstly, it is only adapted in the software engineering field and it is necessary to verify its reliability and validity by further observations and verifications. Hence, it might not be adapted to students who are double major or not major in software engineering. Furthermore, a number of the students are not familiar of English skill and let them frustrate on documentation. Certainly, a few of students will try to escape from this activity after they met some obstacles that they cannot solve by themselves.

5. Conclusions

The teachers can truly understand the fortes of the individual attendee through the attending performance and promote his or her merits in the future tasks. Further, the industrial practices and related outcomes might disclose that the proposed CCM is feasible and trustable in college environment, especially for the software development activities in the software engineering field.

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MATHEMATICS ANXIETY AND THE PRIMARY SCHOOL TEACHERS. MATHEMATICS TEACHER EFFICACY BELIEFS AND MATHEMATICS AVOIDANCE TENDENCIES

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Abstract

This exploratory study examined the relationships between mathematics anxiety, mathematics teaching efficacy beliefs, and mathematics avoidance tendencies, among a group of 68 primary teachers in Trinidad and Tobago, using a self-reporting questionnaire. Stata12 was used for means, standard deviations, correlation, means-difference, and regression analyses to explore relationships, and to identify differences within and among groups surveyed. High mathematics anxiety was associated with low teaching efficacy beliefs and high mathematics avoidance tendencies among both male and female teachers. There were no significant relationships between mathematics anxiety, teaching efficacy, and avoidance by teachers' age and years of teaching experience, but gender was a significant factor for mathematics avoidance, with males reporting significantly higher mathematics avoidance than females. While a regression model with teachers' gender, age, teaching experience, and mathematics attainment could not significantly predict mathematics anxiety, teachers' mathematics attainment was a significant predictor of mathematics anxiety. Linear regression indicated that mathematics anxiety significantly predicted mathematics teaching efficacy. Further research is imperative to determine if mathematics anxiety is problematic at the primary level, with priority to unearthing links between teacher anxiety and student anxiety, and how student achievement, attitudes and beliefs are affected by teacher mathematics anxiety. Such research should inform teacher preparation and development programs to strengthen teachers' efficacy beliefs by addressing teachers' mathematics anxiety by equipping teachers with tools to manage their anxiety and strengthen individual efficacy beliefs about teaching mathematics.

Keywords: mathematics anxiety, teaching efficacy, mathematics avoidance, primary teachers.

1. Introduction

Mathematics pervades daily life, yet, students express frustration about not understanding the mathematics they are taught (Kalloo & Mohan, 2012). The pass rate in mathematics in the Caribbean averaged 40% from 2004 to 2013 (Caribexams, 2014). One Caribbean state, Trinidad and Tobago, which depends on the energy sector for economic viability, must rely on innovations in science, technology and business so its citizen should be competent and confident in their mathematics ability. However, growing concerns about student underachievement, particularly males, and increasingly negative attitudes towards mathematics (Ministry of Education, 2008) have not stimulated research into factors that influence these outcomes. The lingering colonial high-stakes-assessment orientation that positions teachers as knowledge-givers versed in traditional instruction has produced an intergenerational legacy of mathematics as product rather than process. It sacrifices conceptual for procedural understanding, and propagates mathematics as 'something' for 'bright' people. Many of those who leave school with compromised mathematical competence, confidence and efficacy, later teach mathematics at primary and secondary levels. Historically, beginning teachers in Trinidad and Tobago have attained at least secondary-school mathematics certification and have no pre-service training; thus, they vary in their understanding of mathematics, and confidence and competence to teach it. Further,

there are twice as many female primary teachers than male, which implies a feminization of the classroom and underrepresentation of male role models for boys.

This study was inspired by a female primary teacher who explained, "I don't think I have the right mind for maths. Sometimes I exchange maths for language teaching with my co-teacher because I just don't feel comfortable teaching it." The absence of empirical data makes it difficult to challenge the conjecture that primary teachers in Trinidad and Tobago are math-anxious. Even so, identifying teachers as math-anxious merely indicates its presence (Taylor & Fraser, 2003) without commenting on its influence on teaching and learning mathematics. This exploratory phase of a larger study sought to clarify relationships between mathematics anxiety, mathematics teaching efficacy and mathematics avoidance, by teacher variables of gender, age, mathematics attainment and years of teaching experience.

2. Review of the Literature

Teachers often mirror the beliefs and attitudes of their own teachers, which eventually influence the success and attitudes of their own students towards mathematics (Iossi, 2007). Learning and doing mathematics arouse stronger emotions than other subjects (Hembree, 1990), and produce enduring negative attitudes, like mathematics anxiety (Shores & Shannon, 2007), which is an intensely negative emotional response to anything mathematics-related (Ashcraft, Krause & Hopko, 2007). Its development is strongly tied to teachers' beliefs and attitudes towards mathematics (Sousa, 2008). Some believe that female teachers are more math-anxious (Brady & Bowd, 2005) and avoid mathematics more than males (Kelley & Tomhave, 1985), but others believe that this difference is contrived (Andile, 2009).

Math-anxious teachers struggle during lesson preparation and instruction (Gardner & Leak, as cited in Peker, 2009, p.336). They become tense and easily agitated with students (Levine, 1999), often communicating and transferring their anxiety to them (Gresham, 2008). They avoid teaching mathematics when possible (Trice & Ogden, 1986), and have low mathematics teaching efficacy beliefs (Swars, Daane & Giesen, 2006) about their *perceived* ability to effectively teach mathematics. Efficacy beliefs crystallize early in teachers' careers and build with experience (Wenner, 2001), affecting the way teachers feel about their work (Hoy, 2004). Highly efficacious teachers have positive attitudes towards their work and are less math-anxious than those with weak efficacy beliefs. Cheung (2006) found that female teachers had stronger efficacy beliefs than males, while Ghaith and Shaaban (1999) found no relationship existed. Since highly math-anxious teachers have low mathematics teaching efficacy beliefs, addressing their anxiety strengthens their teaching efficacy beliefs (Bandura, 1986) to break the cycle of mathematics anxiety and its effects.

3. Methodology

This study "obtain[ed] basic data and trends… without the complications of using a randomized sample" (Castillo, 2009), about interrelationships among mathematics anxiety, mathematics teaching efficacy, and mathematics avoidance of primary teachers, by age, gender, mathematic attainment (Ordinary level mathematics grade), and years of teaching experience. Non-probability purposive sampling produced 68 participants aged 30 to 58, with over 5 years of teaching experience. Participants completed a self-reporting questionnaire that elicited responses to 33 randomly sequenced 4-point Likert-type items about mathematics anxiety (10 items), mathematics teaching efficacy (13 items), and mathematics avoidance (10 items). Responses were *strongly disagree*, *disagree*, *agree* and *strongly agree*, which were scored from 1 – 4, respectively, for positively-phrased items and reversed for negatively-phrased items. A high score on each subscale indicate a high presence of

the respective construct. Stata12 computed descriptive and inferential statistics. Sample items are provided in Table1.

Table 1. Sample Items for mathematics anxiety, mathematics teaching efficacy, and mathematics avoidance

	Sample Item
Low anxiety	I don't worry about my ability to solve maths problems.
High anxiety	My mind goes blank and I can't think clearly when doing maths
Strong teaching efficacy	I understand maths concepts well enough to effectively teach them.
Weak teaching efficacy	I don't believe that I have the necessary skills to teach maths.
Low avoidance	I look forward to teaching math.
High avoidance	I avoided taking math classes after I left secondary school.

4. Findings and Discussion

Pearson's correlation coefficients (Table 2) indicated strong significant inverse associations between the constructs; teachers who reported lower mathematics anxiety also reported lower mathematics avoidance tendencies (Kelley & Tomhave, 1985) and stronger mathematics teaching efficacy beliefs (Swars et al., 2006).

Table 2. Pearson product-moment correlations for mathematics anxiety, mathematics teaching efficacy, and mathematics avoidance by gender (N = 68)

	Correlations		
	Mathematics anxiety	Mathematics avoidance	Mathematics teaching efficacy
Mathematics anxiety	1		
Mathematics avoidance	0.618**	1	
Mathematics teaching efficacy	-0.550**	-0.609**	1

** Correlation is significant at the 0.01 level (2-tailed)

Males reported higher mathematics anxiety and avoidance than females (Table 3), contradicting the findings of Brady and Bowd (2005), and Kelley and Tomhave (1985); however, males and females reported similar mathematics teaching efficacy, consistent with the findings of Ghaith and Shaaban (1999).

Table 3. Respondents' perceived mathematics anxiety, mathematics teaching efficacy, and mathematics avoidance by gender (N = 68)

	Mean by gender		Std. Deviation by gender		Mean overall	Std. Deviation overall
	Male	Female	Male	Female		
Mathematics Anxiety	2.32	2.25	0,208	0.280	2.28	.28
Mathematics Teaching Efficacy	2.25	2.26	0.229	0.263	2.26	.25
Mathematics Avoidance	2.15	1.97	0.234	0.274	2.03	.27

One-way ANOVA revealed that gender was a significant factor, but only for mathematics avoidance (Table 4), with males (M=2.15, SD=0.234) reporting significantly higher avoidance that females (M=1.97, SD=0.274), $F_{(1,66)}=6.865$, *p*=0.011.

Table 4. One-way analyses of variance for age and teaching experience (equal variances assumed) (N = 68)

	Gender		Age		Teaching experience	
	F	p	F	p	F	p
Anxiety	(1, 66) = 1.117	.282	(2,65) = 1.711	.080	(2,65) = 1.109	.341
Teaching Efficacy	(1, 66) = 0.004	.953	(2,65) = 0.884	.418	(2,65) = 1.165	.318
Avoidance	(1, 66) = 6.865	.011	(2,65) = 0.111	.896	(2,65) = 0.383	.683

Regression analysis indicated that collectively, gender, age, teaching experience, and mathematics grade did not significantly predict mathematics anxiety, $F_{(4, 63)}=1.848$, p=0.131. The overall model fit was $R^2=0.0905$. However, teachers'

mathematics attainment significantly predicted mathematics anxiety (β=0.347, p<0.05). Mathematics anxiety was found to significantly predict mathematics teaching efficacy (β=0.66, p<0.05).

5. Discussion and Recommendations

This study did not seek causal relationships, but the direction and strength of relationships between mathematics anxiety, teaching efficacy and avoidance. That mathematics anxiety was present among participants is unquestionable. Those who reported high mathematics anxiety also reported low mathematics teaching efficacy and high mathematics avoidance, while those who reported low mathematics anxiety also reported strong mathematics teacher efficacy and low mathematics avoidance, which is consistent with the literature on mathematics anxiety. However, male teachers reported higher mathematics anxiety and significantly higher mathematics avoidance than females. These latter findings may be indicative of declining male achievement in mathematics and the increasingly underwhelming male-teacher presence in primary classrooms that beg investigation, given lingering gender stereotypes about mathematics that favour males in Trinidad and Tobago. Participants' mathematics attainment significantly predicted mathematics anxiety, and though Sousa (2008) associated anxiety to conceptual understanding of mathematics rather than ability – which is often measured by attainment – Goulding, Rowland and Barber (2002) link conceptual understanding to effective mathematics teaching. Implicit, then, is that mathematics attainment is indicative of conceptual understanding of mathematics, which feeds teachers' mathematics anxiety and teaching efficacy beliefs, and in turn influences students' achievement, and attitudes and beliefs about mathematics. This raises questions about the mathematics that primary teachers know and how they know it, and what strategies they know of and use to teach it, since they are required to teach mathematics regardless of their confidence, competence, effectiveness, or desire to avoid it.

Though the results of this study do not suggest that mathematics anxiety is problematic at the primary level, further research is imperative to determine if it is, and to identify its contributing factors among primary teachers. Priority should be given to teachers' early classroom experiences with mathematics to determine if these experiences have affected females and males differently, and how these differences become manifest in the classroom. Research must probe students' perspectives to provide a holistic understanding of mathematics anxiety, and to unearth links between teacher and student anxiety, and its influence on student achievement, attitudes and beliefs. Mathematics teaching efficacy is another critical component of the teaching and learning environments, and with growing concerns about falling student achievement in mathematics and its link to mathematics instruction, research in this area is imperative. Research about mathematics anxiety and teaching efficacy must be driven by, and inform teacher preparation and development programs to strengthen teachers' efficacy beliefs (Bandura, 1986) by addressing teachers' mathematics anxiety. Training must focus on equipping teachers with tools to manage their anxiety and reduce its long-term effects in the classroom, and provide appropriate experiences to strengthen efficacy beliefs (Wenner, 2001) about teaching mathematics. Reducing mathematics anxiety can directly influence teaching efficacy and increase the number of efficacious primary teachers in Trinidad and Tobago, who are confident teachers, and work with their students to create a classroom culture that is positive, collaborative, creative, transformative, and supportive of student learning and achievement in mathematics.

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EMOTION SOCIALIZATION PRACTICES OF EARLY CHILDHOOD EDUCATORS IN DAY CARE SETTINGS

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Abstract

In recent years, numerous studies have shown that the skills learned during the first years of life regarding emotions' expression, understanding and regulation, play a key role in children's adaptation and their future academic success (Eisenberg et al., 2010). Thereby, the socialization of children's emotions has become a topic of increasing interest to researchers, theorists and practitioners. What happens during preschool, particularly, appears as a major issue, and our understanding about it should be extended and consolidated, especially when it comes to identifying the impact of adults on children's socioemotional development (Denham et al., 2012). Indeed, if studies have yet shown that parental socialization practices are related to the development of children's emotional competence (Denham, 2006; Eisenberg, 1998), few studies have examined early childhood educators' roles in socializing young children emotional competence. Though, currently, more than 70% of Quebec and Canadian children under six years of age use an educational service which bring them to be cared outside the family's house and put them in contact with educators for a certain period of time.

The purpose of our study (funded by the SSHRC) is to improve the understanding of early childhood educators (ECE)' role in the socioemotional development of the children they take care of everyday, in daycare settings in Quebec (Canada). More specifically, two goals are pursued in this work: 1) Assess the practices of ECEs about children' emotion socialization, including their reactions to negative emotions expressed by children; 2) Determine the extent to which ECEs' practices about emotion socialization vary depending on their individual characteristics (years of experience; marital status; educational background; levels of perceived stress, job satisfaction and interpersonal reactivity).

Within this paper, we propose to present our preliminary results obtained from 95 ECEs with the *Coping with Children's negative emotions scale - ECE version*. These preliminary results revealed that the educators valued positive reactions to the expression of children's negative emotions, in particular, reactions that focus on problem solving (which is beneficial because it facilitate the learning of emotion regulation strategies and prosocial development). It also appears that some individual characteristics are associated with the nature of the ECEs' reactions to the expression of negative emotions. Others updated results will follow, questioning the influence of job satisfaction, perceived stress and empathy on educators' practices.

Keywords: socioemotional development; daycare settings; early childhood educator, preschool children.

1. Introduction: The emotion socialization

It is now widely recognized that children and youth adjustment and academic achievement do not only involve their cognitive abilities and skills but that socio-emotional competence also plays a determining role. As early as the 19th century, Darwin considered the adaptive role of emotions and their effect on mental processes and behaviour (Darwin, 1872/1998). Recent studies have shown that emotions play a significant part in children's social and school adjustment and thus impact their academic achievement and, ultimately, their future. More specifically, youths' ability to express, understand and regulate their emotions has an impact on their academic and

social skills (Denham & Burton, 2003; Izard, 2002; Saarni, 1999). With regard to social adjustment, for example, Rose-Krasnor and Denham (2009) associate children's effectiveness in social interaction with different socio-cognitive and socio-emotional skills, in particular, the ability to resolve interpersonal conflict, prosocial behaviours, the ability to self-regulate behaviours and emotions, and social conscience.

These results have led researchers to focus specifically on the socialization of emotions, a process through which children learn to recognize, assimilate and master various skills related to the expression, understanding and regulation of emotions through the exchanges they engage in with the various people in their lives (Coutu, Bouchard, Emard, & Cantin, 2012; Grusec & Hasting, 2007). From this perspective, the skills acquired during the preschool period appear to be crucial (Maccoby, 2007). Several authors have pointed to socio-emotional and behavioural deficits among children who are starting school (Janus & Offord, 2000; 2007; Rimm-Kaufman, Pianta, & Cox, 2000), and stress the importance of better training early childhood educators (ECEs), given that the great majority of children (70% in Quebec) currently attend daycare outside the family before entering the school system. It is thus important to better understand the role played by ECEs in the socialization of emotion and to document their educational practices (Ahn, 2005; Ashiabi, 2000) since, to date, most studies have focused on the role of parents.

Few studies have investigated the educational practices of ECEs related to the socialization of emotions or the way ECEs perceive their role with regard to the socialization of emotions, despite the fact that they engage in educational activities that influence the socio-emotional development of the children. In Quebec, this mission of ECEs is, moreover, clearly set out in *Quebec's educational program for Childcare services* published by the ministry of the family and seniors in 2007. While some authors maintain that the mechanisms of socialization that have been identified among parents can also apply to ECEs (Eisenberg, 1998), other dimensions come into play for ECEs because of the group context that their work involves (Hyson, 2004). There is thus a need for research that specifically targets this population.

2. Purpose of the study

The present study therefore aimed to better determine the role played by ECEs with regard to children's emotion socialization. More specifically, we will present here our preliminary results on ECEs' perceptions of their emotion socialization practices, and will examine various factors and individual characteristics that are likely to influence these practices.

3. Methods

3.1. Participants

Our study population was comprised of 95 ECEs, whose average age was 38.2, working in childcare centres in two regions of Quebec. Table 1 below presents the characteristics of our study population.

Table 1. Descriptif de l'échantillon (N=95)

Caractéristiques sociodémographiques		Eff.	%	$\bar{M}$	σ
Family status	Married / In couple (no child)	8	8,4	-	-
	Single (no child)	8	8,4	-	-
	Married / In couple (with children)	66	69,5	-	-
	Single (with child)	13	13,7	-	-
Family incomes ($CDN)	Less than 45 000	29	30,5	-	-
	45 000 to 84 000	34	35,8	-	-
	More than 85 000	27	28,4	-	-
Academic background	Number of years at school	-	-	15,98	3,44
	Early childhood education training	43	93,5	-	-

	Last diploma:	Attestation (1 year post-sec)	11	23,9	-	-
		DEC (3 years post-sec)	27	58,7	-	-
		College (30 cr. – 1 year)	3	6,5	-	-
		Other	2	4,3	-	-
Work experience	Experience as an ECE (years)		-	-	14,03	6,22
	Experience in the actual child care center (years)		-	-	10,33	5,57
	Number of children in the group		-	-	8,7	1,34

3.2. Measures

To investigate the ECEs' perceptions of their educational practices related to emotion socialization, we used *The Coping with Children's negative emotions scale - caregiver version.* Adapted from Fabes and colleagues' questionnaire, the CCNES - Caregiver version consisted of 12 hypothetical situations in which preschool children are likely to experience distress or negative affect (e.g. being teased by peers, being nervous about possibly embarrassing him/herself in public). For each situation, educators were asked to indicate how likely (on a seven-point scale from very unlikely to very likely) they would be to react in each of five alternative ways. The five types of responses included the following: minimizing responses, punitive responses, expressive encouragement, emotion-focused reactions and problem-focused reactions (the "distress reaction" scale was not included for psychometric and theoretical reasons). Situations specific to the family context were replaced by emotional situations typical of daycare settings (see document).

Other measures were used to assess the ECEs' level of job satisfaction, perceived stress and capacity for empathy, based on the three following questionnaires: *The Special Educator Job Questionnaire*; *The Perceived Stress Scale* (PSS-14); and *the Interpersonal Reactivity Index* (IRI). The goal was to examine the influence of these variables on the ECEs' emotion socialization practices. Theses results will not be discussed here; analysis are currently underway.

4. First Results and Discussion

4.1. Self-reported reactions of educators to the children's negative emotions

The results of the CCNES – Caregiver version revealed that, when the ECEs were confronted with children who were expressing negative emotions or distress, they tended to favour certain types of reactions over others (Q = 263.76 p = 0.00). More specifically, when the scores the ECEs obtained for the five categories of possible reactions on the CCNES (Wilcoxon test) are compared, it can be seen that they favoured problem-focused reactions, expressive encouragement and emotion-focused reactions, as clearly seen in Figure 1 below.

Figure 1. Educators' reactions to the children's negative emotions/distress
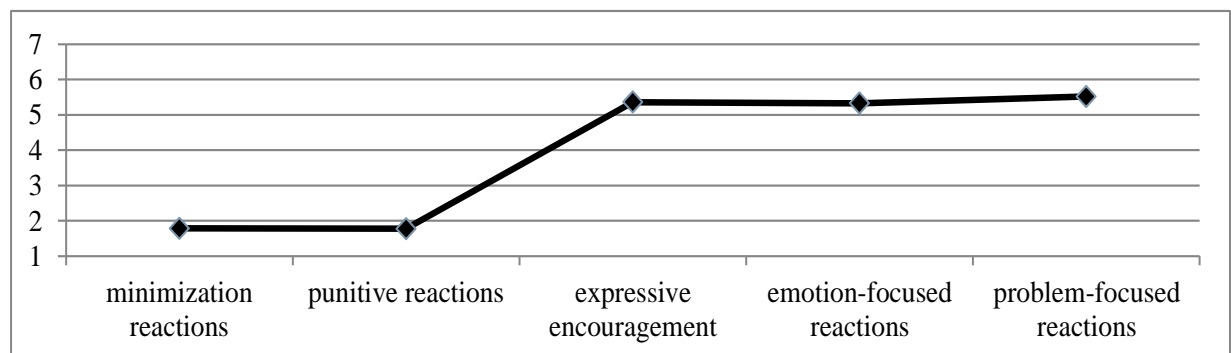
Although these results should be interpreted with caution, since they refer to the ECEs' representations rather than their actual practices, they nevertheless indicate a degree of sensitivity on the part of the ECEs, who appeared to favour reactions that

supported the children and encouraged them to find solutions to the challenges they encountered. By showing interest in the children's emotions and consideration for what the children were experiencing, the ECEs demonstrated qualities that would make them good agents of socialization, as emphasized by Denham (1998). Indeed, the reactions they favoured were those that allow children to identify their emotions, validate what they feel, and help them find ways to deal with their emotions (Pollak & Thoits, 1989). Moreover, this means that they appeared to hold attitudes known to be particularly favourable to cognitive and social development (Loeb, Fuller, Kagan, & Carrol, 2004).

4.2. Factors influencing the ECEs' reactions to the children's negative emotions/distress: Preliminary results.

Several socio-demographic and individual variables were tested. The results revealed that, for the ECEs, the fact of having children, the training they had received and the number of children in their group did not appear to play a role in their reported reactions to the negative emotions or distress expressed by the children.

While the ECEs' age did not appear to play a major role in their reactions, it nevertheless appeared that younger ECEs (under the age of 35) and those with less experience (less than 5 years in the field) reported more emotion-focused reactions ($p < 0.05$).

Surprisingly, the age of the children in their group hardly played a role either, whereas, in previous studies, this variable was shown to have an effect on ECEs' reactions. For example, Ahn and Stifter (2006) showed that ECEs had different reactions to children's positive and negative emotions based on the children's ages. For instance, while they tended to use physical comforting with toddlers, they used more active emotion socialization strategies with preschool children, involving them to a greater degree in the search for solutions to their negative emotions or distress. They thus supported the children's appropriation of the process of emotion regulation as the children's regulatory abilities developed (Grolnick, Kurowski, McMenamy, Rivkin, & Bridges, 1998). In our study, only the use of physical comforting differed according to the age of the children, with the ECEs tending to favour this reaction to negative emotions and distress more often with younger children (0-1 year old) than with older children (4-5 years old).

5. Conclusions and prospects

Since these findings are only preliminary, several other variables need to be examined in order to better understand the practices used by ECEs. This is especially the case for the data obtained using the *Special Educator Job Questionnaire*, the PSS-14 and the IRI. In particular, previous analyses have brought out several interesting facts that we hope to corroborate in our study. For example, it appears that the higher ECEs' level of satisfaction with their working conditions (especially team work and the degree of authority they have with children), the more likely they are to encourage the children to express their emotions. By the same token, when ECEs' feeling of competence is low, it appears that they tend to resort more often to punishing and minimizing reactions (Coutu, Robert, Dubeau, Bérubé, & Théorêt, 2014).

However, some interesting findings have already emerged at this stage of our analyses. Specifically, the results obtained show that, like parents, the ECEs reported favouring positive reactions to children's negative emotions. If these reactions are backed up by the observational data to be collected in the second part of this study, it will show that, by facilitating the learning of emotion regulation skills and the development of prosocial behaviours among children, ECEs constitute particularly suitable agents of emotion socialization (Denham et al., 2012).

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DURING HIGHER EDUCATION, EVALUATION OF STUDENTS' KNOWLEDGE ABOUT THEIR JOB TASKS: AIR TRAFFIC CONTROL DEPARTMENT

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Abstract

Nowadays, air transportation is getting more and more important. In addition, aircrafts need to be controlled and guided on the air and ground to go their destinations safely and quickly. Because of this, the pilots take some help to guide and navigate the aircrafts by Air Traffic Controller. Air traffic control is a job that the controllers have to be concentrated very well and decide about a situation accurately and rapidly. There are some choices to take a job position for an air traffic controller, like Tower Position, Radar Position etc. But, it is obvious that there is a connection between their job and results of this. This connection is very important because of affecting human lives directly. Therefore, education that is given in Air Traffic Control Department must be quality, informative and satisfying. The students who study in this department have to know their job tasks according to their positions. There are lots of theoretical and practical courses (simulation) for the students to show them the situations about their job tasks. In their education lives, they perform lots of practices in Aerodrome 360° with 3D Control Simulator Lab and Radar Control Simulator Lab. These simulator labs provide nearly same as a real job conditions with scenarios, equipment etc. Therefore, simulation education is very important. One of the goals of these theoretical and simulation education is giving the meaning of job knowledge, tasks and positions to the students. The second one is teaching them the rules that they have to obey in their job positions. In this study, content of air traffic controller responsibilities and students' knowledge about this content are analyzed to evaluate the air traffic control education (simulation and theoretical courses) by Content Analysis Method.

Keywords: air traffic control department, aerodrome control, radar control, simulator education, air traffic controller job tasks.

1. Introduction

Education is a process that helps a person to get their personalities, abilities, knowledge and behaviours (Tezcan, 1985, p. 4). There are some education types, like theoretical, practical etc. Here is mentioned about Air Traffic Controller education and their education with simulators. Before examining education, it is good to know what air traffic services and air traffic management are. Air traffic is the movements of the aircrafts that are on flight or in the manoeuvring field of the airfields (Cavcar, 1998, p. 38).The aircrafts which are on-the-go in the airport, coming for landing or have a continuously movement on the air ways take Air Traffic Services under the same rules from one place (Cavcar, 1998, p. 38). The aims of air traffic services are avoiding crashes between the aircrafts, preventing crashes between the aircrafts and obstacles in the manoeuvring areas, maintaining air traffic flow in order and making it speedy, providing useful recommendation and information for safe and effective flights and warning the relevant establishment for the aircrafts that need to take search and rescue services (Cavcar, 1998, p. 38-39). To manage this air traffic services, it is necessary to realise Air Traffic Management efficiently. Air traffic management consists of reducing cost and delay times in due course of flight also, it provides safety in the same time (Cavcar, 1998, p. 79).The first task of the air traffic control management must be safety

as a first and important task, secondly putting air traffic flow in order and the last but not less important task is to use air ways ideally (Cavcar, 1998, p. 79).

1.1. Air Traffic Control and Air Traffic Controller

Air Traffic Controller is a person who helps to provide safe and on-the-time flights. Air traffic controllers give some important and critical information to the aircrafts (to the pilots) to navigate them safely and on-the-time. While they are doing this, it means all of the aircrafts which are in the air traffic controllers' control zone waits information to navigate one point to another or make their ground movements. Air Traffic Controllers can get position in 3 departments of Air Traffic; Aerodrome Control, Approach Control and En-route Control.

1.2. Air Traffic Control Department and Air Traffic Control Education

In our university, there is an Air Traffic Control Department in Faculty of Aeronautics and Astronautics. Our students get an education life here during 4 years. In addition to this, they take extra 1 year for English Preparation School. There are many lessons to educate the students about their job duties, rules and procedures for Air Traffic Control in theoretical and practical lessons. The aim of these lessons is giving information about how they can manage air traffic flow while they are working in active air traffic life. Also, these lessons inform them about what an air traffic controller does in a work day. This is very important. The students must know what they will do in their job positions. Therefore, the goal of our education system in the air traffic control department is not only teaching the students rules and procedures about air traffic, but also giving them information about job positions and duties. Introduction to the air traffic control, Air traffic services, Air traffic flow management, Air traffic management, Aerodrome control procedures Non-radar control procedures, Radar control procedures are theoretical lessons. Aerodrome control simulator, Non-radar approach control simulation, Non-radar area simulation, Radar approach control simulation, Radar area control simulation are practical lessons (Anadolu University, 2014).

The students that take these courses begin to learn Air Traffic Control procedures and job requirements. So then, they go to job training to the İstanbul, İzmir and Antalya Airports to observe the real air traffic flow, work schedules. Also, they find an opportunity to make a comparison between real air traffic situation and what they learn in their education life. In these lessons, the students see and understand what they will do in a real job position as an air traffic controller. Most of them discuss about job description and try to get more information about their tasks and responsibilities about their works. As an instructor, one of our purposes is informing them what is waiting them when they become an air traffic controller and take a board alone in the tower, approach or area control centre. Maybe, they work in a lonely night maybe in a cold weather or in a sunny day. It does not matter, of course if they know what they have to do. In order to educate the future air traffic controller, instructors and teachers pay attention to their education very well.

2. Objectives

2.1. General Air Traffic Controller Job Tasks

According to the operation principles and quality and productivity of the occupation, air traffic controller uses equipment effectively, also, air traffic controller considers personnel health and safety, workplace environment regulation according to the operation principles and quality and productivity of the occupation (Türkiye İş Kurumu, 2014).

2.2. Aerodrome Controller Job Tasks

In this study, there are job definitions of air traffic controller by Turkish Business Association. Total is sixteen expressions but, here is five sample expressions of the job tasks list for Tower controller;

- According to the radar control and automatic control central rule for landing, take the aircraft – which is in their control zone- under control and set a connection with the pilot by using radio-set.
- Inform the pilot about the weather condition, runway and aerodrome features.
- When the runway is vacancy, give some information about aircraft's type and performance to the aerodrome authorized people in order to provide doing some preparation for secure landing.
- Providing aircraft's landing by descending whether giving info to the pilot about landing speed and wind direction and thereby giving directives about landing.
- Preparing and filling an info card according to getting info from Radar control. (Türkiye İş Kurumu, 2014).

2.3. Radar Controller Job Tasks

Total is eleven expressions but here is five sample expressions. The second job tasks information about Radar Controller;

- Information exchanging about the income and outcome aircrafts that are under controllers' control zone by using radio-set.
- Giving information to the pilots by radio-set about route and altitude that they are supposed to implement.
- Monitoring the aircrafts from the radar scope and controlling them according to the flight plan and if it is necessary giving directives to navigate the aircrafts.
- Calling the tower controller by radio-set at exact distance from airport about arrival aircrafts that will land
- Transferring duty to the tower control to give landing clearance to the aircrafts. (Türkiye İş Kurumu, 2014).

3. Methodology

In this study, in order to evaluate the questionnaire, Microsoft Office Excel 2013 was used to analyse the data. Content analysis was applied between the students' answers and job tasks to given meaning their answers according to the general content. Then, results were generated by using frequency analysis.

We tried to manage evaluating the students' job knowledge by comparing with two titles, Aerodrome Controller Job Tasks and Radar Controller Job Tasks. These titles are examined by Turkish Job Association and brought them on the net for giving information.

3.1. Questionnaire Group

This questionnaire is applied to the students who took or still taking the theoretical lessons and simulation lessons about Aerodrome, Non-Radar and Radar. It means that these students are 2nd, 3rd and 4th class students. This study is carried out by twenty-three volunteer students in Anadolu University Faculty of Aeronautics and Astronautics - Air Traffic Control Department in Eskişehir / Turkey. The number of female students is 5, the number of male students is 18. Female students' group consists of 7, 8, 8+ semesters and male students' group consists of 3, 5, 6, 7 and 8+ semesters. The students had enough time to write their answers. Not to be shy about their answers, they are not supposed to write their name on the questionnaire.

3.2. Data Collection Questions

There are 3 questions that are appropriate for the aim of study. These questions are;

1. What are the duties and responsibilities of Air Traffic Controller or what should duties and responsibilities be?
2. What are the duties and responsibilities of Aerodrome Controller or what should duties and responsibilities be?
3. What are the duties and responsibilities of Radar Controller or what should duties and responsibilities be?

3.3. Data Analysis

Content analysis is very common method in social science. The main goal of this method is evaluating communication. In the content analysis, researchers examine the messages systematically and objectively. Then, they can determine some specialities about the text or expressions and they can talk about whole text and expressions (Hepkul, 2002). In order to apply content analysis, the answers of the students are evaluated and found same or nearly same expressions with the job tasks. Then, these are categorised and given points to them and finally, according to these points, percentile is formed by frequency analysis.

Table 1. Percentages of Students' Job Knowledge Analysis

Participants	General Job Knowledge	Tower Job Knowledge	Radar Job Knowledge	Total
1	50%	38%	36%	41%
2	0%	0%	0%	0%
3	40%	31%	45%	38%
4	60%	31%	36%	41%
5	40%	13%	27%	24%
6	100%	56%	64%	70%
7	0%	0%	0%	0%
8	60%	25%	27%	35%
9	40%	25%	45%	35%
10	40%	31%	27%	32%
11	20%	13%	18%	16%
12	40%	25%	0%	22%
13	50%	19%	18%	27%
14	100%	44%	0%	46%
15	70%	38%	18%	41%
16	30%	31%	36%	32%
17	50%	38%	36%	41%
18	10%	13%	0%	8%
19	100%	31%	45%	54%
20	50%	25%	18%	30%
21	50%	19%	45%	35%
22	70%	38%	0%	35%
23	30%	19%	0%	16%
%	48%	26%	24%	31%

According to the Table 1, general job knowledge percentage is %48, Tower job knowledge percentage is %26, Radar job knowledge percentage is %24 and total job knowledge percentage is %31. Some of student did not take Radar simulator, so their points are 0 and this affected percentage of job knowledge in negative way.

Figure 1. General Total Percentage of Every Student
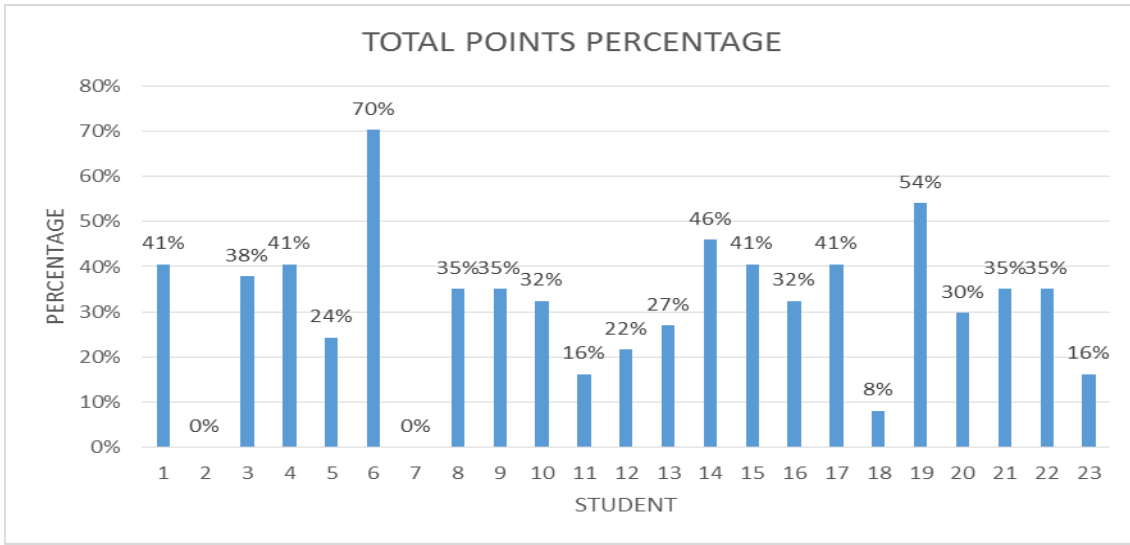
Figure 1 explains the general total percentage of each students. If the figure is analysed individually, there is a general successful situation.

In this department, the theoretical and practical education are very important. In addition, this job affects human lives directly, so the students must learn job tasks also, they must not forget their job knowledge and job tasks in their job positions. To provide this situation our department's education have to get development in every moment. In our department, education system and content of the theoretical and practical education must be up-to-date and remindful. The students must not forget their knowledge and if necessary, some theoretical lessons must be reminded to the students.

In this analysis, the goal is reached and some deficiency of the education in our department is determined to fix and develop. It is understood that some theoretical courses have to be reminded to the students' who are in 7, 8 and 8+ semesters.

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PURSUING DIVERSITY AND STANDARDIZATION: RETHINKING THE NATIONAL ASSESSMENT POLICY IN KOREA

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Abstract

The primary purpose of the study is to provide a brief understanding of Korea's national assessment policy and introduce two cases in which schools have successfully pursued both educational goals simultaneously improving test scores in basic subjects and maintaining diverse and creative curriculums for well-rounded education. The two school cases demonstrate that the success of national assessment policy depends on changing the fundamental culture of the school by focusing both the standardization and diversity of the curriculum.

Keywords: assessment policy, standardized tests, diversity.

1. Introduction

The National Assessment of Students' Academic Achievement (NASAA) has been conducted since 2008, and the results of the standardized tests have been publicly available. Some educators and parents, addressing the government's policy on distributing financial resources based on test results, have questioned whether such a policy could facilitate the much-needed educational reform. In addition, some civic groups have criticized that revealing test scores may lead to increased competition between schools to improve test scores and that such competition could prevent schools from maintaining diverse and creative curriculums for the well-rounded development of their students.

In fact, these two educational goals—improving test scores in basic subjects and maintaining diverse and creative curriculums for well-rounded education—need not be mutually exclusive. Pursuing these two educational goals is not a matter of choosing between the two but a necessary requirement for effective public education. In this regard, we are trying to provide a brief review of Korea's national assessment policy and introduce two cases in which schools have successfully pursued both goals simultaneously (one school in a suburban area and another in a rural area).

2. National assessment policy in Korea

Korea's national assessment policy, implemented in 2008 to improve students' academic achievement, has three goals (Ministry of Education, Science and Technology, 2008). First, the government can obtain longitudinal data on student achievement and use it to develop appropriate policies that can facilitate the reduction of learning gaps, the improvement of school curriculums, and the development of effective teaching and learning methods. Second, the government can use test results to identify struggling students and the subjects they are weak in and allocate resources such that fewer students are left behind. Third, schools can be motivated by test results and compete to satisfy the national standards in student achievement.

In 2010, the standardized tests were implemented for 6th grade (elementary school), 9th grade (middle school), and 11th grade (high school) students. Students in the 6th and 9th grades were tested on five subject areas, including reading, social

studies, math, science, and English. Students in the 11th grade were tested on three subject areas, including reading, math, and English. Students were classified into four groups based on their test scores: the outstanding (80% or above), competent (50%-79%), marginal (20%-49%), and unsatisfactory (less than 20%) groups.

The national assessment policy includes financial support based on need and/or merit. For example, schools designated as "Schools to be Improved" can receive need-based financial support from the government to provide teacher incentives, employ substitute teachers, develop curriculums, and facilitate learning activities. The government anticipates that the standardized test would provide meaningful data for accurately diagnosing students' academic competency and improving student achievement (Ministry Education, Science and Technology, 2009).

3. Criticisms on the standardized tests

Although some parent groups and conservative media have responded favorably to the policy, there has been growing concern about the ways in which the policy is implemented and the impact of the policy on school curriculums. First, because the government has emphasized the educational accountability of individual schools, schools' focus on emotional and social abilities of students may suffer as a result of their increasing interest in standardized tests. Further, making test scores publicly available may induce schools to emphasize cognitive skills pertinent to the tests, not well-rounded education.

Second, publicizing test scores could make the main driver of school education, and that mechanism could become the main criterion for evaluating the competence of superintendents, principals, and teachers. Thus, the national assessment policy appears to have limited schools' pedagogical ability and left them no choice but to help students improve their test scores.

Third, ranking schools based on test scores may lead to not only intensified competition between schools but also social disharmony and superfluous social expenditure (Lee, 2010). The policy is not likely to reduce the educational gap between districts and social classes. Instead, inequitable educational opportunities, particularly in terms of access to supplemental education such as private instruction, may widen the educational gap between urban and rural schools and between social classes.

Finally, some have questioned the appropriateness of making schools completely responsible for test results. Except for school factors, there are many other factors that may also influence academic achievement such as the family's socio-economic status and the community's socio-cultural capital. However, the policy does not consider the educational role of the family and the community as one of the critical factors in student achievement.

4. Pursuing both diversity and standardization

In terms of national assessment, the key issue is whether Korea's education system can focus not only on students' basic competencies in several subject areas but also on their emotional, social, and physical abilities. In this regard, we now present two cases in which schools (one in a suburban area and another in a rural area) successfully achieve both of these goals.

4.1. Student-specific curriculum: a suburban school
Daegeon High School, located in a suburban area near Daejon metropolitan city in Korea, received little attention when it launched a new curriculum emphasizing both the development of students' emotional, social, and physical abilities and the enhancement of their academic achievement in 1995. However, the school became famous when the government selected the school for the "Best School Award" in 2005, and a number of schools wanted to benchmark the school. Of the numerous

educational programs at Daegeon, particularly noteworthy is one program focusing on students' self-reflection and student-specific learning.

The program, referred to as "PESS," reflects four aspects of student development: physical, emotional, spiritual, and study/service. Once students enter the high school, they manage a planner with which they chart and evaluate their long-term (10 years) and short-term (weekly) goals. For example, in terms of short-term goals, they note their weekly class schedule, allot time for reading at home, and keep a diary about good and bad things that happened during the week. At the end of the week, a group of five to six students meet to discuss the content of their PESS planner. Managing the PESS planner provides the student an opportunity to reflect and control his or her emotional and social development. In particular, this learning method is effective in improving and sustaining the student's internal motivation for academic learning as well as school life. The role of the school in this process is to actively support students' activities and request the community or parents for their cooperation.

To improve students' academic competencies in major subject areas, the school manages student-specific learning curriculums in which students are able to select different levels of classes, complete individualized homework, and participate in after-school programs based on their individual learning ability. Allowing students to enroll in classes that closely reflect their level of ability is effective not only in improving the academic competence of students with lower scores but also in motivating those who would otherwise be out of place in inappropriate classes. The school also uses textbooks and teaching materials that the teachers developed for each level of classes.

In addition to individualized learning programs during regular school hours, the school offers various after-school programs. Students may take courses if they feel a need for supplementary or remedial education in some subject areas. Because of such student-specific educational programs, the school has consistently ranked among the country's top schools in terms of standardized tests and college entrance exams. In addition, since the implementation of the new curriculum in 2006, there have been no acts of violence at the school.

4.2. Learning in harmony with the environment: a rural school

Johyeon Elementary School, located in a rural area with few residents, had been expected to be closed in 2006 because of the lack of students and financial resources. However, since the newly appointed principal and some teachers started to introduce innovative education programs focusing on both experiential learning and basic academic competencies in 2007, the school has been transformed into a totally different school. The school now has a long waiting list of students from urban areas wishing to enroll.

Johyeon manages a wide range of curriculums, including experiential learning based on field trips to various areas in the community, cultural learning focusing on arts (writing, acting, painting, dancing, and playing musical instruments), and ecological learning focusing on natural science and the community's environment. The school provides its students with various opportunities to select learning topics and schedules, and the students are allowed to lead their own learning process by engaging in various individual and group activities on their own. To provide the students with various opportunities for discussion and learning, the school depends not only on human resources inside the school but also on various specialists from outside the school, such as film makers, entomologists, authors of children's books, and ecologists.

Previous class periods (40 minutes for learning and 10 minutes for rest) were not appropriate for the experiential learning curriculum, and thus, the school has instituted a flexible schedule for innovative learning (e.g., 80 minutes for learning and 30 minutes for rest). The school emphasizes on diversity in its curriculum, but it also focuses on the traditional repeat-learning method for basic subjects. The teachers consider this traditional method to be one of the most effective methods for acquiring basic concepts and principles in subject areas such as math and language. For

example, they allocate 20 minutes in every math class to repeat basic concepts such as addition, subtraction, multiplication, and division. They also take 20 minutes in every reading class to improve vocabulary by using a dictionary. Students search the word "value" in the dictionary, for instance, and try to understand the exact meaning of the word by composing sentences with the word. In addition, teachers provide supplemental instruction to those students failing to make adequate progress within the 20 minute learning in the regular classes.

5. Conclusion

The current policy of making test scores publicly available for distributing financial resources may have a positive short-term effect on student learning. Unfortunately, however, this effect may not be substantial or sustainable because such a policy is likely to prevent schools from offering diverse and creative curriculums that can facilitate students' long-term and well-rounded development. In order to reach both short-term and long-term outcomes the government should develop strategies that reward successful schools and help others to incorporate proven curriculums into their education system. In this regard, identifying and compiling a list of successful schools and determining how they achieved success could be the first step.

The government also have to develop specific strategies to help schools to effectively adopt proven curriculums and systems from successful schools. Sharing information on such curriculums and systems is not enough to produce a large number of equally successful schools across the country. The government needs to clearly understand all the reasons (including various cultural factors) behind the success of outstanding schools and develop the necessary know-how to transform ordinary schools into successful ones. Finally, principals and teachers should improve their teaching methods and pedagogical principles to better address educational goals that the society demands of schools. Internships in exemplary schools, for example, should be an effective way to help educators observe the cultural environment of such schools and improve their pedagogical principles.

The current national assessment policy does not address the ways in which leading schools could be identified and how their curriculums and systems could be adopted by others, and thus, the current policy is likely to fail if the policy continues to focus just on providing rewards and punishments. As demonstrated by the two schools, the success of the national assessment policy depends on changing the fundamental culture of the school by focusing on both the standardization and diversity of the curriculum.

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STRATEGY INVENTORY FOR LANGUAGE LEARNING: FINDINGS OF A VALIDATION STUDY IN GREECE

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Abstract

Foreign language learning strategies are specific actions or techniques employed by the learner for the purpose of learning language making learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations, according to Rebecca Oxford. The paper presents a large scale project's (THALES: 379335) first phase findings regarding the validation of Rebecca Oxford's "Strategy Inventory for Language Learning" (S.I.L.L.) in a Greek sample of 1308 school-aged students from 16 schools representing 5 prefectures and 4 regions of the country. 46% of the students were attending the three senior classes of the elementary school and 54% the three junior classes of the secondary education. Following a series of exploratory factor analyses we finalized in a 29-item version retaining Oxford's factor structure. The confirmatory factor analyses revealed a marginal level of fit to the whole sample as well as the elementary school and high school sub-samples. The analyses indicated moderate to high internal consistency coefficients for the two- and six-category model of the SILL instrument. Based on these findings a number of analyses were executed regarding differences across all the six SILL first-order categories (memory, cognitive compensation, metacognitive, affective, and social strategies) and the two second-order categories (direct and indirect strategies) in relation to gender and school level revealing significant differences. The results are discussed in relation to other similar studies and the next phases of the study.

Keywords: *learning strategies, S.I.L.L., validation, school-aged students, Greece.*

1. Introduction

Learning strategies represent a popular topic of research both in second language (L2) studies and educational psychology the last three decades. The literature on learning strategies in L2 acquisition emerged from a concern for highlighting the characteristics of effective learners. The term *learning strategies* have been defined as "steps taken by learners to enhance their own learning" (Oxford, 1990, p. 1) and as "the special thoughts or behaviours that individuals use to help them comprehend, learn or retain new information" (O'Malley & Chamot, 1990, p. 1). Oxford (1999, p. 518) claims that the term refers to "specific actions, behaviors, steps or techniques that students use to improve their own progress in developing skills in a second or foreign language. These strategies can facilitate the internalisation, storage, retrieval or use of the new language". Yet, empirical evidence, particularly with regard to the relationship between L2 learning and LLS, remains inconsistent (Nisbet, Tindall, & Arroyo, 2005). A key for informing L2 learners' learning and their teachers' teaching practices is an appropriate instrument that would accurately diagnose LLS.

The last decade has seen growing interest in studying language learning strategies in Greece. A number of researchers (e.g. Kazamia, 2003; Gavriilidou & Papanis, 2007, 2010; Gavriilidou & Psaltou, 2010; Gavriilidou & Mitits, 2014; Psaltou, 2010; Vrettou, 2011) studied ways of identifying and measuring strategies used when learning a foreign/L2. That research has evolved the issue of not having a valid and reliable instrument for measuring language learning strategy (LLS) use and has urged

the need for relevant instrument adaptation and validation. Towards this end, the present study illustrates the findings of a validation study, following an adaptation process of Oxford's (1990) Strategy Inventory for Language Learning (SILL) from English into Greek, i.e. a different linguistic and cultural setting, with the aim to further administer it to school-aged students (upper elementary and junior high schools) as a part of a large-scale project (THALES #379335). More specifically, the purpose of this study was to examine whether or not a shortened version of SILL reflects either the two-construct or six-construct classification system proposed by Oxford (1990) by performing confirmatory factor analysis (CFA) among school-aged (elementary and secondary education) students learning English in Greece.

1.1. The study background

Currently, the most frequently used language learning strategy use instrument around the world is the Strategy Inventory for Language Learning (SILL) developed by Oxford (1990). The SILL consists of *direct* and *indirect* learning strategies depending on the extent to which each strategy item is involved in language learning:
(a) Direct strategies include *memory strategies* (remembering and retrieving vocabulary), *cognitive strategies* (comprehending and producing text), and *compensation strategies* (compensating for the lack of knowledge)
(b) Indirect strategies include *metacognitive strategies* (manipulating learning processes), *affective strategies* (regulating affective state), and *social strategies* (learning with others). The SILL uses a five-point Likert-type scale responses (1-5) for each strategy described (never or almost never true of me, generally not true of me, somewhat true of me, generally true of me, and always or almost always true of me).

This principally adult-oriented instrument has been translated into more than 17 languages and appears in plenty major publications, involving the study of LLS among second and foreign language learners. In general, the ESL/EFL SILL reliabilities reported in the literature have been high (Oxford & Burry-Stock, 1995).

Construct validity of the SILL has also been studied in relation to the ESL/EFL setting, learning styles, gender, motivation, etc. and it has been found that there is a strong relationship between the SILL score and the aforementioned independent variables (Oxford, 1996). However, the construct validity of the SILL determined by exploratory factor analysis (EFA) has been inconsistent with different factor structures across different learning contexts (e.g. El-Dib, 2004; Green & Oxford, 1995; Nyikos & Oxford, 1993), particularly for school-aged English language learners (Oxford & Burry-Stock, 1995).

When it comes to adapting the SILL into Greek, there have been three relevant studies so far. One focuses on measuring the frequency of language learning strategy use in adult Greek learners of English (Kazamia, 2003), while the other records the frequency of use in primary school children who are learning English at school (Vrettou, 2011). Both studies use adapted versions of the instrument developed by the researchers themselves and they both contain elements of a thorough adaptation process into Greek. A more recent study (Gavriilidou & Mitits, 2014) focused on adolescent learners aged 12 to 15 providing sound psychometric evidence.

2. Method

2.1. Participants

The participants were 1308 students from 16 schools representing 5 prefectures and 4 regions of the Greek territory. They were attending the senior elementary and junior secondary education level classes and more specifically 46% of them were attending the 4th to 6th grade of the elementary school and 54% the 1st to 3rd grade of the high school. All research procedures were approved by the Institutional Review Board for investigations involving human participants. Written informed consent was obtained from the legal guardians of the participants before they were allowed to

participate in the study. The SILL questionnaire was administered during regular instructional time by ESL teachers at the end of the school year with the instruction to read and explain the directions to the students.

2.2. Instrument

The instrument that was used herewith and subjected to adaptation and validation procedure was the Strategy Inventory for Language Learning (SILL) version 7.0. The study used a recently adapted version which exhibited sound reliability and validity indices with the particular learner population (Gavriilidou & Mitits, 2014). The adaptation procedures included (a) translation process (included initial translations, synthesis of the translations and back translation procedures, control for equivalence in linguistic/semantic, technical, conceptual, and comprehension level between the original and translated versions), as well as (b) verification procedures through the use of an expert committee review in the light of the focus group suggestions and other verification methods confirming its validity concerning the item-level equivalence since the careful adaptation procedure has ensured semantic, idiomatic, experiential and conceptual equivalence (Gavriilidou & Mitits, 2014).

With regard to the validation procedure, the adapted SILL was tested for its content validity through exploratory and confirmatory factor analysis together with internal consistency examination.

3. Results

Considering the limited nature of empirical evidence for either supporting or refuting the adequacy of the 50-item SILL for school-aged English language learners (Oxford & Burry-Stock, 1995), the common practice of simplifying and shortening the SILL for younger student populations (e.g., Gunning, 2011), and the existing criticisms and recommendations for enhancing the instrument's validity (Hsiao & Oxford, 2002), the data processes for the present study were developed in two stages: instrument's item refinement and calibration and instrument validation.

In the first stage, using SPSS 20, a number of exploratory factor analyses were executed so that to inform further instrument modifications by identifying potentially problematic items. The analyses involved Principal Axis Factoring with either the two sub-samples (elementary school students, high school students) or the whole sample. The trials included a number of factorial solutions. Based on these analyses, the theoretical standpoint and the criteria mentioned above, we finalized to a common factorial pattern for all the students consisted of 29 items adopting Oxford's factorial structure.

In a second stage, considering that skewness and kurtosis of the data do not follow the multivariate normal distribution criterion, asymptotic Confirmatory Factor Analysis was performed involving the use of AMOS software. The CFA revealed a relatively satisfactory level of fit to the whole sample (CFI 0.84, NFI 0.8, RMSEA 0.06) as well as the elementary school (CFI 0.85, NFI 0.8, RMSEA 0.05) and high school (CFI 0.82, NFI 0.8, RMSEA 0.06) sub-samples. The overall patern of results indicated a "borderline" goodness-of-fit with more powerful index the RMSEA values. Considering that RMSEA is appropriate in more confirmatory contexts (Rigdon, 1996) we may accept for this pilot study phase the structure's goodness-of-fit even in a marginal level. In order to examine SILL's two- and six-construct classification system's internal consistency, the reliability of the constructs were investigated by calculating Cronbach's α involving again the whole sample and the two sub-samples (see Table 1).

Table 1. Items per learning strategies factor and internal consistency coefficients

	Learning Strategies		
	Direct LS	memory (4)	cognitive (6)	compensation (4)
Whole sample	.77	.56	.71	.43
Elementary	.79	.58	.70	.50
Secondary	.75	.53	.72	.45
	Indirect LS	metacognitive (7)	affective (3)	social (5)
Whole sample	.77	.56	.71	.70
Elementary	.79	.58	.70	.70
Secondary	.75	.53	.72	.70

The internal consistency coefficients suggest a satisfactory degree of internal consistency using the shortened student version of the SILL in all the trials. Moreover, the "higher order" two general factors (direct and indirect learning strategies) revealed the higher coefficients indicating that the items measure similar characteristics about language learning strategies. The finding is in accordance with several other studies' evidence (e.g. Park, 1997; Hsiao & Oxford, 2002; Yang, 1999).

Finally, using the mean scores of the two- and six-factor structure and with regard to the potential differences in terms of the students' gender and educational level, the relevant analyses (t-tests) indicated statistical differences both between boys and girls (girls scored higher than boys in all factors) as well as between elementary and secondary school students, with the latter to score higher in all the factors but one, namely the "compensation strategies" (i.e. guessing, asking for help, and using gestures).

4. Discussion

The aim of the study was to record how SILL can be validated into Greek context for school-aged student population using a translated and adapted version of the SILL (Gavriilidou & Mitits, 2014). Researchers performed EFA to explore latent factor structures and confirmatory factor analysis (CFA) to test *a priori* factor structures in the relationships between observed and latent variables. Since EFA has shown limitations defining exact factor structures of the SILL because of different findings across studies, CFA was performed to understand better the latent constructs of the SILL by examining whether it represents either the two- or six-construct classification system, as originally proposed by Oxford (1990). With regard to this latter procedure it is surprising to note that only a limited number of published studies have performed CFA in an attempt to confirm *a priori* underlying constructs of the SILL either among adult participants, mostly university students (e.g. Hsiao & Oxford, 2002; Park, 2011) or elementary/secondary education students (Ardasheva & Tretter, 2013).

Based on the relevant analyses it seems that the modified shortened version of SILL (Oxford, 1990) that was produced for the needs of the current study following to a series of exploratory factor analyses as well as theoretical and methodological criteria, could be used with the Greek school-aged student population. More specifically, the current version with the 29 items seems to be functional both for elementary and secondary school students; the factorial structure of the second level (direct and indirect learning strategies) presented sufficiently high internal consistency; the results of the confirmatory factor analysis confirmed marginally the factor pattern retaining Oxford's proposal but with almost half the items of the original version. The evidence approximates the findings of Ardasheva and Tretter's (2013) study both in terms of the items used as well as their content (which items load to each factor).

Definitely further examination is needed in order to establish and generalize the current findings with data from a larger and nationwide sample. Further study is necessary to examine whether each of the strategy categories may have differential impact on student learning depending on, for example, the developmental needs and English proficiency level of the individual, the outcome of interest (i.e., linguistic,

academic, or cognitive/behavioral), the specific learning and teaching goals and tasks etc. These are some of the issues that will be examined in the next -main- phase of the current study.

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USING TEACHER-FEEDBACK TO IMPROVE MATHEMATICS IN UK PRIMARY SCHOOL CHILDREN

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Abstract

Teacher feedback has always been a highly important factor in children's learning. Two components are (a) the way we highlight wrong answers to the child (corrective marking), and (b) the nature of any accompanying written comments. These are perhaps best illustrated when teaching children the subject of mathematics. Concerning corrective marking, in the UK, there has been a steady shift away from the old traditional marking of right versus wrong answers with ticks and crosses, towards the use of dots instead of crosses. This study gave 121 year-4 and year-5 primary school children a short mathematics test and a second test the following week. Crucially, just before the second test, we returned their first test marked either with dots or with crosses for wrong answers, plus with brief written feedback (praise and/or constructive comments). We found boys did slightly better in the maths tests overall. Gender had little effect regarding praise, but boys did better with constructive comments, whereas girls did worse. Across gender, when both praise and constructive comments were teamed with corrective marks, the use of crosses to highlight errors led to more maths improvement. Intriguingly, crosses with no other feedback led to most improvements. When we investigated which motivational factors might predict mathematics improvement, we found that "maladaptive cognitions" was the only such predictor, alongside the child's original mathematics score and number of questions missed on second test. We conclude that cross marking does not hold any advantage for primary school children, if used with only one of praise or constructive comments. Finally, in helping children to improve in mathematics, we should avoid them feeling negative about their mathematics competence, and coach them into not missing out questions in tests.

Keywords: children, constructive feedback, mathematics, praise comments, primary school.

1. Introduction

The role of teacher feedback in children's education is of interest to educationalists and developmental psychologists alike. Feedback can reduce discrepancies between children's current understanding and a desired outcome (Hattie & Timperley, 2007). It can be given in a number of different ways. Corrective feedback refers to telling the learner if an answer was right or wrong, plus indicating how a learner can correct an error. Research has mainly concerned using corrective feedback in teaching a second language (Ellis, 2008). However, far less attention has been given to the role of feedback in the teaching of mathematics, particularly in primary school.

When giving corrective feedback, some teachers prefer traditional methods (ticks and crosses) whilst others prefer alternative methods (ticks and dots). Although there are strong advocates of both these methods as effective marking symbols, few studies systematically assessed their relative impacts on learning of mathematics.

Hattie and Timperley (2007) found that the most effective feedback is task and child specific. For example, comments like "You have shown you understand how to cancel down fractions. Remember to show the answer in the lowest form". This feedback is called constructive comments. By contrast, Hattie and Timperley found praise to be ineffective feedback (e.g., "well done"). Children praised for intelligence can actually reduce in motivation, effort and performance (Mueller & Dweck, 1998).

However, in combination with constructive comments, praise might yet have a positive effect. Praise differs amongst boys and girls (Mueller & Dweck, 1998). This might explain why some studies find that boys persist at mathematics problems whereas girls are more likely to give up or miss out questions (Pajares, 2005).

Although feedback may generally show positive effects, an OFSTED report (UK Office of Education, 1996) warns of negative consequences. Teachers sometimes write overly generous comments, which can make children feel their current performance is good, when actually a child might benefit from being encouraged further.

In addition to effectiveness of feedback, a second question is how psychological phenomena such as the child's self-concept might impact on learning mathematics (Green et al., 2012). Constructive feedback (telling the child what could be done better even if an answer was right), increases performance of students high in self-concept, whereas students with low self-concept can worsen (Brockner, Derr & Laing,1987).

One suggestion is that motivation to learn or to use feedback may have played a role here, over-and-above self-concept (Broussard & Garrison, 2004). Social-Cognitive theory states motivation can either be adaptive or maladaptive. Adaptive motivation promotes achievement and attainment of previously set goals. Maladaptive motivation patterns are those where goals are not met or valued (Mueller & Dweck, 1998). Associations between low motivation (e.g., high anxiety) and poor performance may even partly explain any tendency for girls to do less well in mathematics.

1.1. Aims of the Study

This study explored the importance of written feedback on children's mathematics performance. We considered four questions. 1, with the shift in UK teachers adopting dots rather than crosses to indicate errors, we compared these two corrective markers. 2, we wondered if corrective marking paired with praise and/or constructive feedback was more effective than corrective marking alone. 3, children with low motivation or low self-concept might benefit less from all types of feedback. 4, we explored gender differences in mathematics and effectiveness of feedback.

2. Study Design

2.1. Participants

There were 121 children from year-4 (Mean = 8.23 years) and year-5 (Mean = 9.28 years) from a UK state primary school. Roughly half of each group were girls.

2.2. Materials

Children received an A4 booklet consisting of a title page, the Motivation and Engagement scale (junior school - Martin, 2012), the Piers-Harris children's self-concept scale (Piers, Harris & Herzberg, 2002), and a mathematics test devised with their class teachers according to the UK primary school curriculum.

For the motivation and engagement scale, components were adaptive cognitions (indicating they could improve on areas of self-belief, valuing and learning focus); adaptive behaviours (engagement in mathematics); maladaptive cognitions (negative thoughts, more likely to experience feelings of anxiety, failure avoidance and uncertain control); and maladaptive behaviours (low motivation, less likely to increase effort by attending to feedback). The mean scores for these dimensions indicated that concerning studying mathematics, our children had a balanced outlook containing both adaptive and maladaptive elements (for a detailed summary contact the first author).

For the Piers-Harris self-concept scale, components were for behaviour adjustment self-concept, intellectual and school status, physical appearance/attributes, freedom from anxiety, popularity, and happiness and satisfaction score. Mean scores on each of these 6 self-concept dimensions suggested our children had a broadly positive outlook with only minor issues (contact the first author for a detailed summary).

We devised two parallel forms of the mathematics tests. Each had 10 questions from national curriculum past papers (on core principles of number understanding, multiplication, division, money, time, tables/graphs, measurements, geometry, decimals and fractions). Piloting showed both parallel forms were suited to 8-10 year-olds.

2.3. Procedure

The study was carried out over three sessions. In session 1 standardised instructions were read aloud to children as a class. After filling in details such as name and class, children completed the motivation and engagement scale. Each question was read out aloud by the researcher, and children could follow the questions in their booklet. Once all children had answered all questions they were asked to move on to the next page for the children's self-concept scale. This was given in the same way.

Session 2 occurred the next day. Children completed their first mathematics test. They were given one parallel form of the maths test during class-time. They were encouraged to show their workings out on the test paper, and did not use calculators. To avoid order effects, half of each year group was given test one on this first maths occasion, with the other half given test 2. 30 minutes were allowed for this test.

The final session 3, occurred a further 6 days later. Children were given back their first maths test, which had been marked and which had one or more feedback type (corrective, praise, constructive feedback). They spent five minutes reviewing their feedback. Afterwards they began their other parallel mathematics test. They were then debriefed on the purpose of the study.

3. Results

We first analysed our results using a mixed-model Analysis of Variance (ANOVA), with the first and second mathematics scores as two levels of our dependent variable. Maths scores improved from maths occasion 1 (4.05 out of 10) to occasion 2 (4.70). Year 5 children (4.42) did slightly better than year 4 children overall (4.34). Concerning gender, boys (4.67) did better than girls across both years (4.11). The maths occasion improvement was statistically significant ($F(1,90) = 9.48$, $p<0.01$), the gender difference approached significance ($F(1,90) = 3.54$, $p = 0.06$), but the year difference was not significant ($F(1,90) = 0.21$, $p = 0.65$).

Turning to the three feedback conditions, we first considered each one, collapsed across the other two. The average mathematics score of children given crosses (4.32) was not significantly different to dot corrective markings (4.45). Similarly, the average score for children given praise (4.16) was not significantly different to when no praise was given (4.61). Last here, children given constructive feedback (4.29) did not differ significantly from when not given this (4.49) (each $F<2.88$, $p>0.09$). These non-significant findings confirm that there were no differences between children given praise or constructive feedback or those given crosses as opposed to dot markings.

Looking at interactions with gender collapsed across the other variables, there was no significant interaction with maths occasion, year-group or praise. However, girls did better with cross versus dot marking (4.29 v 3.93) but boys did the opposite (4.34 v 5.04), with this interaction bordering on significance ($F(1,90) = 3.594$, $p = 0.06$). Next, boys did better with constructive comments (4.85 v 4.51), whereas girls did worse (3.75 v 4.47); and this tendency was significant ($F(1,90) = 3.85$, $p = 0.05$).

We carried out a second (independent measures) ANOVA, this time looking at the change of maths score from before feedback to after feedback was given. Generally the main effects and interaction terms were not statistically significant. The exception was one statistically significant three-way interaction, which was between corrective feedback, praise and constructive feedback ($F(1,90) = 4.05$, $p = 0.04$). We have provided the maths improvement scores in Table 1 for this interaction effect.

Table 1. Combined Effect of Corrective, Praise & Constructive Feedback.

	Cross	Dot
Praise+ Constructive+	1.06 (0.64)	0.08 (0.58)
Praise+ Constructive-	0.41 (0.54)	0.57 (0.59)
Praise- Constructive+	0.21 (0.53)	0.51 (0.53)
Praise- Constructive-	2.04 (0.70)	0.38 (0.51)

Table 1 shows that the best improvement from first maths occasion to second maths occasion was seen for those children who received crosses as corrective feedback but who did not receive either praise or constructive feedback. The second highest improvement was seen for those children receiving crosses as corrective feedback but who this time also received praise plus constructive feedback. By contrast, when crosses were replaced with dots, then dot feedback plus praise plus constructive feedback now yielded the second lowest improvement in maths score.

This finding notwithstanding, the lowest amount of improvement was seen for those children who received crosses and constructive feedback but did not receive praise in their feedback comments. This tells a clear but at the same time a quite complex story. The positive effectiveness of crosses is quite variable depending on what other feedback is simultaneously given to the child.

Having analysed mean performance according to our main variables, we conducted pairwise correlations primarily to determine which variables altered with the improvement in maths score from occasion 1 to occasion 2. We also included in these correlations each component of our motivation and engagement scale (4 variables) and our self-concept scale (6 variables). This showed that improvement in maths score was correlated ($r = -0.53$, $p<0.01$) with a child's initial (pre-feedback score). There was a negative correlation ($r = -0.15$, $p = 0.04$) between year group and maths improvement score, which was expected. We also included in our correlational analysis against mathematics difference score, the numbers of questions children missed out (as opposed to attempting but getting wrong). The correlation here was $r = -0.18$ ($p = 0.02$). Two interesting correlations with maths improvement score were maladaptive cognitions ($r = -0.11$, $p = 0.12$) and maladaptive behaviours ($r = -1.11$, $p = 0.11$), which each correlated above 0.100 (but missed statistical significance in isolation).

The pairwise correlations were used to inform a linear regression analysis. The dependent variable was mathematics improvement score. Then, we used the stepwise method in order to settle on the fewest variables that would adequately predict maths improvement. Our analysis resulted in three models ($r = 0.62$, $F(3,120) = 24.34$, $p<0.01$), with the statistical package (SPSS 20) excluding all the other variables. Thus, the final model contained only three variables, and this accounted for 38.4% of the variability in the data ($R^2 = 0.38$).

The included variables were first maths occasion (Beta = -0.60, $p<0.01$), number of questions missed on the second maths occasion (Beta = -0.27, $p<0.01$), and maladaptive cognitions (Beta = -0.18, $p<0.01$). This shows a main predictor of mathematics improvement after feedback, was actually how good they were at maths before any feedback had been given at all. The worse initial maths performance, the more improvement can be gained by feedback. The next best predictor was how motivated the child is to answer as many questions as possible - the fewer questions missed out, the more improvement was gained. Our third important predictor was the child's anxieties and other maladaptive traits regarding doing mathematics. Here, the fewer anxieties the more the child is likely to improve after being given feedback.

4. Discussion

Self-concept was not associated with mathematics improvement. However, two components of motivation and engagement score correlated with maths improvement

(maladaptive cognitions and maladaptive behaviours). But only maladaptive cognitions predicted maths improvement when set in the context of all other variables here.

Our correlational analyses and also our regression analyses indicated that fewer questions missed after being given feedback and tested a second time, is associated with mathematics improvement, and remains a predictor of mathematics improvement even in the context of many other possible predictors. Our interpretation is that lower initial maths scores leaves more room for improvement than do higher initial scores. However, this novel finding replication and further corroboration.

Our key finding was that written feedback can affect children's performance (Ellis, 2008), but that the use of cross markings must play a part of such feedback. Table 1 showed that the impact of dots instead of crosses was less variable but also less effective overall than crosses. Crosses with praise and constructive feedback, or crosses with no written feedback at all led to good improvements in mathematics scores (Hattie & Timperley, 2007). However, Weaver (2006) found that certain types of feedback had negative effects. This was supported by our study, when praise or constructive comments were used in isolation. This is also echoed by OFSTED (1996) who suggested overly generous comments can negatively affect performance.

5. Conclusions

Our findings imply that the traditional form of marking may be most effective in that ticks and crosses provide a clear indication of correct and incorrect answers. We suspect that both on their own and with a combination of praise and constructive comments, cross marking encourages the child to examine their maths working-out for themselves in order to identify and correct their mistakes. However, we note that in the UK, the general consensus in schools has shifted to avoiding marking children's work with crosses. It is hoped that our findings will prompt larger scale research into the interaction of different types of feedback in primary school mathematics education.

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CASE STUDY OF FOUR POLICY EVALUATION MODELS FOR LEADING INTEGRATIVE CHANGE: THE IMPLICATIONS OF THE ARTS EDUCATION ACT ON A TAIWAN SCHOOL

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Abstract

In this paper, the educational policies for Arts Education in Taiwan are investigated using Cooper, Fusarelli, and Randall's (2004) four policy evaluation models. The purpose of the paper is to assess the implementation of the Arts Education Law at the Tainan University of Technology, Taiwan, using the Cooper et al.'s framework as a model for policy evaluation. In 1995, the Law of Arts Education, directed the Ministry of Education at the level of central, municipal, county, and city government to implement teaching art theory and techniques at schools, carry out artistic research and creation, and cultivate a diverse group of arts professionals. The reauthorization of the Act in 2000 (Ministry of Culture, Taiwan, 2013) as the Arts Education Act of 2000 (AEA) mandates that the aptitude and strengths of gifted students be taken into account and follow the model of Special Education Project (Ministry of Education, Taiwan, 2013). The conclusion reached is that Taiwan needs to ensure a system in local fitness for first, encouraging a more constructivist learning environment for integrative change; second, improving educational effectiveness; third, introducing strategic management models to ensure continuity of change at the school level; and finally, increasing student achievement by making more inclusive quality higher vocational education a reality.

Keywords: *educational policy, policy analysis.*

1. Introduction

Kos (2010) noted that recently that scholars in music education such as Hope (2004), Jones (2008), and Jones (2009) have called for increased attention to policy studies. Policies can be useful tools for effecting change (Morse & Struyk 2006), but policy analysis, which shapes and informs policy recommendations, has not yet been widely employed by music education scholars who have called for widespread changes to curricular content or pedagogical approaches.

Many changes to music education programs and practices have occurred in response to various policies. Most notably, the quality of music programs in academically selective contexts and the perceptions of the students regarding their levels of challenge and engagement in their classroom music lessons are the themes (Clarke, & Rowley, 2008). In 1995, the Law of Arts Education, reauthorized in 2000 (Ministry of Culture, Taiwan, 2013) as the Arts Education Act (AEA), directed the Ministry of Education at the level of central government, municipal government at the level of special municipalities, and the county (city) government at the level of counties (or county-level cities) to implement teaching art theory and techniques at schools, carry out artistic research and creation, and cultivate a diverse group of arts professionals. In addition, the AEA authorized the Ministry of Education to provide states with financial assistance in their education programs and related academically selective contexts to support the learning needs of students with appropriate guidance and stimulation (Betts & Neihart, 1988; Gross, 2000).

Policy amendments in concert with the 2000 reauthorization of AEA made significant changes in special education support systems to include its impact on

students and involved implementing a single-track educational system after receiving approval from the designated administrative authority for arts education (Chang, 2006). While there appears to be a multidisciplinary curriculum since the initial authorization of the AEA, when the teaching and learning of music is involved, it is important to the quality of music programs that personal opinions not interfere with the decisions of educational experts working within the school system to construct educational policy (Betts & Neihart, 1988). Furthermore, it is critical that the quality and effectiveness of music teaching and learning experiences maintain alignment with the appropriate music programs and the quality of music programs intended by the AEA.

2. Purpose of Study

The four dimensions of policy theory outlined by Cooper, Fusarelli, and Randall (2004) are applicable as a conceptual framework, and the purpose of this paper is to assess the implementation of the Arts Education Law at the Tainan University of Technology, Taiwan, using this framework as a model for policy evaluation. In the course of applying the model, assessments of practices including curriculum, instruction, and the need for policy evaluation of all current techniques are required in order to improve educational effectiveness. If in-depth policy evaluation is necessary, analysis and selection of policy evaluation models created to assess curriculums, instruction, and policy making can be conducted. The goal of the paper is to synthesize upcoming accountability trends, support curriculum integration needs, help make policy evaluation possible, and thereby promote the Arts Special Education goal of improving cultural standards.

3. Conceptual Framework

Policymaking is not entirely a bureaucratic add-on. In their book *Better Policies, Better Schools,* Cooper et al. (2004) asserted as follows:

> Systems of and approaches to educational governance will always remain topics of controversy and contention for two basic reasons. First, too much is at stake with educational decisions in terms of individual development, socialization, and societal norms. Second, the nature of education in both its content and access is inherently political and permeated with fundamental values. (p. 157)

Drawing attention to importance of integrating learning through an Arts Special Education program is not a new. Eisner (1985) claimed John Dewey (1859-1952) mentioned how curriculum should be "interconnected and interdependent" (Kieffer, 1996, p. 14). As a conceptual framework, it makes sense to use Cooper et al.'s (2004) four dimensions (the normative, structural, constituentive, and technical) of policy theory to evaluate the curriculum integration process of the Arts Special Education program in Taiwan. It is anticipated that such a conceptual framework will, if selected and expertly applied, be an important contribution to curriculum integration research for Arts Special Education as well as to the broader field of teaching methods and be a pragmatic approach and a means for providing feedback about the evaluation of the Arts Special Education program.

4. Assessment Programs for Arts-Special Education Learners

Cole (1990) found the two conceptions of academic achievement inadequate in helping educators to think about learning, concluding that educators need to formulate an alternative conception that integrates divergent views of achievement, carries clear instructional implications, and focuses on long-term educational goals (Cunningham &

Cordeiro, 2003). In Taiwan, under the Arts Education Law of 1997, programs that provide professional instruction to Arts Special learners must stay within their specialties. The facilities, class sizes, criteria for teachers, number of personnel to support, and curriculum designs all must use coordinated and standardized assessment procedures to ensure the accountability of the program (Council for Cultural Affairs, 2004). This policy will be reviewed annually for progress made in the field of Arts Special Education instruction concerning accomplishing educational goals and meeting these requirements. I will use the four dimensions to explore the following questions and to review what Arts Special Education has in place and assess what Arts Special Education needs.

4.1. Normative Dimension

Text McNeil (1988) described the normative dimension as a delicate balance of decentralized (local interests) curriculum and an example of how centralized control and authority, in terms of "national and state goals, standards, and national tests" (Cooper et al., 2004, p. 161), should be performed. The Arts Education Law of 1997 has had to "set standards, align the curriculum, and assess the result" (Ministry of Culture, Taiwan, 2013). It is essential that assessment achieve the following:
1. Require the student to "engage and empower other domains of knowledge" (Hanna, 1992, p. 602, as cited in Kieffer, 1996, p. 28);
2. Ask students to "work together toward a common goal or vision" (Kieffer, 1996, p. 28), or involve students in learning concepts or principles related to the learning process.

4.2. Structural Dimension

The structural dimension refers to the formation of "increasing student achievement" (Cooper et al., 2004, p. 199). They cited Sunderman (2001), who examined how federal accountability mandates affected the design and implementation of Title I programs and how accountability requires credible assessment tasks. An assessment for structure is designed to also achieve the following:
1. Enrich curriculum within the mainstream classroom (either individual or group-based) as the most prevalent option (Frydenberg & O'Mullane, 2000, p. 79);
2. Not rely on secret test items and performance standards and one-shot tests (Cunningham & Cordeiro, 2003, p. 226).

4.3. Constitutive Dimension

Graham and Diamond (1997) found that competition among students, faculty, and financial resources is very emulous (p. 200, as cited in Li, n.d.), and this factor derives from the various interest groups that framed the policy. Assessments therefore need to achieve the following:
1. Build local high-quality assessment capacity (Cunningham & Cordeiro, 2003, p. 227), and
2. As suggested by the Arts Education Partnership Working Group (1993), arts educators, artists, and arts organizations, need to be involved actively in educational reform (Kieffer, 1996).

4.4. Technical Dimension

Cooper et al. (2004, p. 201) asserted, "The technical dimension of accountability policy is crucial to the effective implementation and ultimate success of the reform strategy." This policy connects academic and practical content. It is important an assessment do the following:
1. Use "inputs resources" (know-how) (Cooper et al., 2004, p. 20) in a "supportive learning environment" (Frydenberg & O'Mullane, 2000, p. 78) for instruction.
2. Have throughputs "converting resources into energy" in teaching and learning (Cooper et al., 2004, p. 24).

Figure 1 contains the four dimensions of policy theory evaluation features described above.

Figure 1. Policy evaluation
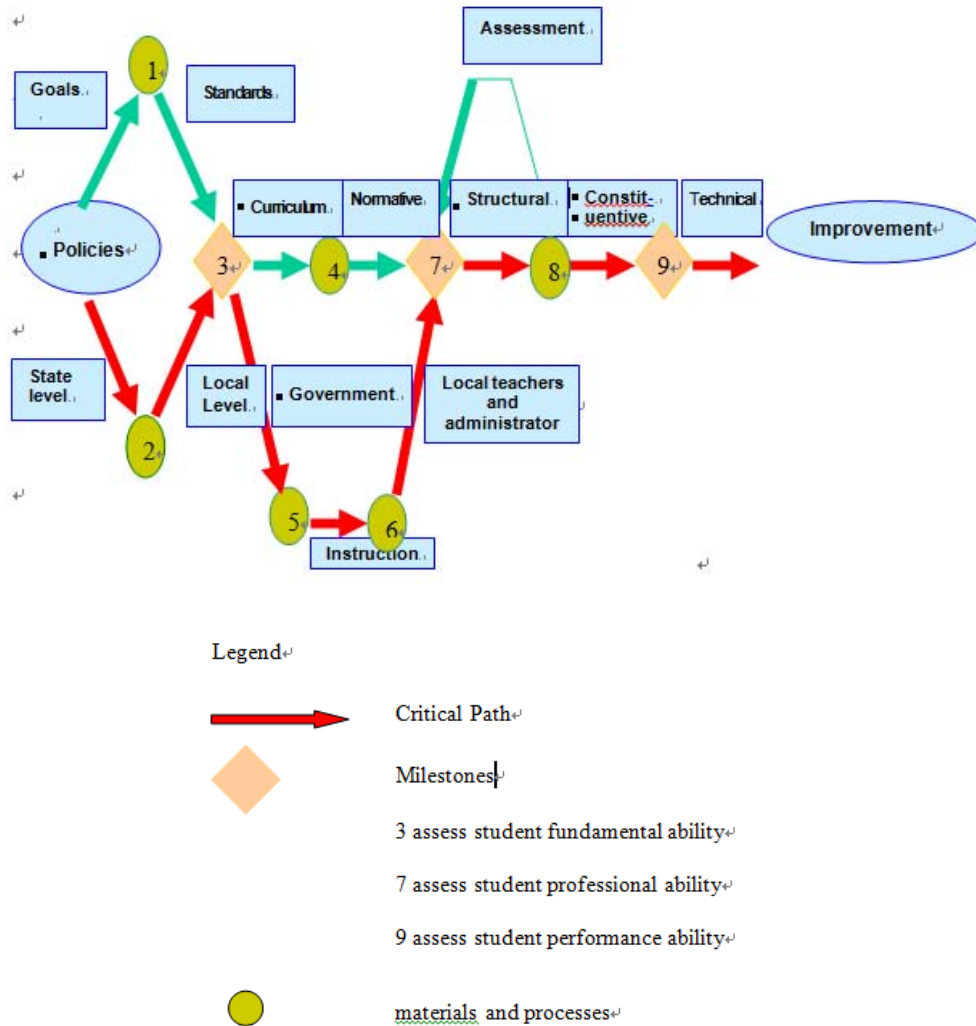
5. Conclusion

While most of the interest groups have agreed with McCool (1995) that policy theories should be practical and "directly relevant to applied policy problems" (p. 396, as cited in Cooper et al., 2004, p. 8), it is clear that not all Arts Special Education learners are in programs with the same outputs. It is educators' responsibility to ensure "a system that models good assessment practice as it audits local fitness" (Cunningham & Cordeiro, 2003, p. 227) and encourage a more constructivist learning environment when implemented.

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RIDING THE STORM:
DEVELOPING NEW PARTNERSHIPS IN TURBULENT TIMES

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Abstract

Initial Teacher Education (ITE) in England is at present, more than at any other time in its history a site of great contestation and change. Conditions are set for the **"**perfect storm" predicted by Noble Rogers (2013). The pace of political reform is exponential and is forcing abrupt cultural and organisational changes for universities and their partner schools. The UK coalition government's drive to shift the focus of ITE away from universities into schools, by reforming the current system, has significant and not yet fully understood implications for Higher Education (McNamara & Menter, 2011). The professional jurisdiction of the university tutor is no longer assured and must be justified; teacher educators in England will need to reflect on, and reconceptualise their roles. They will be required to articulate clearly the additionality they bring to ensuring the development of critical reflective beginning teachers. This is not an easy task, in the neo-liberal market place favoured by the Coalition Government, schools are increasingly encouraged by the Secretary of State for Education *"to shop around between universities for the best support for trainee teachers"* which he explains will force universities " *to shape their education departments to the practical needs of schools instead of the whims of ideologues".* (The locus of power has shifted away from university in favour of schools, destabilising models of partnership, which have previously existed. However as the storm starts to settle, new horizons begin to emerge, along with the possibilities of new partnerships between universities and schools. This paper sets out to consider how one university Initial Teacher Education department in England is riding the storm by re-imagining partnerships with schools. This is necessitating a new agility to negotiate terrain once naturally held by the university as some schools gain a confidence in their ability to select and successfully train new teachers. The paper will outline some of the emerging tensions faced by the university teacher educator when forging new relationships, supporting schools as they take a greater level of involvement in the formation of beginning teachers.

Keywords: teacher education, partnerships, reimagining, school-led systems.

1. Underlying Stormy Conditions facing Teacher Educators

Internationally the conditions in which teacher educators operate have become increasingly a focus of close attention for politicians and governments. Globally the debate has shifted towards a recognition that the quality of teachers is the key factor in improving the outcomes for learners and thus implicitly to improving the economic success of the country (Barber & Mourshed, 2007). The discourse as noted by Cochran-Smith (2004) has shifted from teacher education as training and learning problem to that of a policy and political problem. The implications of the increased attention from politicians are significant and particularly critical in the case of the English system. How politicians frame the problem has immense implications for the formation of education policies and their ultimate aims and goals. Furlong (2013) puts a convincing argument for how the present global framing or "imagining" of solutions for education reform is being viewed largely within the parameters of neoliberalism. He argues that many nations have interpreted the necessity of solutions and reform in terms of policies underpinned by a belief in market forces. These forces provide the solutions to what is a globally shared understanding of the purpose of education as the up-skilling of the countries workforce to ensure national economic success.

1.1. The English Context of Initial Teacher Education

Alongside the political pressures on Teacher Educators there is an associated set of tensions articulated clearly by Pam Grossman (2008) in her article addressing her USA colleagues but applicable to a wider international audience:

> "University-based teacher educators and the profession of education more broadly, are facing a sharp attack on their ability and their right to control the preparation of teachers. …University-based teacher educators are dangerously close to losing their responsibility for overseeing the preparation of new teachers." (2008:10)

As the attention on the quality of teachers' increases correspondingly the issue of who trains the teachers is also brought to the fore and along with this the complex area of what is needed to be taught and learned by beginning teachers. The site of learning and the nature of what is learned within the field of teacher education is an area of contestation. This challenge is particularly pronounced in England where the present Secretary of State has clearly set out his wish to see schools replace the university as the key site and influence on professional development. Indeed his vehement distrust of the academic contribution made by the university educators has been clearly shared in his speeches and associated writing:

> "…there are millions of talented young people being denied the opportunity to succeed as they deserve. Far too many are having their potential thwarted by a new set of Enemies Of Promise. …The new Enemies Of Promise are a set of politically motivated individuals who have been actively trying to prevent millions of our poorest children getting the education they need. But who is responsible for this failure? Who are the guilty men and women who have deprived a generation of the knowledge they need? Who are the modern Enemies Of Promise?... They are all academics who have helped run the university departments of education responsible for developing curricula and teacher training courses". (Gove, 2013)

The goals of politicians looking for economic success may not easily align with the aims of teacher educators who may have a view of education beyond ultimate preparation for the workforce, important though this maybe. For Cochran–Smith(2004) the challenge is of the "*preparation of a thoughtful citizenry*" (Gutman, 1999).This requires a preparation of teachers not measured and assessed in terms of discrete standards but requires an ability to foster values and subtle skills in professionals. This is in dispute, as Gove's rhetoric highlights; for him the problem is that insufficient emphasis is placed on the value of knowledge rather than skills. In terms of teacher education, his commitment to an apprenticeship model for learning to teach is dominant. A clear belief of teaching as a craft learned 'on the job' is articulated by the English government as the schools minister for Education Nick Gibb who was quoted within 3 days of taking up his post as saying: "I would rather have a physics graduate from Oxbridge without a PGCE teaching in a school than a physics graduate from one of the rubbish universities with a PGCE." (http://www.theguardian.com/education/mortarboard/2010/may/17/nick-gibb-upsets-teachers).

It is against this backdrop of policy and rhetoric that the English teacher educator must now work. There are obvious tensions in terms of threats to the professional jurisdiction of teacher educators not simply in terms of their authority and additionality to the professional development of teachers but also in terms of their ability to research and develop associated knowledge, which is part of the defining role of a teacher educator. At present, there is insufficient academic knowledge about teacher education and for teacher education that can be used to defend ourselves against our critics. Educational research is criticised for its limitations from within and beyond the university sector. Hargreaves argued as long ago as 1996 that educational research failed to provide a sound evidence-base for teaching. It was not generating a cumulative body of knowledge and was failing to resolve the complex problems faced by teachers in their classrooms. Part of his solution was to adopt a more scientific

approach citing the example of evidence-based medicine. This is argument recently been revisited by Ben Goldacre (2013) commissioned by Michael Gove to look at how the use of evidence could be used to improve teaching. Goldacre has an interesting take on the power of random controlled tests to provide the solution to a more independent, evidence-based profession resulting in a greater degree of freedom from central state control. Funding for this type of research is also now directed towards teaching schools, seen as the experts to support system improvement, side lining the universities involvement. There is a real and recognised threat (UCET, 2013; Kirk, 2013; Mentor, 2013) to the viability of University education departments in England as a direct result of the new policy direction and the associated shift in funding to schools as they take over more of the responsibility of training new teachers. Uncertainty around numbers of future students able to apply for a university route and a reduction in funding streams is causing great unrest with Vice Chancellors in many universities already reviewing and reducing staffing within education departments, indeed in the case of two universities withdrawing from the field, closing down their ITT courses.

2. Present tensions and opportunities for reimaging partnerships

Challenges to the professional jurisdiction of teacher educators are not new and as indicated although not exclusive to England, there is intensity in the challenge by the current government, which is particular. The mantra is one of school–led and university fled.

"At the heart of this Government's vision for education is a determination to give school leaders more power and control. Not just to drive improvement in their own schools - but to drive improvement across the whole education system." (Gove, 2010)

Implications for teacher educators of such a trajectory are clear we must reposition and reimagine how we work with our partner schools. They are increasingly aware that they can be in the driving seat with more control over training and the finances and a remit to shop around. This notion of market driven forces and consumer choice as the answers to the complex issues of raising standards is clearly illustrated in a keynote talk given by Chief Executive of the National Centre for Teaching and Leadership in England to head teachers at the North of England Education Conference.

> "School Direct is the new way of training teachers which puts schools, *the employers, the customers,* at the heart of the process. With School Direct, schools can bid directly for training places. Schools select the provider of teacher training they want to work with whether it is a university or a school based SCITT. They agree the content and focus of the course depending on their needs and they can negotiate directly with the provider on how the money for training should be divided. Most importantly they can choose and recruit the candidate they want - the candidate their school needs." (Taylor, 2013)

As director of School Direct the author is now involved in many conversations with schools where they are asking the university to justify what universities do that schools can't do and can't do better. Even where schools recognise the need for the academic master's credits attached to a university PGCE (Post Graduate Certificate of Education) some appear to want this delivered in a minimalist way – in how few days can it be covered? Does it have to involve written assignments? The university accreditation of a PGCE is simply seen in terms of currency rather than value. This is not the case with all schools, as many teachers do see a value in greater involvement of the University. But it raises an uncomfortable question: Where have we gone wrong as university teacher educators? We cannot escape the reality that many schools in England do feel increasingly confident that they are better placed to deliver the professional training for the next generation of teachers. They do not appear to see the significance of what university educators do and what their longer-term impact is on the profession. This is a potential threat but also an opportunity. It could be argued that

there has been a degree of complacency by universities, where there has been an expectation of the status quo to remain without any need to fully justify. However, the requirement to justify the additionality of what teacher educators do and why they should play a key role in the professional development of teachers, is an opportunity to strengthen the position and status of the university educators. Indeed many conversations are now being held between universities and schools that are helping both sides to deepen mutual understanding of tensions and challenges they face. These conversations are proving largely to be affirming experiences that reinforce the value of the school and the university in the professional development of teachers, although in many cases requiring a shift in what the core focus of the university tutor should be. This clarity is important as the school and university must work together without duplicating their contributions as both can offer unique perspectives. This acceptance in the relocation of some of the work undertaken by the university tutor to the school is necessary and could be a positive way forward allowing more time for research and scholarly activity, which contributes to the knowledge base within the field of education. It is an opportunity to occupy more fully space traditionally filled with what Ellis et al (2013) refer to as "relationship maintenance". Ellis et al (2013) present an uncomfortable view of the work of university teacher educators in the UK as largely characterised by low level but critical relationship management, both in terms of relationships with partner schools and with their students. With a shift towards schools, some of the work that is causing what Ellis et al (2013) refer to as a *proletarianisation* of teacher educators within the academic setting of the university may be elevated. It could support a necessary and beneficial repositioning of the university teacher educators, allowing them greater opportunities to undertake systematic examination of the outcomes of teacher education.

3. Supporting schools

One of the concerns with the School Direct model is the nature of training undertaken. It could potentially result in a reductive model as the majority of the programme is spent in one or two schools learning from trainers who work within the same school focusing largely on how to teach in the particular school context. Some schools will undoubtedly see this as an advantage rather than a disadvantage. Schools are pleased that the trainees more quickly know and replicate their "school way". The role of the university has to be to convince the school of the need to allow the trainee a space to reflect critically on this way and think more expansively about the nature of learning and teaching. Supporting schools to see their role as not simply to train an apprentice for their immediate school context but one of supporting the development of the skills reflection and criticality is pivotal for the university. In most cases the new school based teacher educators are receptive when the conversation is started but it is often one which is embryonic and only more fully realised as the role is enacted with trainees on course. Here again there is a level of relationship maintenance required to ensure the new skills of the school based educator are not overwhelming on top of the 'day job'. This is illustrated by one school direct trainer- teacher, admitting she had growing concerns she was simply training her student in how to be a "mini me"- a replica version of herself. She had only ever taught in her school and her trainee was a former pupil of the school, the trainee was doing very well and gaining good grades so the measurable outcomes were all good within the classroom in which she was learning to teach. But the teacher was aware it was unlikely that there would be a job in the school so she was recognising the need to develop skills and knowledge in the trainees which were transferable and supported development of resilient practitioners. Here she was recognising the value of the university in providing some wider and deeper content. A review of the balance of training in terms of what the school delivered and what the university should offer is now in progress.

4. Conclusion

The critical reflective spaces a university provides for a deeper engagement with big ideas, away from the busyness of the classroom and away from the rich but narrow context of a particular school, are profoundly significant. Universities can allow students and tutors a more democratic space to engage in critical reflection and the moral purposes of education. They have a unique contribution to make to initial teacher education. The physical and psychological distancing from the site of practice is important in allowing beginning teachers to consider and reflect in a more objective way what they are seeing and doing in schools. If this can be combined with expansive school experiences, reflecting the greater involvement of schools in the matter of the education as well as the training of beginning teachers the outcome will undoubtedly be a more powerful model of professional development. There is a glimpse of a new horizon. Greater reciprocity and respect for what schools and universities each uniquely contribute could ensure not only that the next generation of teachers is better prepared but importantly their significant and critical impact on the lives of the children they teach will also be enhanced.

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NEW METHODS OF TEACHING CONNECT WITH INTERDISCIPLINARITY AND MATHEMATICAL MODELING[*]

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Abstract

Problems of contemporary civilization are very differ from problems of previous epoch ones and demand new approaches in educational technologies.
Educational field now is divided to a lot of parts of special disciplines, but in social life we have deals with complicated problems. To find a solution of any complicated problem we need to unite specialists from different specialties and fields of knowledge. We want to discuss preparation students for interdisciplinary methodology during educational processes. Mathematical modeling is appeared as base for many of interdisciplinary approaches. We are discussing creation methodological base for using it in education also.

Keywords: Mathematical modeling, interdisciplinarity, cognitive centre, synergetic, business games.

1. Introduction

Prior to the beginning of the twenty-first century, the form of European education was based on the traditions of antiquity. This tradition goes as far back as Euclid. Mathematics was one of the fundamental disciplines, but the knowledge was interdisciplinary, Plato discussed ethics, aesthetics, and harmony of the World and how to describe it by mathematical methods with his students. As exemplified by the sign placed above the door of Plato's Academy: "Let no one ignorant of geometry enter here (άγεωμέρήτος μηδείς είσίτω)." Despite of first classification of sciences directions was made by Aristotle in the V BC the serious division of sciences was beginning in XVIII century after science revolution. Great sociologist August Comte concerned application of mathematics in chemistry has harmful. He explained destroyed effect of implementation mathematics because it contradicts to the spirit of chemistry. Every person and every scientist must have deals with own job and own science region. Ideals of Plato and Aristotle, Leonardo da Vinci, Newton and Leibniz have seemed forgotten for ever.

2. Context

Changing educational approaches in correspondence of new challengers is the focus of this article. We have studied contemporary education as a fundamental requirement for the increase in skilled personnel in several research projects: Interdisciplinary investigation of global processes social foundations and of new paths for global problems solution of Russian Foundation for Basic Research and "Interdisciplinary analysis of innovative strategies and processes of modernization " for Russian Foundation for Humanities. One of the previous research project «Complex systems analysis and mathematical modeling of world dynamics» has been implemented in the program of the Presidium of the Russian Academy of Sciences «Economics and Sociology of Knowledge». The project was completed under the

direction of the Rector of Moscow State University, V.A. Sadovnichy. It has been established that many disasters, wrong decisions and problems have occurred because there were no staff able to cope with these situations.[1] As a result we investigated the necessary changes in education, and formulated our point of view.

3. Methods

There are tools such as research in connection with social and educational policy documents, results of mathematical modeling of global processes, and mathematical modeling of social processes in specific situations, as well as personality and building learning strategies.

The discussion is constructed on the basis of data triangulation – mathematical models of human and global trends along with a literature review, first hand experience in the modeling of social processes and using this models for educational activity.

4. Resources

This investigation was undertaken with our colleagues under the auspices of the Russian Presidential Academy of National Economy and Public Administration (Department of the Project Management) in cooperation with the President of the Russian Federation and on the basis of Keldysh Institute of Applied Mathematics the Russian Academy of Sciences (Department of modeling of nonlinear processes).

5. Background

Study and modeling of the different social processes for educational purposes was conducted over several years. We pay special attention to the destructive social processes and using different ways for modeling such processes. Then we study methodology of implementation mathematical models for educational purposes. The mathematical and methodological basis for the project is the theory of self-organization, or synergy. Articles and books in Russian have been written covering the field of the mathematical modeling of social processes and education and using it for stuff trainings in business games.[2]

6. General Aim

The aim of this paper is to analyze new approaches in education connected with the interdisciplinary context and self-organization in the new World situation.

7. Discussion

Today we learn according to the past experience, so instead we must teach for the future needs. To realize tendency of social dynamic we are using mathematical modeling. Contemporary life is changing rapidly. In fact, we live in a watershed era. We now experience unprecedented changes on an enormous scale. The English clergyman and scientist Rev. Thomas Malthus in 1798 wrote that a population under favorable conditions grows in accordance with the law of geometric progression: by the same number of times over the same intervals. This law stands true for the growth in the numbers of animals of different species in a situation in which there are sufficient resources.

$$\dot{N} = \alpha N \qquad \Rightarrow \qquad N \sim \exp(\alpha t)$$

However, this has not proven applicable to humans. Studies conducted by paleodemographic scientists and systems analysts have shown that throughout human history the population has increased along the time axis in accordance with hyperbolic law. The asymptote for the hyperbola is 2025.[3]

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$$\dot{N} = \alpha N^2 \qquad \Rightarrow \qquad N \sim \frac{1}{t_f - t} \qquad t_f \approx 2025$$

Had the law remained constant, by that time there would be an infinitely high number of people. (Ref. Figure 1)
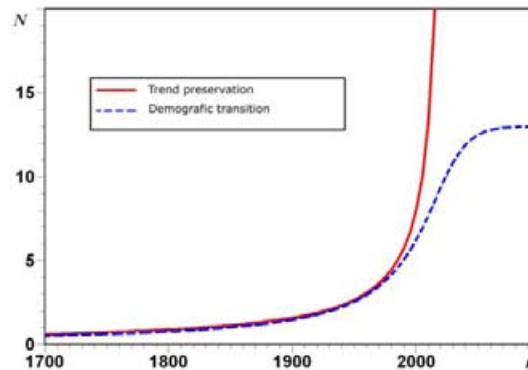
Figure 1 The law of growth in the number of people

Within the generation now living, the law has changed.[3] We can observe a sharp deceleration in population growth. Scientists call this phenomenon a *global demographic transition.* It takes only 90 years and during this interval – 1/50000 of human history – a fundamental change in the mode of growth of mankind will happen.

The Keldysh Institute of Applied Mathematics and other organizations predict global population will stabilize at approximately 10-12 billion. The scale of the difference in demography, and hence economics and energy, can hardly be overestimated. The difference between the previously plotted trajectory and the current one has already reached more than 2 billion people.

Traditional education system was created for existence in slow time. Now we live in a "fast" one, with other characteristics of the perception of time and everyday life. The very existence of modern society (not to mention its continued development) is critically dependent on the presence of responsible, professional, creative people. So it could be important now to add such competence to educational process and methodology to reach its.

Teaching our students we use the mathematical modeling destructive social processes for clearance the situation in this area. This modeling became the base for business games for making decisions. The main approach became synergy as a way of description throw mathematical modeling different systems. Our students have to know how to choose the way of modeling. The most difficult is imitation modeling where we have to consider tens and hundred parameters for every process. But mostly we need very few order parameters to see tendency and result of the process. But using modeling of educational process we can see the same moments and find new technology for solving educational problems.

We will provide three examples showing alternative paths of education methodology created with modeling. The first one has to do with teaching a number of medical techniques specifically, diagnosing a few rare diseases (for which there are insufficient statistics) which are nonetheless dangerous. One example is an experienced physician who achieved considerable success in treating this disease. His experience cannot be verbalized, formalized or passed on using traditional means. Therefore his young students have to (in a manner which is customary in the East) "feel the spirit of the teacher" by observing him at work, following his actions and knowledge, until intuitively they learn how to do something similar. For some it takes 5-7 years, for others 10-15, for others a lifetime is not enough.

The problem is that for a number of illnesses, according to the opinion of the opinion leaders and standard books, one should take into account 300 to 1000 signs and parameters of the test results. At the same time according to psychology investigation a person can act with certainty when 5-7 of those key parameters are present (parameters of the order in terms of synergetics). A successful experienced physician in the course of his professional life will have isolated those parameters within the space of a huge dimensionality. His younger colleagues would not have been able to do that yet.

In order to single out the parameters with respect to the order of magnitude and separate the most important from the secondary, mathematicians can help. At the Keldysh Institute of Applied Mathematics in the science school of Academician Gelfand, the method of "diagnostic games" as a direction of business games was created in order to resolve this problem. The methodic was the next. The mathematician has in front of him the patient history, the progress and outcome of which are already known and asks the physician to provide the diagnosis. Based on the questions asked by the physician and the point at which the situation becomes clear to him and he is ready to prescribe the treatment, it is possible to realize what criteria are most important, and what is in fact taken into account. This latent personal knowledge (revealed with the help of mathematicians) could be incorporated into a computer based system for decision-making in training courses and books. Utilization of this approach has made it possible to bring down mortality rates from a number of dangerous diseases by more than three times. [4] We named that strategy *"firestarter"*. If there are specialists who possess the fire of knowledge, in specific situations this fire can be easily and effectively started by others. The methods of diagnostic games and computer technologies are very helpful for this purpose. [5]

However, in a number of cases there is no such specialist, and the knowledge for an individual or a team has to be developed in the process of learning. This situation arises particularly frequently in the process of concurrent optimization, using a number of criteria, or while searching for a compromise. In this case simulations or team-based computer games are helpful. They are indispensable in the process of designing complex systems and/or reaching critical management decisions. [6]

This was first understood in the design of military equipment. A modern fighter plane entails a rational choice of over 1500 separate decisions. This is beyond the capabilities of one person, but is possible for a trained team. Here a simulation makes it possible to demonstrate to the team what happens as a consequence of the decisions it makes. Later this experience was expanded to training for decision-making.

During the training of government officials it is possible to use different models and organize the work in a situational or cognitive center. This normally enables all the participants in the simulation, including the teacher or facilitator, to gain a better understanding of the problem situation and try on different roles in order to better understand one's true objectives, capabilities or limitations. It is much easier to make mistakes and correct them while ruling virtual cities and countries than make errors in the actual running of the country. We named this strategy *"coming down to earth"* from virtual reality.

The third strategy was tried in a number of specialized Moscow schools with advanced curricula in mathematics: Schools Nos. 2, 57, 18, 91 Kolmogorov Boarding School. Those Russian schools took a different path from common way: the best way to learn something is to discover it yourself. So both at home and in class the students "rediscover" what was invented or discovered by Pythagoras, Euclid, Leonhard Euler and Newton, following along the path of the great scientists. And here the teacher has to take on the role of Socrates, asking precise questions, expressing doubt about the answers, directing the discussion and admiring the achievements of his students. As a result of this methodology, the students reach a "metalevel", they reach the summit: looking down from it, many specifics and details become obvious. These are the schools that produce the highest number of winners of national and international

contests in physics and mathematics. We named this method *"Rodin's Strategy".* The great sculptor believed that a true artist "simply" removes from a block of marble all that is extra, in order to create a masterpiece. A teacher needs to understand how to bring his charges to their greatest potential without getting distracted by the details: teach them how to create. There is a serious body of pedagogic tradition in Russia on which one could base solutions of similar tasks.

8. Conclusion

We are briefly discussing new approaches in education in connection with their interdisciplinary context and self-organization. On one hand a lot of problems and risks of contemporary civilization would benefit from the interdisciplinary approach, and demand corresponding specialists for solving them. On the other hand a person must study for a long time to become a specialist. For example, to become a cardiac surgeon in the USA one is expected to take about 15 years of specialized education before his/her first operation. A medical doctor has to know hundreds of parameters to diagnose any illness. This is true for almost any branch of professional education. In the light of all of the above we can see that education today is facing its cognitive limits; it demands new methodologies for the future.

Basing on mathematical modeling of the decision-making process in various fields it becomes clear which parameters play the most important role. Selecting order parameters allows us to design new technologies in education.

Experience that has been used for our results at the micro level are also connected with our teaching at the Academy of the National Economy under the Government of the Russian Federation (RANEPA) under the President of the Russian Federation, MIRT, and with our participation in some international schools as well as workshops at Arizona State University, Riga State University and some other organizations. As a result, our experience has shown that many tasks, problems and difficulties have hidden general systemic issues associated with the need to radically reconsider the content and style of education with the extensive use of interdisciplinary approaches.[7]

In this paper we argue that the goals of education should be changed according to the strategic goals set for the society. We have to understand future needs. Meanings, values, and the shared vision of the future have acquired fundamental importance for education. They are increasingly influenced by decisions made in the field of politics and economics, and especially in education. Conventionally, new education could be called multi-disciplinary or synergistic.

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ICT AND CIVIC LITERACY

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Abstract

In a society that seeks its identity in apology of communication paradigm, where the exaltation of technologies seems undeniable for the promotion of the knowledge society; training providers have continued their training plans invariably using the technology modules and information systems. In ACIB's case, which has trained 1227 trainees in these specific modules during 2012, we decided that it would be appropriate to develop a questionnaire to exploit literacy skills in using ICT, jointly prepared by the trainers of ICT and Citizenship. The target application of this questionnaire will be trainees currently in training in this area, among those that are following for the moment these modules. This work is somehow a reflection of the concerns that many organizations begin to manifest on the levels of literacy of the population. It was during the 90s of XX century, in Portugal, in the context of the publication of the National Literacy Study that this concept was disclosed. At the date of the survey we had the belief that the education of the masses would lead to the gradual eradication of illiteracy and with it the problems of illiteracy had come to be called problems of the third world. However, the complexity of modern society and the constant technological evolution that is characteristic of it, posed new problems and challenges for education, especially because despite the increase in rates and years of schooling, the population showed disabilities mastery of reading, writing and calculating, seeing therefore diminished their ability to participate in social life. However, it is good to remember that school is maybe not promoting the skills practices and habits of reading required in everyday professional and social citizen, thus compromising the level of literacy. In this sense, we would like to note the importance of this intention from ACIB: besides claiming to know accurately the literacy skills of our trainees, to provide educational and training proposals that promote higher levels of literacy of these same people, through the review of their training programs. ACIB is at the same time concerned with the combination of the way of competitiveness, productivity, flexibility and adaptability, and with the development of educated and trained people for citizenship, autonomy and active social and professional participation. Through an analytical cross between theoretical sources and official documents ACIB searches to show how effective political participation requires citizens with a set of disparate skills, understood as civic literacy.

Keywords: literacy, citizenship, ICT.

1. Introduction

The spread of information and communication technologies (TIC), brought to the debate the expectations of the relationship between the rulers and the ruled, making this an appealing topic for political, media and academic fields. In this context, new technologies are seen as the way to enforce the role that is not fully secured by the means of mass communication: the design of being an focused tools for a well functioning democracy. The more full and active role of the citizen is the dominant emphasis of the speech that promotes democratic potential of TIC, in particular the possibilities of a direct democracy. However, the effective and active political participation requires citizens with a set of disparate skills, understood as civic literacy. The quality of this type of literacy concerns, among other factors, with the capacity of a critical interpretation of political information conveyed by different media and with the understanding and handling of information overload.

2. Civic Literacy

The "civic literacy" is understood as "the knowledge and skills that citizens have to understand their political world" (Millner, 2002: 1). In a comparative study to investigate the factors which could strengthen the civic literacy, Henry Millner concludes that its acquisition process requires personal effort and commitment, among other external requirements to the citizen as an individual , and further says that mastering this type of literacy is a must imperative for there to be an efficient and effective citizen participation. As a result of his research the author argues that promoting civic literacy has other effects that go beyond increased informed political participation. Millner dubs this process of "virtuous circle" and points to the potential importance of this positive spiral, claiming that participation can lead to fewer socio-economic inequalities, which encourages citizens to keep themselves well informed about governmental decisions. In turn, those who suffer from a lack of civic literacy downplay his remarks, as a rule, also devalue the impact of the same.

In some countries, as a way to increase the civic literacy, the option was the creation of "citizenship courses " included in school curricula. However , according to the findings of Millner, their impact is relatively small: it is assumed that the information gained is lost to adulthood, in contrast to a good level of general education literacy seems more likely to produce lasting effects in terms of creating habits of literacy, such as reading , which affect in turn, the level of civic literacy . In the specific case of adult education , Millner stands out as being the optimum field for the promotion of civic literacy, not only as regards the citizenship courses, but also in the sense that "whatever the specific content, adult education is civic education, that is education for the citizens as citizens" (2002: 117). To promote effective civic literacy it seems the study circles, discussion groups and associations do it better.

3. Civic Literacy and the Media

The different habits of media consumption is a constraint on the levels of civic literacy, distinguishing, in particular and for a negative perspective, the countries whose main base of political information for citizens is television.

Everywhere, in both democratic and non-democratic systems, politicians are increasingly aware of the growing importance of the media (especially television) and have sought to adapt its use to various policy objectives, even if only to take advantage of the tendency of citizens to read newspapers less and spend more leisure time in front of the TV (Gunther and Mughan 2000: 403). Particularly on the electronic media, there is a "technicisation" of the policy argumentation (Breton and Proulx , 1997 [1989]: 252), which leads to highly organized marketing machines, comprising various types of professionals (image specialists, speeches editors, crisis managers , publicists, etc.) .

4. The electronic democracy in public policies: main lines of action

Public policies, related to the promotion of e-democracy, let us realize the potential of TIC in its compliance.

Expressions such as "e-government" and "electronic democracy" became frequent. This speech resulted in the availability of information and online services and the implementation of tools for querying and citizen participation. Although there is a clear emphasis on the first aspect, there have been attempts to develop procedures and policy instruments aimed to a greater participation of citizens in that goes beyond the regular electoral processes.

These government initiatives are intended to convey the institutional commitment to the promotion of what has been called the Information Society, in particular its relationship to citizenship.

At the level of countries of the Organization for Economic Cooperation and Development (OECD), there is also the assumption affinity of TIC as powerful tools in

which it is worth investing in order to improve relations between citizens and governments, both in terms of provision of services, as in the past involvement in democratic processes. Despite the existence of various OECD documents describing government action in this area, most of the measures described focuses on providing more information than the active participation of citizens itself.

In conclusion, despite the recognition of the potential of TIC as powerful tools for citizen engagement, and even the sense of inevitability to the same resource, the understanding on the barriers to participation are not technological, but cultural, organizational and constitutional.

5. Training programs in ICT in ACIB and Civic Literacy

In a society that seeks its identity in apology of communication paradigm, where the path to exaltation of technology to promote the knowledge society seems undeniable, the training plans invariably resort to modules of information and communication technologies. In the ACIB's case, only in the year 2012, there were 1227 trainees in these specific modules.

Therefore, in the context of the theme of END 2014, it would be appropriate to develop a questionnaire to exploit literacy skills. The target application of this questionnaire were trainees currently in training in this area, selected from: Learning System: 823 trainees (ages 15-24); Modular Certified Training: 300 trainees (aged 18-65 years); Education Courses and Adult Education: 104 trainees (aged 18-65 years).

This work is somehow a reflection of the concerns that many organizations begin to manifest on the levels of literacy of the population. Incidentally, it was during the 90s of XX century, in Portugal, witnessed the widespread use of this term, especially with the release of the results of the National Literacy Study (Benavente et al, 1996). At the date of the survey was installed the belief that the education of the masses would lead to the gradual eradication of illiteracy and with it, as stated by Ana Benavente et al (1996:3), "has spread the idea that the problems of illiteracy had come to be called problems of the third world."

However, the complexity of modern society and the constant technological evolution, posed new problems and challenges for education, especially because "despite the increase in rates and years of schooling, [population showed] disabilities mastery of reading , writing and calculating, seeing therefore diminished their ability to participate in social life" (Benavente et al, 1996:4) .

5.1. Survey Results
The research was done through the implementation of in February 2014 to the ACIB trainees.

5.2. Sample characterization
From the 400 graduates that represents currently the universe of ACIB training courses in Information Technology and Communication modules, 285 graduates responded to the survey, 53% men and 47% women. Their qualifications are distributed between schooling <9 years - 2%; between 9 years and 11 th year - 62%, 12th year - 26% and> 12 years - 10%. From these respondents, 144 are students, 94 unemployed, 36 active employees and 11 student workers.

5.3. Results
When asked regarding the use of IT tools in their daily lives, 97% of respondents admitted that ever did before specific training in the area. Regarding the type of training that are attending, most respondents attends Learning Courses System (lasting two and a half years, aimed at young people aged 15 to 24 years), 41% goes to modular training aimed at active and unemployed workers, aged 18 and 65, 5% attending Courses of education and training for adults and 3% other options. As

regards the frequency of use of the basic use of a computer application, the responses were as follows:

In your activities with a computer, how often you use:	Never	Rarely	Sometimes	Often	Always
Word processing (ex. Word)	2%	12%	29%	34%	23%
Calculation sheet (ex. excel)	10%	29%	33%	19%	9%
Management database (ex: Access)	29%	30%	29%	7%	6%
Slideshow (ex: Powerpoint)	7%	18%	27%	31%	17%
Drawing and image editing (ex: Photoshop)	32%	25%	22%	14%	7%
Sound Editing (ex: Media Player)	23%	19%	23%	17%	18%
Statistical programs (ex: SPSS)	58%	15%	16%	9%	1%
Electronic communication (ex: e-mail)	6%	10%	16%	23%	46%
Internet for information searching	1%	5%	12%	24%	58%
Internet for bibliographic research	7%	18%	25%	24%	27%
Internet for software download	13%	14%	20%	23%	30%

When asked about the difficulty in each of the tasks listed, respondents identified the use of formulas and their understanding as the most difficult task, which are the ones that deserve greater emphasis of difficulty in every chance of response. Understanding and reading texts arise mainly classified as easy or very easy. Already present in the ease of writing a text, the majority identifies it as being an easy task.

Regarding the consumption habits in everyday terms of the TV news are those that have a significant percentage of 70%, followed by the written press with 43% and finally the magazines with 16%. When analyzed these habits in weekly period, the news and newspapers are the most frequent. In terms of ease that each respondent evaluates the self-understanding of news, the vast majority 61% admit having none; 36% recognizes some and only 2% said to have much difficulty, as we can measure in the group of questions ahead. Finally, with regard to electronic means of civic participation, about half of respondents said stated that have done most of the proposals situations:

Have you already expressed through electronic means in therms of:	Yes	No
Obtaining information from public services	54%	46%
Exhibitions / complaints	45%	55%
Expression of Opinions	49%	51%
Request statements	50%	50%

Other dimension of media literacy observed concerns to the ability to interpret a media message (news) with discriminatory content for the gipsy ethnic minority. The aim is to understand whether or not the participants differ in terms of interpreting the news, specifically regarding the designation or not of discriminatory content. Responses to this item were organized in two dimensions: i) spontaneous identification of discrimination and ii) identification of induced discrimination.

In the induced discrimination, we differentiate the amount of discriminatory elements identified (up to three and more than three elements). The results show that only 6% (17 responses in 285) of the participants spontaneously recognize discrimination on the news, while in induced breakdown, 72% ends by stating that the news contains references that may be considered discriminatory to any particular group , but with no further explanations. Regarding the third indicator that media literacy is the analysis of a media message in BD format, the processing of data underwent a content of analysis that met: i) the complexity of drafting the response and ii) the topics discussed by the participants.

In the construction of the grid related to the complexity on drafting the reply, the two characterizing criteria levels, namely: the explicit / implicit content of message from BD; linear causality/ multicausality underlying the construction of the response. Thus, four degrees of complexity have been identified: Level 0: The participant writes a discordant response of BD, indicating difficulties in understanding the message; Level

1 - Description: the response describes the basic content of the message, supersedes a linear causality; Level 2 - Interpretive: adds up something new to the explicit content of the message; Level 3 - deconstructive: the response message and deconstructs the form of DB, can integrate content explicit and / or implicit questioning them and diminishing them. The results showed that most participants have answers in the interpretative level.

6. Conclusions

With this reflection we seek to show how effective political participation requires citizens with a set of skills of a varied nature, referred to herein as constituents of a "civic literacy". The level of this type of literacy concerns, among other factors, with a capacity for critical analysis of political information conveyed by the different media.

Based on this premise, new technologies came to ignite old debates around the role of the media in shaping public opinion on political issues and intensified key problems as those related to access, the understanding of the information and the management of its receipt in overwhelming quantities.

Reflecting on these issues, what are the possible solutions to correct the deficit of civic literacy and digital literacy in the differential through the actions of governments?

It seems clear that the policies that are only related to the technological aspect may not have any success in fostering citizenship and improving the quality of democracy: " It seems likely that new media leads to an increase in citizen participation in the political system. There are not any 'simple' technical solutions for a lack of political will" (Djik , 1999: 92). In this vein, information technologies are not the answer to rapid expulsion of citizens from politics. An "offline" person of today who don´t care about politics, will be tomorrow someone with a computer and an Internet connection who still do not want to know about politics. In other words, the Internet does not change people, just allows them to do the same things differently.

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KINDERGARTEN-TEACHERS IN ISRAEL:
THE IMAGE OF THE NEW LEADER IN AN ERA OF CHANGES

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Abstract

The research tries to examine the personal and the professional identity of six leading women-figures in the early childhood field in several different sectors in the Israeli multi-cultural society. Three of the participants of this research, worked as kindergarten-teachers in the past and became supervisors later in their lives, and the other three participants still work as kindergarten-teachers in the present time. All the six figures developed and worked in four sectors in the Israeli national system: the Jewish secular sector, the national-religious sector and the Arab and the Bedouin sectors. The figures that were chosen are all women since women comprise 95% of the kindergarten-teachers' population in Israel. Very few men work in the teaching profession in early childhood education in Israel.

Keywords: professional identity, narrative research, era of changes, educational leader, early childhood education.

1. Introduction

This research is anchored in the global trend that perceives the educational system in early childhood as a very important one to promote the human resource in society. In the local aspect, the research is based on the political and academic awakening on the subject of the promotion of children in early childhood education (The Trajenberg Committee, 2011). These trends emphasize the process of the academic promotion of the educational staff in early childhood and that has resulted in establishing new academic programs for teachers in early childhood education in universities and colleges in Israel.

M.Ed programs (Master of Education) for kindergarten-teachers were opened in order to enable the staff engaging in early childhood education to develop both professionally and academically and acquire managerial skills in the educational system. These programs also enable to form communities of experts in the early childhood education who will continue to learn and update their professional knowledge in order to build an educational leadership in the various frameworks of early childhood education in Israel in the near future.

The issue of the identity of kindergarten-teachers in Israel has not been discussed greatly in the professional literature in recent years. The need to discuss the issue at length has arisen especially due to the rapid and on-going technological and social changes that have occurred in the last 20 years, and because of the ambiguous definitions that exist in the literature regarding the role of the kindergarten-teacher.

This paper examines the various changes that have occurred in the role of the kindergarten-teacher in the last 20 years alongside with the many changes that also occurred in the Israeli multi-cultural society, as well as in the entire world. These changes are not unique only to the Israeli society but are rather universal. We refer to technological changes such as the use of the T.V set, the video, the camera and the computer/Internet in the kindergarten; social-demographical changes such as the rise in the number of single mothers, divorced families and one-sex families; changes in the Israeli educational system (various new reforms), the effects of the Media on children, and the level of parents' involvement in the kindergarten that has increased to a large

extent in comparison to previous years. The research also describes the kids' pedagogical and emotional difficulties that result because of all the above changes.

Researchers have found that kindergarten-teachers are perceived primarily as women who shape the pedagogical environment of children in their early childhood period. The researchers describe the complexity and enormous responsibilities of this job and mention eight major domains of responsibility. Among them is identifying and building a common vision that primarily relates to pedagogy and curriculum, building common goals for the entire staff that will promote a greater meaning and understanding of the given tasks, encouraging the cooperation of the parents and the community in order to promote the children's' achievements in the future and more. Kindergarten-teachers work in a multi-cultural and a complex environment which serves as a formal educational institute where toddlers begin their first journey outside their 'nuclear families'.

The Israeli society is a heterogeneous one consisting of different groups (sectors) in terms of their national belonging, religious, ethnic, class and political views. This diversity may lead to social rifts. 'Multi-culturalism' in education is an attitude that tries to assimilate the idea of multi-cultural foundations in the society with the help of the educational system. Many researchers point to the importance of educating the children to multi-culturalism already at an early age and the kindergarten-teacher has an important role in developing awareness to multi-culturalism in her kindergarten, in teaching to appreciate and getting to know the ones who are 'different' and in creating an equal environment that provides legitimacy to the various cultures and identities. The kindergarten-teacher's role, as an 'agent of socialization', is to facilitate the kids to learn about the 'similar' and the 'different', and to expose them to the human and cultural diversity, thus educating them to multi-culturalism in society. The kindergarten-teacher has to create an educational environment in which terms like 'social justice', 'equality' and 'self-identity' should be addressed and discussed openly while giving expression to all the various feelings, ideas, cultures, religions and life-styles of each sector.

The paper presents the multi-dimensional role of the kindergarten-teacher in her complex work in two different circles: the first one, the inner circle includes the kids, the parents and the staff that works along side with her on a daily basis; the second circle is the outside circle that includes the educational system(mainly the supervisor), and the kindergarten community. The kindergarten-teacher has to be in close touch with all the involved parties and to sustain a mutual and a reliable relationship. In addition, the paper examines the image of the new kindergarten-teacher in the early childhood education system in Israel, and introduces both her personal identity and her professional identity. The paper will try to answer the question whether a kindergarten-teacher in an era of changes is also an educational leader besides being the kindergarten principal who is in charge of a large staff.

2. Methodology

The research holds a qualitative-narrative character and makes use of the qualitative research methods. The stream of research is multiple case-studies. The research conclusions have developed through the analyzing of the data. The research tool is an open-ended ethnographic interview. The research methodology includes content-analysis of the interviews.

The research tool, the ethnographic interview, offers a closer look at some kindergarten-teachers in the past and in the present as a study-case in which each kindergarten-teacher has a specific and different life-story and who works in a specific community (the Jewish secular and national-religious sectors and the Arab and Bedouin sectors), but who all together comprise a 'brick collage'. In this way, it will be possible to learn about the patterns that might explain the phenomenon of the 'educational leadership' in early childhood education in Israel.

The major findings of the research consist of three main themes: the first theme refers to the kindergarten-teacher, the second theme refers to the Israeli educational system and the kindergarten-teacher's support network, and the third theme refers to the educational discourse in the Israeli society regarding early childhood education (figure no.1).

Figure 1

The first theme introduces the image of the kindergarten-teacher and includes four sub-themes: her role perception and job responsibilities, the emotional factors (motives for choosing this job, self-fulfillment and the aspect of loneliness), her overall professional identity (which consists of the child self-identity, the kindergarten identity and the identity of the sector where she lives or works) and the leadership aspect in her job.

The second theme presents the relationship between the kindergarten-teacher and the Israeli educational system and the various changes that have occurred in the society and their effect on the educational system. These changes include the different technological changes, social changes, changes in the traditional family structure and changes within the educational system (such as new reforms). This theme also presents the process of building a support network for the kindergarten-teacher in four parallel arenas: two inner arenas- the parents and the staff who work in the kindergarten, and three arenas that are outside the kindergarten- the municipality, the educational system and the community (figure no.2).

The last theme presents the educational discourse in the Israeli society regarding early childhood education in its various sectors: the secular, the national-religious and the Arab and the Bedouin sectors (figure no.3).

Figure 2
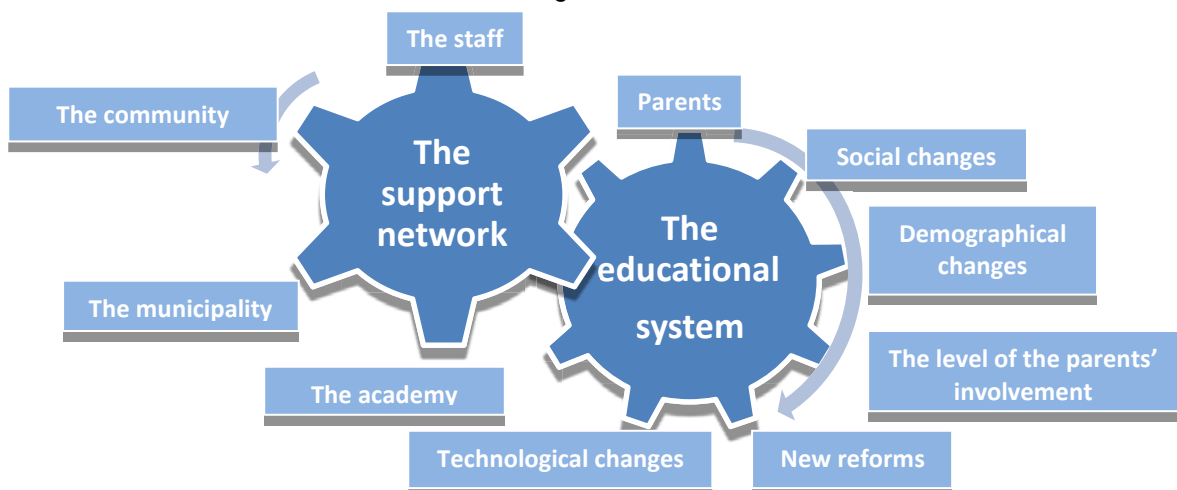
Figure 3
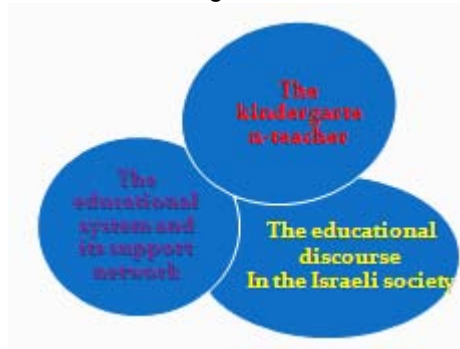
4. Conclusions

Because of the great amount of the findings and space restrictions, I chose to focus on the last theme regarding the educational discourse in the Israeli society.

The educational discourse in the Israeli society regarding early childhood education, in the context of this research, relates to two main aspects: the importance of early childhood education and the parents' involvement in the educational processes that take place in the kindergarten. The educational dilemmas that are dealt by the staff and the parents are mostly focused on issues relating to the cultural and social context of the Israeli multicultural society. For example: the discourse in the Bedouin and the Arab sectors revolves around the changes that have occurred in the sector in the last 20 years. Among them are the technology developments and the entrance of the computer to some of the houses, the increase in the awareness and importance of early childhood education and thus perceiving early childhood education in high priority compared to previous years, and the care for children with special needs that was almost neglected in the past. Yet, issues related to religion, sexuality and violence are still considered 'taboo' and are not openly discussed among teachers and staff. Kindergarten-teachers in these sectors tend to talk about the cultural differences, the values and customs that are distinct to their sectors. The discourse in the national-religion sector revolves around the various definition of the term 'a religious person' (levels of religion), the separation of gender in early childhood (different kindergartens to boys and girls), clothing styles, religious identity and the importance of early childhood education.

From the discourse in the various sectors it is clear to see that the kindergarten, as a formal institute, is a distinct expression of the culture it belongs to. The dilemmas that were presented above are all anchored in the local culture and thus express the development in the educational and multi-cultural perception in early childhood education in the Israeli society since the first 'Hebrew Kindergarten' was opened in 1898. These dilemmas find expression in the educational discourse of those who engage in early childhood education.

The research findings have exposed the implied or rather hidden aspect of the women's role perception. Seeing themselves at times as 'leaders' and at times as 'managers' is not only a semantic issue, it reflects a personal vision or an outlook that does not directly depend on their role but rather depends on their personality structure and on their cultural context. They chose to describe themselves according to the position they wanted to create. Among their staff they were usually referred as 'managers', in front of the parents, colleagues and the community they saw themselves as 'leaders'. They felt it was important for them to position themselves differently in order to be perceived as an 'educational authority'.

By doing so, they created a 'brick collage' (French for "tinkering") (Kincheloe & McLaren, 2004), that is composed of different components of leadership such as: vision, initiation, empowerment, leading changes, the need to make changes and cooperation, which together create figures of authentic leadership. We can assume that

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this could have happened since the six women have a similar professional background (the current inspectors were once kindergarten-teachers themselves) and have a lot of experience in the field of teaching. All the participants continued their academic and professional development and some even became lecturers at colleges and got high managerial positions in the early education system.

It is possible to build some sort of a jigsaw puzzle that reflects the findings of this research. These findings present the inner world of each participant, her professional and cultural world and her values. This puzzle is entwined in various circles of relations and connections in the outside world of the kindergarten, which constitute the daily life of the kindergarten-teachers, and thus creating the multi-colored educational discourse in relation to the environment where it is located. This description represents Bronfenbrenner's ecological systems of relations (Bronfenbrenner, 1979)[i] that change and adjust themselves in times of change and to the mental and professional model (Mevorach & Strauss, 2012), which relates to the inner world of all involved in the educational process: the kid, the teacher, the parents and the community.

5. Discussion

At first, the aim of this research was to understand the way these six chosen kindergarten-teachers of different ages, professional experiences and cultural backgrounds perceive themselves in the complex arrangement of forces that comprise the educational system of early childhood in Israel. While analyzing the interviews, we were very surprised at the great amount of information exposed to us and the various aspects we did not expect to encompass in the article. Yet, we felt we were the 'ambassadors' of these women and that we should try to expose as much as possible, i.e. the similarities and the differences that make each culture/ sector unique in its own way.

We managed to expose, in meticulous and analytic methods, a, complex and multi-dimensional profile that is common to all the six women. This is a profile that unites, on the one hand, the endless details of their stories, but, on the other hand, does not represent any of the participants as typical to herself or to her cultural world in its own merit.

It was rather possible to notice the personal voice of the sector/ culture where the interviewer lives and/or works, and the way it is expressed within the educational and the multi-cultural discourse in the Israeli society in the current era. In their stories, the need for a real multi-cultural education, that could contain and include all the children in the Israeli heterogeneous society, was stressed clearly and distinctively.

The role of the kindergarten and the kindergarten-teacher as an 'agent of socialization' was also stressed by all the participants. Teaching the children to become individuals who are proud to be a part of the multi-cultural modern society in various ways that expose them to see the 'similar' and the 'different' of the human diversity, and thus educate them to multi-culturalism, justice and social equality were defined as major goals in their educational vision.

The current research raises the awareness of the multi-dimensional roles of the kindergarten teacher as an educator and a principal. Due to the ambiguity of her role definition along with the increase in her duties in various aspects, there seems to be a differentia between the kindergarten-teachers' own perception of their role and its practical application on a daily basis. It was a complicated mission to examine the women's perception of their role in the context of the phenomenon 'educational leadership' since some of them did not know for certainty the professional definition of the concept 'leader,' and certainly had some difficulty to see themselves as

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[i] The theory identifies five environmental systems with which an individual interacts. This theory provides the framework from which community psychologists study the relationships with individuals' contexts within communities and the wider society.

'educational leaders', as found in the works of Rodd (2006) and Muijs Aubrey, Harris & Briggs (2004). These teachers paid their utmost attention on their pedagogical and emotional responsibilities (teaching and caring) rather than on their administrative and leadership abilities (being managers).

6. Potential contribution

The potential contribution of this research is to shed light on the various professional points of view of those who teach in the early childhood system and to promote and raise public awareness of the topic.

Looking deeply into the stories of these six women-figures might add a layer to the existing knowledge regarding educational leadership in early childhood in Israel and about processes that occur in the context of the research- the Israeli early childhood system. Furthermore, the study could allow us to learn more about both the personal and the communal human behavior of kindergarten-teachers in Israel. The findings also present a pattern from which one can obtain a wider understanding of the examined phenomenon – the educational leadership among kindergarten-teachers in an age of changes.

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SHARED LEADERSHIP, PRACTICE COMMUNITIES AND VOCATIONAL DEVELOPMENT OF NEWLY RECRUITED TEACHERS

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Abstract

The issue of community of practice in the last five years has aroused considerable interest in Italy, also in the more specific field of strategies or approaches in adult training and in organisations, stimulating a few research studies.

This domain of study is in fact related to other areas of interest such as the analysis of specific forms of learning (organizational learning, network learning, etc.). Research studies on communities of practice revealed some phenomena that seem to characterize in an ever more distinctive way the modalities of spread and codification of professionals' knowledge in social groups, both in business contexts and in other training contexts. The Department of Social Pedagogy in collaboration with the CEFORC Centre of Research "*Continuing training & Communication*", which was created with the objective of organising activities of theoretical and applicative research in the field of continuing training and training processes in organizations.

This paper aims to submit the potential of CodP training strategy for adult training in school organizations. In particular, the potential of the approach will be studied with regard to the acquisition of technical, specialized and transversal skills in managerial field, which are considered fundamental skills for innovation. The basic idea is to study the communities of practice approach as fundamental strategy for the development of adult training interventions in organizations based on reflection and learning in practice, on cooperation and on the exchange of experiences.

Working hypothesis which guides research defined in this way: "in the school framework, school leadership directs its action by promoting shared leadership which enables you to identify functional space and time to the recognition, support and practise communities development" (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, Snyder, 2002). The build of such learning environments can provide better conditions for sharing and co-design within school organizations. In line with the working hypothesis, research explores how newly recruited teachers welcomed by so-called experts-teachers and more generally school in which they serve. Also it explores how practice communities contribute directly or indirectly by implicit or tacit knowledge which characterize them to address and resolve issue situations, nailed and moral dilemmas not always be approached only through institutional proceedings and compliance with formal roles.

The paper aims to contribute to determine the descriptive and experimental conditions to validate the CodP strategy in some specific contexts related to the field of continuing training and lifelong learning. The expected transferability potential involves the various fields and contexts and it is of great importance in relation to the European framework: great attention is paid in the European documents to the issue of non formal and informal learning processes and to professional situations of peer learning. The observational research was exploratory, mainly qualitative, involving interviews with 19 newly recruited teachers, 11 schools in the city of Rome and four teachers newly hired employees in service at a school located in the province of Rome by the case study and final outcomes were analysed by using NVivo software.

Keywords: *community of practice, lifelong learning, competence-development, education, leadership.*

1. Community of practices: what means?

The term Communities of Practice (CoPs) was coined by Lave and Wenger during their research on apprenticeship from 1988. They considered some studies

carried done with participants from very different backgrounds and cultures; such as those of Maya midwives in Yucatan, Vai and Gola tailors in Liberia, U.S. Navy boatswains' drill-grounds, butchers of some American supermarkets and among the members of Alcoholics Anonymous Association.

The common denominator of these studies, according to Lave and Wenger, is the presence of learning mechanisms not surveyed before by others scholars and not connected with the direct interaction between apprentice and master, but with the participation to a practice shared with other actors such as other apprentices, masters and journey folks.

Lave and Wenger have therefore considered learning as something strictly linked to the social practice. They have observed the mechanism, defined as Legitimate Peripheral Participation, according to which the apprentices are considered members of the community, that they call Community of Practice. This mechanism legitimizes the apprentices so they are permitted to share resources and experiences of the Community of Practice and to take part in discussions and to have an equal interaction with senior experts. Based in an academic background, dealing with issues connected to the study of language and social interactions, the CoPs have quickly come into the business world where they are becoming successful serving as support strategies for training by e-learning, Knowledge Management tools4 and, in general, development perspectives for studies on organizational learning.

Lave & Wenger's studies examine the social features of learning, in particular they have taken into consideration Vygotskij's works about the «zones of proximal development». This theory explains the potential for the learner to carry out some tasks slightly out of his/her capacities field, using his/her communicative mediation in addition to the competences background of the learning group he/she is in.

However it needs to point out the fundamental difference between the situation of the Communities of Learning (CoLs). That major difference occurs between the artificial environments where teacher and disciples' roles are well defined, and that of the Communities of Practice, a real environment where experts and apprentices co-participate in the realization of shared practices.

More recent studies such as Engestrom's, Vygotskij's original works traced their origins during the Thirties, widen the range of concept application of proximal development zone, explaining it from a 'collectivistic' or 'social' viewpoint. Other authors such as Orr) study in depth the individual and public identity coming out in working environments, by spreading «war stories» that are tales on particularly difficult applicative situations having been solved successfully by intuition or experience.

The exponential growth of Internet connections from the Nineties fosters the spread of virtual communities) and the transformation of CoPs studied by Lave &Wenger into communities where the face-to-face interaction is more often replaced by distance interaction with the consequent issues of the Computer-Mediated Communication.

Community of Practice is groups of people who share a concern or a passion for something they do and learn how to do it better by interacting regularly. You can interact face-to-face or by forum, e-mail, chat in a spontaneous and self-regulated way. Members decide how regularly the communication needs to be in order to get the desired result. Obviously it is possible to take part in several Communities of Practice at the same time and that is why the structure and the substance of communities evolve dynamically. The term was coined by J. Lave & E. Wenger in the late Eighties.

2. Topics of CodP

An *identity* coming from shared interests and above all from its adherents' devotion and loyalty (*commitment*) towards community; in these conditions the community obtains a *collective expertise* and its members learn from each other.

An *interaction* within the community carried on by discussions, group work, and mutual help. The interest on sharing is a necessary condition but it is not enough to maintain a community of practice: the interactive aspect is crucial and the engagement in joint activities has to be shared even if it can be discontinuous.

The presence of resources and *shared practices* as a result of the nonstop informal and dialectical comparison of the personal experiences at the disposal of the community. The development process of these resources can also be carried on unconsciously and unintentionally. It can simply start up spontaneously thanks to the social relations among the other members of the community.

One of the analysis and debate proposals for the next academic year is going to deal with organizational welfare, because it is a fundamental element for the quality of life in the working environment.

3. Hypothesis of research

The working hypothesis that guides the search is defined as: "in the context of autonomous school, the school leadership that directs its action by promoting shared leadership enables you to identify functional space and time to the recognition, support and development of communities of practice" (Lave & Wenger, 1991, Wenger, 1998, Wenger, McDermott & Snyder, 2002).

The construction of such learning environments can provide better conditions for sharing and co-design within school organizations.

It is expected that the promotion of shared leadership, through communities of practice, can promote the professional development and, indirectly, to produce a positive effect on the learning process in the school.

It explores how newly recruited teachers are welcomed by so-called experts-teachers and by the school in which they serve.

The observational research was exploratory, mainly qualitative, involving interviews with 19 newly recruited teachers, 11 schools in the city of Rome, and for case study, four teachers newly hired employees, in service at a school located in the province of Rome.

The research was conducted by: a) in-depth interviews; b) conducting a case study; c) conducting focus groups.

The results of the interviews and focus groups were analyzed using content analysis making use of dedicated SW.

4. Results

The results testify to the critical issues that arise in the process of admission of teachers organizing school: the role very weak and ineffective teachers tutor; the heavy weight of teachers with more experience and context, and sometimes with more years of service; the distance of the leaders, including those working to promote the exchange of good practices, in relation to local practices often informal learning; attention of the "novices" to avoid the visibility, accountability to prevent any problems, conflicts, and so on; attention of novices absorbed by issues concerning the management and control of the class that are interpreted as relational and individual issues and not as motivation and quality of teaching-learning processes(teaching, assessment, planning, etc.); presence of learning in the field, relating to individual subjects, but lack of awareness to be a community of practice; learning in the field is often left alone.

The first year as a teacher, you go home and you cry because you realize that you are not adequate to the relationship with students. Missing the sharing of practice by communication, even informal experience. Everything is left to chance.

5. Summary

The Community dimension, the promotion and development of communities of practice, which they can participate without exception all the actors involved in educational context, are the factors which determine construction of an inclusive learning environment that triggers virtuous circles between process of school autonomy construction, professional development and improvement of training quality.

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HOW LIKELY IS IT DONE… ON TIME?
DETERMINANTS OF GRADUATION RATES IN COLOMBIA

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Abstract

This paper uses collegiate panel data from 1998 to 2013 from Colombia's Ministry of Education to study factors that explain declining graduation and on-time graduation rates. The major force driving these declines is the change in student composition as a result of increased access to higher education among students with lower academic preparation. The strongest predictor of graduation and on-time graduation is student's score on the national college entrance exam. School selectivity is also related to graduation and on-time graduation although, in general, measures of institutional quality are not significant predictors.

Keywords: *higher education, graduation rate, graduation on time, quality.*

1. Introduction

The main concern of the Colombian Ministry of Education at the start of the millennium was the improvement of the higher education system. In order to achieve this, it focused all efforts on the following areas: quality improvement, greater equity, efficiency and a increase in coverage, using public sector as main receiver of students. For this, Ministry restructured ICFES (State's Bureau for Educational Testing Service, for entry to Higher Education Institutions "HEIs" entry), created committees focused on certain specific issues (i.e.: Higher Education Branch), and developed several information systems (SACES, SNIES, SPADIES and OLE Systems), in order to improve Quality, control the Dropout rate, have a better record of students and to check Graduates' impact on labor market.

This policy was called *"Revolución Educativa"* and boosted coverage's rate since 22% in 2002 to 38% in 2010. It was the response to: i) a request from people to new government to improve social access to higher education, and II) a law adopted in 1997 in high schools. This law promoted all students in high school to the next level without any restriction (academic or disciplinary), except in special extreme cases that law allowed, but these cases can't be higher than 5% from the total students of the classroom. So, all students were promoted without any effort from teachers, houses and students.

Coverage was the main policy focus on education field until late 2011, when students' protest forced the Government to change its policies focus to quality. One first step was the change of language used by the Ministry from stimulating Colombians to reduce dropout rate to encouraging HEIs to reduce lag students and to improve their graduation rate reducing their *"egresados no graduados"* (people who finish all courses but did not have a diploma by other requirements as a high TOEFL test's score).

2. Problem Description

When people began enrolling at a high rate after 2002, the Ministry was troubled of an increase on the dropout rate, and as a response for it in 2004 it

develops SPADIES. In fact, SPADIES has done an excellent job during the last 9 years, dropout rate now is lower than in 2005. But, if SPADIES' data is analyzed, it is obvious that the decrease in dropout rate is explained by an increase in the time used by students to reach the degree. So, policies are retaining people in system but without promote them to finish their careers; increasing the amount of money needed to support students for the lag time, and spending the resources to enroll new ones.

The great increase in enrollment occurred mainly in the public sector and generated what is referenced in literature as "Cohort Crowding"; because resources were quickly overused, triggered by a strong increasing demand with a static supply. The numbers of public HEIs remains stable since 2002, and funds wired by the State to the public HEIs increased each year less than the enrollment rate.

    ----- Public HEIs students   ■ ■ ■ Private HEIs students
    ═══ # Public HEIs   ------- # Private HEIs
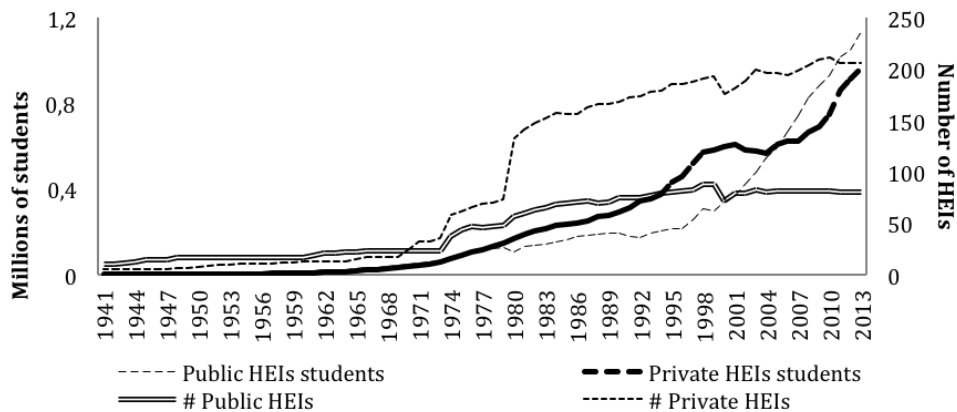
So, quality rate interpreted as "resources per students" dropped dramatically. Additionally, 97's law critically affected the academic performance of new freshmen. The entry test score of new freshmen was significantly lower than observed in past, due to students not having incentives to study. So people enrolled after 2002 were less prepared to Higher Education level than the ones who enrolled before.

On the other hand, coverage policy was focused mainly on grant access to system to poor people; so new ones were less prepared to pay for tuition, materials, transport and the other issues that involve HE support. Actually, Colombian's HE students are vulnerable to dropout by academically and financially factors. So, the scarce resources were impacted by these vulnerabilities, and HEI's must have to spend this resources trying to prepare to basic skills or to financially support students who arrived with these vulnerabilities.

% of freshmen with high entry test Score   % of freshmen with income over 3
                                                      minimum monthly wages
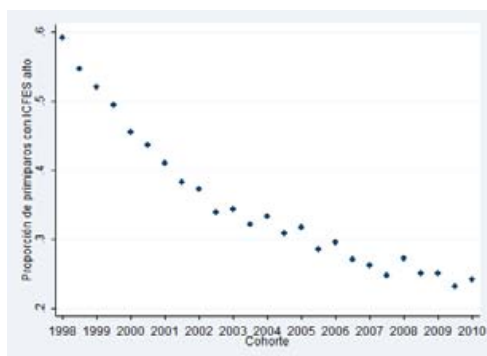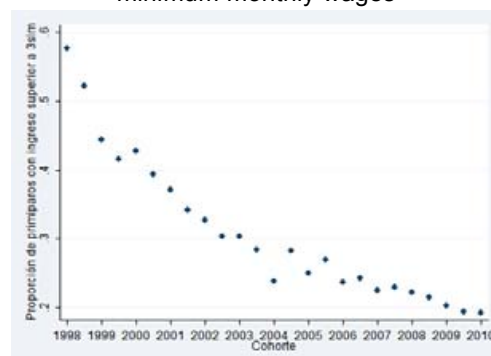
In addition, retaining students for long periods in the system without give them a degree increases the amount of resources used to support students by State, HEIs, and families. As consequence, the prior goal that is give students education as a tool to reach equity could give the opposite results; because after years in HEIs students could increase the branch between the ones who has resources and reach their degree at time and them, who had been retained. This scenario could be more complicated if student finally leave his studies after all efforts. Ten semesters after having enrolled for the first time, nearly to 50% of Colombians students abandon their studies, just 10% obtain their degree and 40% are still active in their HEIs. After twenty-five periods (12.5 years) from their first course at HEIs, graduates are near to 40%, dropout students near to 58% and 2% are still active.

3. Theoretical framework

Based on (Epple, Romano and Holger 2006), Higher Education System is a set of students that differs between them in their income and their skills. Utility function is positively correlated with consumption, academic quality, student`s skills and negative correlation with the tuition value. Students will enroll in HEIs where they can maximize quality and their skills restricted by tuition cost and HEIs´selection criteria. In the other hand, HEIs maximize their quality, focusing on their peers and in resources per students rate. Student's cost is fixed, so if a HEIs increase the amount of resources for them is a warranty of quality. So, in this market you will find two kinds of HEIs, one maximizing quality (using more resources that the cost for each student) and other maximizing benefits (spending just the cost and getting additional resources as their benefits). In equilibrium, students with high academic skills will wish to attend to HEIs that maximize quality, and these HEIs will wish to have in their classrooms students with high academic performance.

3.1. Objectives
As was explained in the introduction and as theoretical framework predicts, the increasing in coverage reduces quality and one of the indicators that has been affected are the graduation rate; and with it a deterioration of initial financial situation of students that spent more than expected.   This effect can been analyzed by two ways:
1) New people enrolling to system are systematically more vulnerable to leave their studies.
2) More people in system, with equal funds, are supported using fewer resources per students, a deterioration of peers performance, and disrupt the equilibrium (specially in HEIs that try to maximize quality over benefits).

This document finds the main factors that affect graduation, and graduation on time rate, in order to provide sufficient information to policy makers to re orientate their intentions. One first step reached was the change of message given by Ministry, now the challenge is to convince HEIs of increase graduation rate without disregard quality; beginning by all "*egresados no graduados".*

4. Database and methodology

This paper uses SNIES-SPADIES-ICFES data, with information from freshmen, active and graduate students. SPADIES follow all students until they leave the HEIs as a graduate or a dropout student. SPADIES has near to 5 million of students in his registry since 1998 until 2013. Socioeconomic data and test score are taken from ICFES database with near to 8 million of students. Match between SPADIES and ICFES is near to 85%. SNIES give information about HEIs and their programs. Female and Male rate are constant in time, and as showed before public HEIs has now more students than private ones. Information will be analyzed using two profiles: i) with just socioeconomic data and ii) with socioeconomic data and HEIs characteristics.

4.1. Econometric Strategy

This paper uses lineal probabilistic models MCO and probit models based on the following equation (results reported are taken from MCO regression, coefficients between MCO and Probit are practically the same). Profile 1:

$$Y = \beta_0 + \beta_i \, socioeconomicandacademicdata + \varepsilon$$

Profile 2:

$$Y = \beta_0 + \beta_i \, socioeconomicandacademicdata + \beta_i I \times socioeconomicacademicdata + \varepsilon$$

Y is a dummy that is 1 if student is graduated or graduated on time (less or equal to 2 semesters after standard from Ministry 10 periods for universities and 6 for technological). In socioeconomic data you find: Dwomen is 1 if student is a woman. Mother level of education and family income are categorized increasing variable. Apo variables are dummys equal to 1 if student received support from State, HEIs or from other. In profile 2, I is a dummy for interaction from level of formation (university or tech) or sector from HEIs (public or private). You will find 2 regressions for each profile, regressions 1 and 3 have fixed effects by HEIs's sector and regressions 2 and 4 have fixed effects by T&T.

5. Results

	GRADE (mean =0.18)				GRADE ON TIME (mean=0.11)			
	1	2	3	4	1	2	3	4
Women	0,06***	0,06***	0,06***	0,07***	0,06***	0,06***	0,05***	0,06***
	(0,004)	(0,003)	(0,006)	(0,004)	(0,004)	(0,004)	(0,006)	(0,004)
# Brothers	-0,004***	-0,004***	-0,003**	-0,003***	-0,004***	-0,004***	-0,004***	-0,004***
	(0,001)	(0,001)	(0,001)	(0,001)	(0,001)	(0,001)	(0,001)	(0,001)
Order of birth	0,08***	0,08***	0,07***	0,09***	0,04***	0,04***	0,04***	0,05***
	(0,006)	(0,006)	(0,01)	(0,006)	(0,003)	(0,003)	(0,006)	(0,004)
Family own house	-0,05***	-0,04***	-0,06***	-0,05***	-0,02***	-0,02***	-0,03***	-0,03***
	(0,005)	(0,005)	(0,008)	(0,005)	(0,003)	(0,003)	(0,005)	(0,003)
Mother level of education	0,001	0,001	0,001	-0,001	-0,0007	0,0005	0,0006	-0,0002
	(0,001)	(0,001)	(0,002)	(0,002)	(0,001)	(0,001)	(0,002)	(0,001)
House income	0,04***	0,04***	0,05***	0,04***	0,02***	0,02***	0,02***	0,02***
	(0,002)	(0,002)	(0,003)	(0,002)	(0,001)	(0,001)	(0,002)	(0,001)
Age at exam	-0,002**	-0,002**	-0,002	-0,003***	-0,001**	-0,001***	-0,001	-0,002***
	(0,001)	(0,001)	(0,001)	(0,001)	(0,001)	(0)	(0,001)	(0,001)
ICFES score	0,002***	0,002***	0,002***	0,002***	0,001***	0,001***	0,001***	0,001***
	(0,0001)	(0,0001)	(0,0002)	(0,0002)	(0,0001)	(0,0001)	(0,0002)	(0,0001)
State support	0,02***	0,02***	0,01	0,01**	0,02***	0,02***	0,01**	0,01***
	(0,006)	(0,007)	(0,008)	(0,007)	(0,004)	(0,004)	(0,005)	(0,004)
HEI support	0,13***	0,13***	0,17***	0,15***	0,07***	0,07***	0,08***	0,08***
	(0,017)	(0,017)	(0,027)	(0,016)	(0,01)	(0,01)	(0,016)	(0,009)
FE Public	-0,02		0,02		0,01		-0.00409	
	(0,012)		-0,0274		(0,009)		(0.0224)	
FE T&T		0,01		0,08***		0,03**		0.0617***
		(0,013)		(0.0184)		(0,011)		(0.0165)
			(0.0458)	(0.0308)	(0.0308)			
Constant	-0,08***	-0,1***	-0,1***	-0,1***	-0,04***	-0,05***	-0,04*	-0,06***
	(0,018)	(0,013)	(0.0231)	(0.0136)	(0.0136)	(0.00828)	(0.0194)	(0.0101)
Obs	2,504,936	2,504,936	2,504,936	2,504,936	2,504,936	2,504,936	2,504,936	2,504,936
R-Square	0.083	0.082	0.085	0.085	0.042	0.043	0.043	0.044
Standar Error by cluster for HEIs								
*** p<0.01, ** p<0.05, * p<0.1								

6. Conclusions

Social policies were successful in short term; more poor people have now access to HEIs. But in the long run, these policies had increased the negative effects over system's resources used by the State, families and students, due Crowding cohort phenomenon. As a result, quality is decreasing to fast, especially on public sector, where coverage has been intensive, increasing more enrollment rate instead resources. Efficiency is decreasing as fast as quality, because graduation rate isn't growing as enrollment. No matter if student is attending a public or private HEIs, graduation rate remain without change. Something similar occurs in T&T level versus University level, it doesn't affect their graduation rate. Women has a graduation rate higher than men, explained by their academic performance, the mother's level of education is not relevant (result not expected), and variables about vulnerable issues shows the negative impact in long run for the system. Now, It is so important to change the policy's focus from dropout to graduation, and improve quality at all cost. The State must wire more resources to public HEIs and increase schools quality, and HEIs' graduation policies must be more flexible without discard quality as an important issue.

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POSTERS

HOW LONG DOES IT TAKE FOR A CALCULATED QUESTION TO BE BURNED?

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Abstract

Many learning management systems permit to configure a questionnaire based on an existing item bank. This item bank should be large enough in order to assure that the students do not know the questions (and the corresponding right answer without any study) after several colleagues have solved the questionnaire. A way to minimize this problem is by creating a very large item bank (several thousands of items). In many engineering and science disciplines is an easy task to automatically generate random numerical variants of the same question. The answer of such question is numerical and it is obtained after some calculation using one or more parameters that are randomly assigned. This type of questions is called "calculated questions". We have noticed that, even using calculated questions, there are some students that correctly answer the questionnaire in a so fast time that make the instructors think that they have obtained some unfair advantage. During the time that some of these questionnaires was open, we have introduced a new calculated question and followed the evolution of the wrong/right answers over time. We have focused our attention on the students that solved the questionnaire in a fast time. Results show that after a few hours and after the first tenth of students have answered the new question, a surprisingly high proportion of students that solve the questionnaire in a fast way, answer the new question correctly.

Keywords: online questionnaires, calculated questions, computer based assessment.

1. Introduction

Nowadays, learning management systems (LMS) permits the delivery of automatically assessed questionnaires. Web based tests could be intended in order the students could check their progress (in real time and with anonymous feedback), for assessment purposes, or for fulfilling both objectives. LMS usually offers several ways to create tests with some degree of randomness (de Sande 2010, de Sande 2011, Guimaraes-Pereira and Scheuermann 2007, Montes et al. 2011, Pachler et al. 2010, Rowe 2004) and then reduce the possibility of cheating. Common ways to obtain different quizzes are picking questions from a large item bank, changing the order in which the questions are presented, or changing the order in which the possible answers are presented (at least for multiple choice questions). It has been observed that some students solve the questionnaires in a suspiciously reduce time and obtain a good result (de Sande et al. 2010). A way to easily increase the item bank (till several thousands of items) is to automatically generate numerical variations of a set of base questions (de Sande 2010, de Sande 2011, Montes et al. 2011). However, even in this case, after several semesters using the same item bank, it have been observed that some students obtain good results in surprisingly short time. The goal of this work is to analyze how long does it take for a question of this type to be burned.

2. Design and method

The present study has been developed in Escuela Técnica Superior de Ingeniería de Sistemas de Telecomunicación at Universidad Politécnica de Madrid. Signals and Systems is a mandatory course of the Electrical and Electronics Engineering studies. Most of students choose to follow a continuous assessment

method that includes automatically assessed online tests (via Moodle LMS). Since 2010/11 academic years, a large item bank (around 5000 items for each questionnaire) has been used to deliver four questionnaires, one at the end of the four blocks of matter along the course. Each questionnaire has 10 questions and each question is selected from a set of items created as numerical variations (100 different variations) of several base items (from 3 to 8 depending on the subject). These online tests are delivered during two days and the students could solve it everywhere and anytime during that period. The time to solve a test is 30 min since the test is opened by each student.

An example of calculated question for Signals and Systems is given in Fig 1. The same example could be used changing "the magnitude" by "the phase", so two different base questions with similar difficulty are created. By using different wordings of the same question or substituting "angular frequency (in rad/s)" by "frequency (in Hz)" and so on, it is easy to obtain a set of 3 to 8 base questions with similar difficulty, and then create from 300 to 800 different items. For each student, only one of these items is selected to create the questionnaire. The same procedure is followed for each of the ten questions of the questionnaire. Additionally, the questions are randomly arranged.

> Given a linear and time invariant system characterized by the equation $a_0 y(t) = b_0 x(t) + b_1 x'(t) + b_2 x''(t) - a_1 y'(t) - a_2 y''(t)$, find the magnitude of its frequency response for the angular frequency ω_0 (in rad/s).

Figure 1: Example of calculated question. 100 randomly generated sets of parameters a_j, b_j, and ω_0 together with their corresponding right answers are stored in the item bank.

In the 2013/14 academic year, a set of items used for a given question was replaced by a new set that was created following the previously described procedure. The date and hour when each student opened his/her test, as well as the time employed to solve it where analyzed and compared to test mark and to the right/wrong answer to the new question. A total of 76 students solved the test under the described conditions.

Figure 2 shows the evolution with time of the right and wrong answers to the new question. The data are presented in four groups: students that solved the test in less than 15 min and give the right (wrong) answer to the new question, denoted by R-F (W-F) and red diamonds (blue triangles) and students that solved the test in more than 15 min and give the right (wrong) answer, denoted by R-S (W-S) and orange circles (green squares).

Figure 2: Right and fast (R-F), wrong and fast (W-R), right and slow (R-S), or wrong and slow (W-S) answer to the new question *vs* time since the first student opened his/her test. In vertical appears the overall mark obtained by each student in this test.

It can be observed that the first right answer does not appear till six hours later than the first student opened his test. Moreover, up to 17 students opened the test and give a wrong answer to the new question before the first right answer appears. However, 45% of students that opened and solved the test after the first right answer was given, correctly answered the new question. Assuming that this percentage represents the probability that a student correctly answers that question, it is hard to find a sequence of 17 consecutive wrong answers (the probability of such fact would be less than 4×10^{-5}). It is expected that most of students did not take unfair advantage in solving the test, however, it is difficult to believe that a student could correctly solve 10 questions like the example given in Fig. 2 in less than 10 min (13 students with an overall test mark over 7.5 did it) without any unfair help.

Considering only the students that opened the test after the first right answer to the new question appeared, it can be observed that: i) 59 % of students that solved the test in less than 15 min, correctly answered the new question, while only 39% of those that solved the test in more than 15 min, correctly answered the new question. This result does not mean that all students that solved the test in a short time behaved in unfair way, but it is a suspicious result. In the same way, it is possible that some students that solved the test in a long time also took some unfair advantage of the conditions for doing the online tests.

4. Conclusions

The analysis of the time taken to solve the test and the sequence of right/wrong answers to a new question make the author to be suspicious that there is a group of students that were taking unfair advantage when solving the test. An extremely improbable sequence of 17 consecutive wrong answers to the new question was found at the beginning of the period given for solving the test. After the first right answer was given (about 6 hours after the first student opened his/her test), the percentage of students that correctly answered the new question was significantly higher for the group of students that solved the test in a short time than for those that solved it in a longer time than 15 min.

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MOODLE TESTS IN A CONTINUOUS ASSESSMENT SCHEME IN ELECTRICAL AND ELECTRONICS ENGINEERING HIGHER STUDIES

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Abstract

Online tests are a common tool used in blended learning schemes. Among the many advantages of these online tests we can cite that these tests may be solved anywhere and anytime during the period of time the tests are opened. Moodle learning management system has been used to deliver automatically assessed online tests in the course "Signals and Systems" that is mandatory in most of Electrical and Electronics Engineering higher studies. The marks obtained by the students in these tests are taken into account for obtaining the students final mark in the course. Here a comparison between the marks obtained in these tests and those obtained in different activities developed by the students is reported. These activities are assessed in different ways: peer assessed homework, self-assessed classroom exercises, instructor assessed laboratory practices and instructor assessed final exam. The study has been extended during the last four academic years. The correlation between the online tests marks and the marks obtained in the rest of assessed activities are analyzed. Results show that online test marks present a very low correlation with the marks of any other activity. A reason for this low correlation could be the different nature of each evaluated activity. A second reason could be that some students can take unfair advantage of the conditions to do the online tests.

Keywords: online questionnaires, continuous assessment, computer based assessment.

1. Introduction

One of the most powerful tools offered by learning management systems (LMS) is the delivery of automatically assessed questionnaires. Computer or web based tests could be intended in order the students could check their progress (in real time and with anonymous feedback), for assessment purposes, or for fulfilling both objectives. LMS system usually offers several ways to create tests with some degree of randomness (de Sande 2011, Guimaraes-Pereira and Scheuermann 2007, Pachler et al. 2010, Rowe 2004). Common ways to obtain different quizzes are picking questions from a large item bank, changing the order in which the questions are presented, changing the order in which the possible answers are presented (at least for multiple choice questions) and changing numerical data when the solution is a single relation of these numerical data. However, there is not any effective way to be sure of neither who is answering an online questionnaire nor that students do not receive unauthorized help during the assessment, so students could cheat when solving their test (de Sande et al. 2010, de Sande et al. 2012, Rowe 2004).

The goals of this study are: i) to compare the mean marks obtained by the students in online tests with the marks obtained in different assessed activities; ii) to determine if the students agree with the weight given to the online tests in their final mark; and iii) correct such weight if necessary.

2. Design

The present study has been developed in Escuela Técnica Superior de Ingeniería de Sistemas de Telecomunicación at Universidad Politécnica de Madrid. Signals and Systems is a mandatory course of the Electrical and Electronics

Engineering studies. After a few weeks since the beginning of the semester, the students should choose to be assessed by means of either a continuous assessment method or a final exam. During the studied period, most of them (over 95 %) have chosen the continuous assessment method. This continuous assessment includes peer assessed homework, self-assessed classroom exercises, automatically assessed online test (via Moodle LMS), instructor assessed laboratory practices and a final exam. Regarding the online tests, students have the possibility to solve quizzes intended for self-assessment and formative purposes (their results are not taken into account in the final mark of the students) and assessment questionnaires with a given weight in the final mark of students. Cumulative data of six semesters since 2010/11 to 2013/14 academic years are considered in the present study. However, only the marks corresponding to those students that complete all the continuous assessment activities are included in the present study (data corresponding to 272 students).

At the end of the semester the students are requested to fulfill the survey shown in table I about the continuous assessment method. Due to the voluntary character of the survey, only 147 students fulfilled the survey.

The main objective of this work is to analyze the correlation among the marks obtained by the students in the online tests and in the different assessed activities. A second objective is the analysis of the survey data.

Table I: Survey questions

Q1. It is feasible to understand and assimilate all the contents of the course.
Q2. The weight of the homework in the final mark (14%) is adequate (in case you disagree, indicate if it should be increased or decreased).
Q3. The weight of the Moodle tests in the final mark (16%) is adequate (in case you disagree, indicate if it should be increased or decreased).
Q4. The weight of the classroom exercises in the final mark (20%) is adequate (in case you disagree, indicate if it should be increased or decreased).
Q5. The weight of the laboratory in the final mark (10%) is adequate (in case you disagree, indicate if it should be increased or decreased).
Q6. The weight of the final exam in the final mark (40%) is adequate (in case you disagree, indicate if it should be increased or decreased).

3. Results and discussion

Table II shows the correlation coefficients for all possible pairs of assessed activities. It can be observed that the correlation coefficients between the online tests marks and any other assessed activity (OT column) are lower than any other correlation coefficient.

Table II: Correlation coefficients for all possible assessed activity pair.

	OT	HW	CE	LP	FE
Online tests (OT)	1				
Homework (HW)	0.367	1			
Classroom exercises (CE)	0.393	0.519	1		
Laboratory practices (LP)	0.324	0.461	0.528	1	
Final exam (FE)	0.251	0.400	0.497	0.378	1

As an example, Fig. 1.a) shows the distribution of the automatically assessed online tests marks obtained by the students (the mean value of the four delivered tests) versus the instructor assessed final exam marks. The points spread across almost all the chart indicating a low correlation between the variables in the two axes.

Figure 1.b) shows the percentages of the options selected by the student for each item. It is worth noting that 81% of students considered that the objectives of the course can be reasonably achieved (Q1). Most of the students were in agreement or total agreement with the weights assigned to homework (58% of students, Q2), classroom exercises (77% of students, Q4) and laboratory practices (54% of students, Q5). Regarding the online tests it can be observed that although 52% of students were

in agreement or total agreement with the weight assigned to online tests (Q3), 35% of students were in disagreement or in total disagreement. Among the students that were in disagreement or total disagreement with the weight assigned to the online tests, 17 students thought that it should be lower, and only one thought that it should be higher than the actual weight while the rest did not express their preference. These results suggest that the students thought that the course objectives were achievable. However there are many students that are in disagreement or total disagreement with the weight assigned to the online tests and most of these students thought that this weight should be lowered.
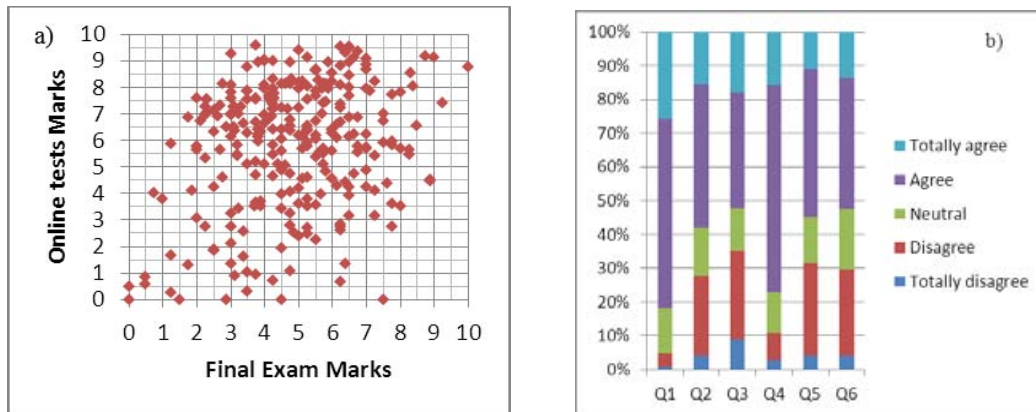

Figure 1: a) Mean of the 4 delivered online tests marks *vs* the final exam marks;
b) survey answers.

A very low correlation between the online tests mean marks and the marks obtained in different assessed activities have been found. Reasons could be the different nature of the assessed activity and the easy of obtaining unfair help when the students solve the online tests. The survey answers suggest that the students have a lower confidence on the online tests marks than on the rest of assessed activities. It can be concluded that despite the advantages and positive aspects that the online tests present, its weight in the final mark should be low compared with the weight assigned to other kind of activities.

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OUTCOME-BASED APPROACH TO THE CURRICULUM REFORM A CASE STUDY IN THE FACULTY OF PHARMACY, UNIVERSITY OF HELSINKI

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Abstract

In order to meet the expectations to act as an expert in the health care profession, it is of utmost importance that the education creates knowledge and skills needed. Thus, the planning of the curriculum should be based on learning outcomes. During 2012-2014 we conducted a curriculum reform in the Faculty of Pharmacy, University of Helsinki. The construction of the curriculum was based on the most relevant learning outcomes concerning the work life. The reform was kicked off by interviewing all the relevant stakeholders (students, teachers, all the work sectors pharmacists are involved). Based on the interviews the learning outcomes of the Pharmacy degrees were defined including both content and generic skills. New learning outcomes led to the renovation of the strand structure within the curriculum to foster the constructive alignment and the redesigning of the courses. The learning outcomes were defined in more detail for the strands and individual courses.
During the process we understood the importance of listening carefully of all the stakeholders and their opinions. The process created an atmosphere where everyone felt that their participation was valued.Although the background of the participants was quite different, the outcomes were surprisingly uniform. During the process many new ideas and practices were formed. When reforming the curriculum it is absolutely necessary to involve all stakeholders. Although the process was demanding and time-consuming, it was inspiring and produced the learning outcomes.

Keywords: curriculum, learning outcomes, stakeholders, generic skills.

1. Introduction

In order to meet the expectations to act as an expert in the health care profession, it is of utmost importance that the education creates knowledge and skills needed in working life. Thus, the planning of the curriculum should be based on learning outcomes. During 2012-2014 we conducted a curriculum reform in the Faculty of Pharmacy, University of Helsinki. The starting point for the curriculum renovation and planning the teaching was the learning outcomes of the Bachelor's and Master's degrees which were based on the needs of the working life. Furthermore, all the relevant information of latest evaluations of pharmacy education, research findings about teaching and learning pharmacy as well as the feedback of pharmacy teaching at the faculty was taken account in the reform.

Based on the previous data and feedback the aims for the curriculum reform were formed and they were (1) to create the learning outcomes for the Bachelor's and Master's degree in pharmacy which meet the needs of working life, (2) to create more challenging curriculum and to develop teaching and assessing methods which foster students' deep level learning and demand active work by students, (3) to increase the flexibility of the curriculum and the amount of optional studies and thereby strengthen the professional identity of the students.

2. Methods

The curriculum reform was conducted by a five membered team of senior lecturers in pharmacy, a senior lecturer in higher education pedagogy and a planner

from the administration of the faculty. The team studied all the earlier studies and feedback of the courses of the old curriculum and made the tentative definitions of the policy for the reform. The team interviewed broadly the stakeholders in pharmacy. The needs of the working life were found out by interviewing several representatives of communal and hospital pharmacies, pharmaceutical industry and authorities in pharmacy sector. The team conducted focus group discussions also for pharmacy students and faculty teachers in each discipline of pharmacy as well as the international staff of the faculty. Furthermore, the professors of the faculty were interviewed also individually in order to hear their visions in more detail. Over 30 interviews were performed. The interviews were focus group discussions; in each interview there were 3-9 participants and they lasted 60-120 minutes.

The theme of the interviews was to explore what kind of competencies, skills and knowledge pharmacy student should have when he or she graduates. From stakeholders it was also asked what kind of competencies, skills and knowledge are needed in today's working life in the field of pharmacy. Detailed notes were written in every interview during the interview and the notes written were visible to all the participants in the discussion. The notes were commented and corrected during the discussion if needed. The data was analyzed by content analysis method by grouping and categorizing similar themes. The learning outcomes including both content and generic skills for the Bachelor's and Master's degree were formed based on the analysis.

The learning outcomes were further developed and defined in several workshops with all the interviewed stakeholders invited as well as with teachers and students of the faculty. The aim of the workshops was to inform about the process and also to discuss together about important and current themes which rouse up from the interviews or from the process and also to decide together about the next steps in the reform. In addition, the team was benchmarking different educational units both on health care and management research field in order to find out best practices for conducting educational reform.

3. Results and discussion

The formation of the new curriculum was a communal process between university, working life and students. The curriculum, its content and timing as well as the learning outcomes for the degrees were discussed and processed together. The process demonstrated the importance of listening carefully all the stakeholders and their opinions. The process created an atmosphere where everyone felt that their participation was valued. Although the background of the participants was quite different the learning outcomes proposed by different stakeholders were surprisingly uniform. For the first time, the learning outcomes for the degrees in pharmacy included also generic skills (Table 1). The importance of the generic skills in working life was highly emphasized in the discussions.

Table 1. Summary of the learning outcomes for the Bachelor's (Master's) degree.

Theoretical skills	Generic skills
Is able to apply knowledge in sciences and drug therapy to daily work	Has developed his/her professional identity
Understands the significance and role of pharmacy in society	Is able to think critically, to assess the information and its relevance
Understands the basic economical principles	Is able to solve problems and work under a hard pressure
Masters the communication skills	Understands the significance and is motivated for life long learning
	Is able to work in a multiprofessional team

During the process many new ideas and practices were formed. The new learning outcomes led to the renovation of the strand structure within the curriculum to

foster the constructive alignment and the redesigning of the courses. Coordinators for the four strands in the curriculum, the strand leaders, were nominated and the teachers were challenged to define the learning outcomes for the strands and individual courses in more detail in order to develop the constructive alignment in the curriculum.

In order to challenge the students thinking and deep learning, new teaching and assessing methods including flipped classroom and self and peer assessment are introduced to the curriculum. To increase the professional identity of the pharmacy students, the amount of the optional studies was increased in the new curriculum. In addition, the optional studies were grouped in three study paths, namely (1) community and hospital pharmacy, (2) industrial pharmacy and pharmaceutical authorities, and (3) research and scientific thinking. Furthermore, learning generic and metacognitive skills will be integrated in theoretical studies in order to achieve the learning outcomes of the degree.

The co-operation during the curriculum renovation process with the stakeholders in the pharmacy field grounded the basis for increased and systematic co-operation in the teaching. The working life could increasingly offer research projects both for Bachelor's and Master's thesis together with optional practical training courses for the students. Also, the development of the closer co-operation with university teachers and the stakeholders is going on.

4. Conclusions

During the reform process it became very clear that it is absolutely necessary to involve all the stakeholders when reforming the curriculum. Although the reform process was demanding and time-consuming, it was at the same time inspiring. And even though the process was unforeseeable the team could hold the process together by careful managing, planning and changing it with altering circumstances.

The reform process was able to produce the learning outcomes. For the first time, the learning outcomes for the degrees in pharmacy included also generic skills in addition to theoretical skills. The learning outcomes enable the curriculum to be build based on constructive alignment and to create knowledge and skills needed in working life. Increased co-operation with the representatives of the working life will help to reach the planned learning outcomes.

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CUSTOM DEVELOPED SOFTWARE TO SIMULATE THE USE OF UV/VIS SPECTROSCOPY IN QUANTITATIVE CHEMICAL ANALYSIS

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Abstract

Using software which simulates the use of typical analytical chemical techniques provide students with additional ways of learning about these techniques. This paper presents a free software package developed by the authors called UV-Vis-Sim, which can be used to simulate the use of an Ultraviolet/Visible (UV/Vis) spectrometer in quantitative chemical analysis. UV/Vis spectroscopy uses a simple linear model of absorbance, the Beer-Lambert Law. For quantitative information on a compound, the UV/Vis instrument must first be calibrated using solutions of known concentrations: once this so-called calibration curve is generated, unknown concentrations of the chemical can be measured. The software allows any compound to be analysed if the UV/Vis spectrum of that compound is known. The instructor version allows setting up constraints similar to the ones students would find in the lab (volume of stock solution available, volume of glassware, number/concentration of unknown samples). Once the simulation is set up, students can open it on the student version and "prepare" their set of standard solutions. The concentrations of the standards are not fixed, students must perform the appropriate calculations to "create" them correctly. The program then measures the absorbance of standards and unknown sample(s). The results, in tabulated form, can be copied into a spreadsheet and the data treated following standard procedures. The data will be individual to the students, depending on their choices and calculations. This software can be used to complement UV/Vis spectroscopy experiments, by providing students with additional opportunities to generate data, and then using this information to draw conclusions and extract quantitative information.

Keywords: software, spectroscopy, computer simulation, chemistry, problem-based learning.

1. Introduction

Problem-based learning (PBL) can increase students' motivation, encourage independent learning, and create effective problem solvers with a broad range of interpersonal and professional skills (Belt et al, 2002). In PBL, students learn about problems or real life scenarios in a relevant context. They encounter a problem and are encouraged to explore potential solutions which, in turn, encourage them to develop their autonomy and take responsibility for their own learning (Martin et al, 2008). PBL has been successfully used across a wide range of science subjects, including chemistry (Belt et al, 2002; Belt et al, 2005), physics and astrophysics (Institute of Physics, 2012; Raine et al, 2005), and medical sciences (Wood, 2003).

While technology is not a required component of PBL, it can play an important role in the PBL process, improving the authenticity and relevance of the PBL scenario (Park et al, 2008). Technology One aspect of the use of technology in PBL is the use of custom-developed software to recreate the immediacy and complexity of the workplace, where decisions are frequently based on incomplete evidence. Software can be used to develop interactive scenarios, in which the data generated and the information available depend on the students' decisions (Breaky et al, 2008; Norton et al 2012). The authors of this paper have created JPollution, custom made free software capable of simulating environmental surveys (Bertolo et al, 2006). As part of our ongoing interest in the development of free software which can be used to enhance

PBL exercises, herein we present a software package called UV-Vis-Sim, which can be used to simulate the use of an Ultraviolet/Visible (UV/Vis) spectrometer in quantitative chemical analysis. The software comprises two programs, UV-Vis-Sim, used by the students to generate the data, and UV-Vis-Sim-Pro, used by the lecturer to generate the parameters under which the students will perform the virtual experiment. The program is currently being trialed in a PBL scenario with first year Environmental Science students.

2. The software

UV/Vis spectroscopy is a technique which uses a simple linear model of absorbance, the Beer-Lambert Law. In order to obtain quantitative information on the concentration of a given compound, the UV/Vis spectrometer must first be calibrated using solutions of known concentrations. Once this so-called calibration curve is generated, unknown concentrations of the chemical can be measured (Clark, 2007). The technique, often used in the chemistry undergraduate laboratory, has a wide range of applications in real life, such as the quantitative determination of solutions of transition metal ions, some organic compounds and biological macromolecules.

UV-Vis-Sim is a free software package which can be used to simulate the use of an UV/Vis spectrometer in quantitative chemical analysis. The software is released under the GNU General Public Licence, GPL (2007). Both the source code and the compiled forms of the software can be obtained from the authors. The software comprises two programs, UV-Vis-Sim (the student version) and UV-Vis-Sim-Pro (the instructor version). Figure 1 shows a screenshot of the "create new experiment" dialog of the instructor version. In this dialog it is possible to define constraints similar to the ones students would find in the lab, including the spectrum, available glassware, the volume and concentration of the stock solution, and the concentrations of the unknown samples. Random errors can be added at various stages, to simulate real experimental errors. Any compound can be analysed, as long as the UV/Vis spectrum of that compound is known. Two types of experiments can be created, depending on whether or not the "summative test" tick box is selected. If it is selected, the instructor can define one or more "unknown" samples and set the concentration for each of them. The students will not see the concentrations, so this mode is useful to set up PBL scenarios. If the "summative test" option is not selected, the program will generate a random unknown sample each time the student loads the experiment. It will also provide the opportunity for the student to enter their estimate of the concentration and check whether or not it is correct. This mode could be useful to complement a lab session by providing additional practice outside the lab.

Once the simulation is set up, it can be saved as a file and opened in the student version. Students can "prepare" their own set of standard solutions, choosing the number of solutions and their concentrations for themselves (limited by the amount of stock solution and the glassware available). Students specify both the concentrations that they desire, and the volume of stock solution to be used. The program disregards the concentration values, and uses the volumes to calculate the "real" concentration and calculates the absorbance based on that value. The program then displays the absorbances of the standards and the unknown sample(s). The results, which show the students' desired concentrations rather than the "real" ones, are presented in tabulated form which can be copied into a spreadsheet and the data treated following standard procedures. The data will be individual to the students, depending on their choices and calculations.

3. Using the software in a PBL scenario

The software is currently being trialed in a PBL scenario with first year Environmental Science students, to simulate the study of samples from a potentially contaminated river. Students act as consultants for the council, and are asked to

assess the potential contamination with Chromium VI of the local river. Students are given a map and some background information on the area, as well as some data to support their assessment (e.g. physicochemical parameters for several sampling points, details of fish capture). They are also provided with an UV-Vis-Sim file which contains the necessary information to generate data for Chromium VI levels. The results will be presented as written group reports. It is still early days, but informal feedback from the students is positive. Students have reported no problems with the software, and they find find stimulating the possibility of generating their own set of data. Future work will include the development of the full PBL scenario, and the full evaluation of the student experience.

4. Conclusion and further work

This paper presents a free software package, developed by the authors, called UV-Vis-Sim, which can be used to simulate the use of an Ultraviolet/Visible (UV/Vis) spectrometer in quantitative chemical analysis. UV-Vis-Sim can be used to complement UV/Vis spectroscopy experiments, by providing students with additional opportunities to generate data, and then using this information to draw conclusions and extract quantitative information. The software has been used in a PBL scenario with first year Environmental Science students, to simulate the study of samples from a potentially contaminated river. Future work will include the development of the full PBL scenario, and the evaluation of the student experience.

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INTRODUCTION TO FIRST PROGRAMMING EXPERIENCES IN CHILDHOOD STAGE USING GAMES PLATFORMS

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Abstract

The different categories of educational software on educational programs often exist in the form of hardware/software materials. It is important that the teacher knows a broad variety of these possibilities in his own field of profession and knows how and where these tools can be used. ICT have such wide-ranging content, functions and possibilities of application that it is relevant to have seen, tested and evaluated them together in order to choose the best effective practices of their usage in didactic processes.

The case study we have studied is a model where teachers would serve more as proctors and tech-support more than educators. The project is based on a regional competition conception that includes all schools of Vlora region in collaboration with teachers of ICT curricula. The platform of games development is Kodu Lab, a software of robotic games programming developed by Microsoft. Participants have worked for six months to develop their own game, a simulation based on the original fantasy of a virtual reality.

By including a wide range of themes in a final competition process with also an educational goal, the teacher will be able to introduce and to develop logical skills and practical competencies since the yang ages. The educational views behind the construction and the mode of operation of the program have an impact on the subject content and also the general competence development of the student.

Keywords: programming, KODU game lab, simulation, constructivism.

1. Introduction

According the final report a study prepared for the European Commission DG communications networks, content & technology, the new guidelines for the curriculum in education of early ages define the personality of child as a prerequisite condition to set educational value of learning, rather than the development of mental abilities can support the independence of cognitive processes. This is what is also required at community level in the framework of key competences to support the process of education learning.

Barron & Schwartz presented a good example of students following the proper process and reaching desired outcomes, while lacking a basic understanding of underlying concepts using a model rocket building activity that is intended to familiarize sixth-grade students with the scientific method. Nowadays, ICT has become an area of instrumental investigation to see the possibility of use of these tools rather than on the processes that underlie their operation. In this context, Information Technology plays an educational role with respect to cross disciplines and fields of knowledge seemingly distant. This is the idea widely shared by us in this contribution to see the artificial intelligence: as contribution to the personalization of learning process. ICT tools that are used to create learning approaches, have an unexpected value in educational innovation. Prenksy(2008) rreferring to the formal structure of natural languages and artificial languages, emphasizes that the representation of knowledge using simulated objects of real world has an considerable importance in the process of problem solving as a model of learning. This is an approach which, together with intervention strategies

of collaborative and cooperative nature, we propose Kodu LAB Game by Microsoft as a learning mode that gives determining value, representing in our opinion a new way of doing school. It can stimulate those forms of divergent thinking such as programming games which are the basis of all forms of creativity, providing a valuable contribution to the school education role in the landscape of education making it more dynamic and attractive

2. Design

This project, having as its goal the demonstration of new ways of learning through programing games by children in early ages, started from other specific ideas based on child programming literature. In this sense, our project was supported by teachers' preparatory work in several schools of Vlora region in collaboration with educational institutions of this area. First, the promotion of project was made by using websites of all institutions included in the project where everyone could find the Kodu lab platform link and guidelines to download.

Every actor played his role by supporting the activity as a new experience where it is possible to learn and to teach simultaneously. Developing new relationship between small groups divided in three stages of age, we organized this work in three phases: release programming idea, learn-programming actions and programming product in a final competition. This method was used to integrate all children in an educational big game developing creativity, motivation, logic and other practical skills.

We have chosen this method by programming with object because of its enjoyable and simple interface adapted for yang ages. The large set of objects and their methods attached for every icon creates the facility for every child to implement his own idea in a virtual world.

The final day has been chosen according the Kids Day in Albania-1st June, in order to that this event can be celebrated in a different way by children.

3. Objectives

The program aims to urge the use of strategies and methods of approach to the metacognitive issues in informatics teachers and students of preschool, primary and secondary grade band, through the achieving the following objectives:

- Consolidation and development of appropriate skills related to different modes of programming and design of the intervention educational programming for the objectives and content design model for concept maps ;
- Consolidation and development of intervention strategies for inclusive and collaborative approaches based on the design and implementation of Learning Environments;
- Promotion of good practice for the correct use of equipment and mediators environments on matrix robotics and multimedia in support of the learning process whose design and implementation is of particular strategic importance;
- The implementation of projects targeted at students in the dissemination of digital skills , with particular reference to the development of forms of thinking and procedural programming languages,

4. Methods

Jonassen, D.H. (2006) brings a good approach on modeling theorycal concepts with tehnology.The methodological approach was a educational project with competitive caracter in educational school system of Vlora Region. The project included 12 schools and two universities that have been part several activities of promoting and releasing the game programming idea by children. 30 informatics teachers have worked volountary with children to extract the best ideas for further

developments. The project commeettee evaluated step by step the progress of work proposals. At the end, 12 games passed for the final competition.

Bette Chambers, Johns Hopkins, Robert E. Slavin, Dewi Smith, Mary Laurenzano (2010) categorize the level of games by child age. We used this model becouse it was simplier to evaluate objectively the quality of each presentation. The audience was open and every body could enjoy the diversity of worlds created by their colleagiues.

Figure 2. View of Kodu Lab game "My city" created by child of 11 years old: editing platform and programming mode platform interface

5. Discussion/Conclusions

The project demostrated that design, implement and evaluate inclusive play-based early learning curriculum and programs that support children's holistic development, are responsive to individual children's and groups of children's observed abilities, interests and ideas.It is important to establish and maintain inclusive early learning environments that support diverse, equitable and accessible developmental and learning opportunities for all children. Selecting and using a variety of screening tools, observation and documentation strategies to review, that can support and promote children's learning across the continuum of early childhood development.

Another important result that we have deducted is the establishment and the maintainance of responsive relationships with individual children, groups of children and teachers. During the projecct activities, it was nesessery for every teacher to apply a developing personal philosophy of early learning in accordance with ethical and professional standards of early childhood education practice, to assess, develop and maintain safe, healthy and quality early learning environments which meet the requirements of current institution policies and evidence-based practices in early learning. Both children and teacher were engaged in reflective practice, developing and learning goals in accordance with evidence-based programmes in schools and related fields.

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RESEARCH APPROACHES IN TEACHING AND LEARNING
weSPOT TECHNOLOGY TOOLS

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Abstract

Inquiry-based education provokes students to develop and master their own thinking skills instead of memorizing scientific facts for short-term use. Such a student-oriented learning approach makes a bridge between research and teaching. What is more, it looks for the answer how best to use mobile devices in education, how to prevent 'losses of students' energy' in the 'digital ocean' of information. This poster represents a sample inquiry-based study called "The Lost Energy" created with technology tools of Working Environment with Social and Personal Open Tools (weSPOT) project. This study used weSPOT inquiry-based learning model based on six phases: Question/Hypothesis, Operationalisation, Data Collection, Data Analysis, Discussion/ Interpretation, and Communication. Specially developed weSPOT tools help researchers to ask, research and answer the main question - can we use the wasted energy, is it possible to turn rush-hour mall traffic (passing people) into a source of energy? Using mobile devices (smart phone and tablet) and a weSPOT application map in a game-like situation students take and upload video clips from different busy places like shopping malls. This study was used as approbation of the weSPOT model and the weSPOT tools aiming to find their weaknesses, and the necessary improvements.

Keywords: inquiry-based learning, mobile teaching, student-centered, educational technologies

1. Introduction

This work presents a scenario for inquiry-based teaching, called 'The Lost Energy', using the model and tools of weSPOT project. The project aims to build a Working Environment with Social and Personal Open Tools (as the project's name states) and it has found support by the European Commission.

Nowadays unstoppable technology development and growth is extremely dynamic and imply development in many areas of life, especially in education. Young generation take for granted many facts that have taken years to scientists in the past to discover and prove. There are students whose energy is investigated in making their own break-through and build the life of the future. Unfortunately, a lot of energy of other students is wasted, because they suffer from lack of interest and 'refuse' to absorb just facts, which could be easily found by touching the screen. In addition, research proves that the education of today's students is not effective in traditional preaching way (Stefanova, E. et al., 2007). Because of all mentioned reasons, teaching should inspire a spirit of exploration and discovery. As shown in research below, this can be done by applying and enriching teaching and learning inquiry-based methods with integrated new technology tools, as weSPOT ones, which are fresh developed.

2. weSPOT model and tools

In frame of the weSPOT project (http://portal.ou.nl/en/web/wespot) a model for inquiry-based teaching and learning is developed as well as integrated technology environment for its application.

weSPOT inquiry-based model (Mikroyannidis, A. et al., 2014) defines six key phases, presenting stages of a scientific research process: Question/Hypothesis phase where the scientific statement is defined; Operationalisation phase - the research methods are planned; Data Collection phase - the facts and evidences proving the hypothesis are gathered; Data Analysis phase - the collected data are surveyed; Discussion/Interpretation phase - the results of the research are debated, and Communication phase - the final results are shared with all interested communities.

The environment built in frame of weSPOT project is based on Elgg engine, awarded in 2008 as the best open source social networking platform. Collaboration tools are integrated as components: MindMeister's Mind Map (awarded as the best website for teaching and learning in 2009); ARLearn platform for mobile educational games; Formal Concept Analysis tool, Learning Analytics Reflection & Awareness Environment. All together provide a 'smart-framework' for students to formulate and investigate their own scientific assumptions, to collect and share data and ideas, to prove or reject hypothesis, to analyze results, hence finally to learn more effectively.

3. 'The Lost Enegry' inquiry

The "The Lost Energy" aims the scenario for testbed of weSPOT model and tools. The goal of the presented research approach is to conduct experiment how to convert the teachers' ideas into the phases of the provided model and to what extend it is possible to realize them through weSPOT tools.

The idea to 'catch the energy' is proposed by teacher in Physics from National High School of Mathematics, Sofia, Bulgaria. The scenario, described by means of the weSPOT environment as inquiry, is designed to be tested in the same school with eight grade students aged (15-16 years) in Physics classes.

As we observed the first phase of the weSPOT model challenged the teachers first to formulate questions that expects by students not simply to answer what is written in the textbooks, but rather to define a hypothesis, needed to be proved. The main learners' hypothesis in this phase of inquiry is expected to be the energy generated by people in public places can be 'caught'. Because of that, first task for the students, in the phase Operationalisation is consideration of the most crowded and full of 'Lost energy' places in Sofia and choosing a few of them. In the same phase, based on learners' proposals teacher selects five shopping Malls to be observed. Next, teacher defines a mind map, so to collect the students' suggestions for the busiest points at each Mall where the passing people are the biggest number. After that the teacher's task is to define a mobile data collection game, to mark locations on the map for better visibility, and order of appearance and disappearance of the collection data tasks in ARLearn environment. In the phase of Data Collection teacher adds the component with student's assignment, through which learners, using Android mobile devices (Figure 1) with Internet connection, to take and upload video clips of these points of congestion.

Figure 1. ARLearn Mobile Client

In the next three phases students are expected to analyse, discuss and share the results and issue their opinion about the correctness of the hypothesis, and even to come to new inquiry 'how to catch and transform this mechanical energy to electrical one and use it as a source of power'.

The described research shows that weSPOT model is suitable for proposed teacher idea and it is realistic weSPOT environment to be used in the planned testbed. That is why next step in the research is the defined sample scenario and inquiry to be integrated in the teaching process at the school, as it is planned.

4. Conclusions

These days most of youngsters are always with their mobile devices and they spend hours surfing Internet or playing games. Their energy is boundless, they are an inexhaustible source of unusual ideas and zeal for new discoveries as well. "The Lost Energy" inquiry is an attempt to intrigue students' attention and to direct it in creative, game-like scientific learning. "The Lost Energy" is expected to bridge the gap between mobile addicted and conservative explorers.

By presented research weSPOT model and tools are tested through inquiry-based scenario conducted mainly from the teacher's point of view and partially from student's point of view. In addition, according the depict study above, the teachers and students will spend a lot of energy in facing challenges as: to deal with asking students appropriate questions and formulate hypothesis statement which require from them in-deep study to get answers; to provoke youngsters to define the hypothesis by themselves; to use modern mobile technologies and its interface to design mobile collection data tasks. As result of done research, recommendations for improvements are proposed. Very soon after they are proposed, some of them are already took into account and done by the weSPOT developers.

It is clear that future developments are still needed to improve the weSPOT model and to make the usage of weSPOT environment more easy and intuitive. They will be step to spread and accepted weSPOT tools as well as they will support the use of new culture and thinking for constructive energy in teaching and learning.

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TO WHAT EXTENT DOES PEER TUTORING PROGRAM ENHANCE ENGLISH LEARNING PROCESS IN OMAN?

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Abstract

Teaching techniques receive a considerable attention among professors, teachers and educational institutions in Oman. Since student is the central point of the education process, authorities always search for new methods to help the student develops his performance at university. Hence, this research shows that the methodology of Peer Tutoring tends to have a significant effect on the students' performance and on smoothing the teaching process for the teachers as well.
Peer tutoring is one of English learning support that has been included recently to Student Support Units at many educational institutions in Oman. Thus, we would like to share the experience of applying Peer Tutoring as one method of English learning support.

Keywords: peer tutoring, tutors, tutee, support, perspective.

1. Introduction

What does peer tutoring mean? It is the process through which knowledge is transmitted from a teacher to a tutor to tutees. However, it appears that being taught by a teacher or a tutor is different to some degree leading to a variety often advantages and disadvantages. (Topping, 1996)

2. Objectives

Since peer tutoring is a recent student support program in Oman, we as peer tutors aim to point out to what extent the implement of peer tutoring is significant for tutees, tutors and teachers in Oman. This paper offers a number of considerable results and recommendations based on reliable sources.

3. Methodology

3.1. Participants

The study is on peer tutoring program of three selected universities in Oman, Sultan Qaboos University, Nizwa University and Dhofar. Thus, forty eight tutors from these universities and 100 tutees from different levels of both genders have responded to the questionnaire. Five interviews were conducted, an instructor from Nizwa University, Tutorial Center Coordinator at SQU and three peer tutors, two from SQU and one from Dhofar.

3.2. Instruments

Data was collected using two data collection instruments: two survey questionnaires and interviews. Two questionnaires were disturbed, one for tutors from the three selected universities and the second for tutees of different levels of English as well. These questionnaires aim to measure students' impression about peer tutoring specially the influence on the academic and social performance.

The interviews were done to investigate inspectors and students perspective toward peer tutoring program as a support in learning the language alongside the teacher. They also give an idea about the TC working system at these universities.

3.3. Findings

This research ended up with several interesting results for the three factors tutees, tutors and teachers in Oman.

Tutors: Peer tutors consider tutoring as an effective experience through which they find the chance to improve their academic performance and to gain better understanding for the subject they teach. It also improves their social skills since it gives them the confidence to deal with the TC stuff as the member of the program and to exchange conversations with other people using English. Moreover, it is more useful for those tutors who are specialized in teaching since it enhances their teaching abilities. They often find similarities between the problem they deal with in the tutorial center and the ones in the schools. On the other hand some peer tutors have difficulties organizing their time. They also get confused when they teach low level students.

Tutees: Most of the students find tutoring as a useful program since it influences their academic performance and support their social skills. They feel more comfortable when they tutored by students near to their age so they concentrate better. More often tutees feel free to speak, ask and share opinions with peers since they are close to age so they understand their needs. However, some tutees find the sessions boring which may considered as a result of materials availability. A considerable number of tutees think that there is a difference between the way their teacher teach them and the way the tutor does which lead them to confusion.

Teachers: Inspectors from different universities in Oman show a good reaction toward this program. A good number of them admit that peer tutoring help them in teaching and it enforces students' performance. It is noticeable that education students encourage this program in school since it shows positive results among university's students.

4. Conclusion

Based on the findings and the available studies, these are number of recommendations:
1. To increase Peer Tutoring scope of application to include a larger number of universities as well as schools in Oman.
2. There should be a special training for peer tutors who teach low level students.
3. Peer tutors should meet tutees teachers who teach the course in order to exchange students learning abilities and to overlap confusion among tutees some times.

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LEVELS OF ADJUSTMENT TO COLLEGE, GENDER AND ACADEMIC ACHIEVEMENT IN FIRST-YEAR SPANISH STUDENTS

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Abstract

The documented difficulties that emerging adults experience during the transition to university, combined with the changing needs at this stage of life, have brought increased international attention to the adjustment of first-year university students and their academic achievements. However, surprisingly few studies have addressed this relationship in first-year students in Spain. The present study explores the relationships between levels of adjustment, gender and academic achievement in a sample of 300 first-year university students in Spain. The Student Adaptation to College Questionnaire (SACQ) was administered to assess adjustment.

A multivariate analysis revealed that students with lower levels of academic and institutional adjustment to college had poorer academic achievement than students with middle and higher adjustment. The students' average grade prior to admission to university was entered in the analysis as a covariate. Gender had no significant effect on first-year academic achievement. Nevertheless, female and male students differed with respect to the effects of adjustment on their academic achievement; no significant effect was registered for institutional adjustment in male students. Theoretical and practical implications for the study of students´ adjustment to university and academic performance are discussed.

Keywords: SACQ, academic adjustment, institutional adjustment, first-year students, gender.

1. Introduction

Adjusting to university is a major transition in *emerging adulthood* (Arnett 2000). Baker and Siryk (1984) have provided one of the most widely studied models of adjustment, describing adaptation as including academic, social, personal-emotional and institutional dimensions. According to recent data, these factors favour certain conflicts in the development and formation of emerging adults. During the first year at university, students are often confronted with a variety of new demands and challenges, and developing a vocational identity in which processes of decision making, exploration and commitment are particularly important (Astin 1993; Chickering & Reisser, 1993; Tinto 1993). Such difficulties lead to a feeling of dissatisfaction and disengagement from university life, finally causing students to question their choice of study, to fail academically or to leave university (Abdullah, Elias, Mahyuddin, & Uli, 2009; Wintre, Bowers, Gordner, & Lange 2006). Analysis of the most recent edition of the Education at a Glance report (OECD, 2011) has shown that in Spain more than 50% of students fail to complete university, and that much of this attrition (approximately 26%) occurs in the first year. In this regard, Spain occupies one of the worst positions within the European Union. However, surprisingly few studies have examined this relationship in first-year students in Spain, relative to the number of studies carried out in other Mediterranean and European countries or other Spanish speaking countries.

2. Objectives

1) To determine the relationship between students´ level of adjustment and their academic achievement in first-year university students.

2) To examine gender differences in this relationship, for all dimensions of adjustment.

3. Methods

The sample consisted of 300 first-year students from 16 different faculties (198 females and 102 males) within the University of Santiago de Compostela (Spain) and is representative of the distribution of the overall student population at the University. The mean age of the students was 18.03 years (standard deviation, .52 years). All of the students were single, and were not employed. Most students (91%) came from intact families, and 75.7% were relocated from their parents' house.

The adjustment measure used was the Spanish version of the Student Adaptation to College Questionnaire (SACQ, Baker & Siryk, 1984). The SACQ consists of 67 nine-point Likert items that assess the quality of students' adjustment to college/university on the basis of a multifaceted concept of this process. Along with a global score for adaptation, the SACQ includes four subscales: academic adjustment, social adjustment, personal/emotional adjustment and general institutional attachment. The internal consistency of the Spanish version is .94 for the total score of SACQ, .90 for academic adjustment, .85 for social adjustment, .89 for personal-emotional adjustment and .84 for institutional adjustment (Rodríguez, Tinajero, Guisande & Páramo, 2012).

The students´ academic achievement at university and the pre-university grades were supplied by the Academic Management Services of the University of Santiago de Compostela (range 0 to 10).

4. Results

Gender did not have a significant effect on first-year academic achievement (t=.78, p<.05) and there was no effect of any interaction between gender and levels of adjustment. A separate ANCOVA for gender was conducted to test the main effects of levels of adjustment on academic achievement while controlling for the effects of pre-university grades. For this analysis, the SACQ scores were divided into three categories (low, moderate, and high).
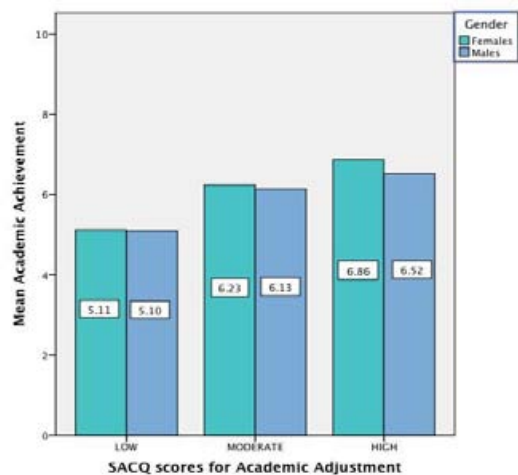
Figure 1. Mean academic achievement for levels academic SACQ.
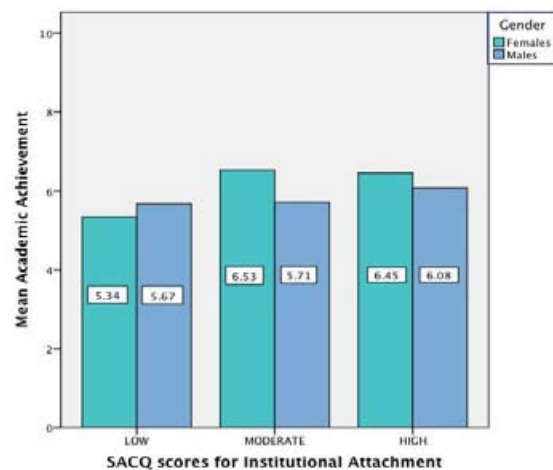
Figure 2. Mean academic achievement for levels institutional SACQ.

Level of academic adjustment had significant effects on academic achievement in males (F=5.08, p=.008, η^2=.094) and females (F=18.37, p=.000, η^2=.159). Follow-up pairwise comparisons showed that students with lower levels of academic adjustment to university obtained lower grades than students with moderate and higher levels of

adjustment (see figure 1). The effect of levels of institutional attachment was only observed in female students (F=5.69, p=.004, η^2=.055) in the same way as academic adjustment (see figure 2). No significant effect was observed in the male students (F=.80, p=.449, η^2=.016). The effect of the covariate –pre-university grades- was significant in all dimensions of adjustment (p<.001).

5. Discussion and conclusions

In this study, some factors associated with student academic achievement appeared to be consistent across institutions and countries; however, there were considerable differences between our findings and those of other studies. The discrepancies may be derived from differences in cultural and educational backgrounds. Multivariate analysis revealed the following:
- Higher levels of academic adjustment had a significant (and positive) impact on academic achievement.
- Gender had no significant effect on first-year academic achievement.
- Female and male students differed with respect to the effects of adjustment on academic achievement.
- Institutional adjustment did not have a significant effect on academic achievement in male students.

Our results clearly illustrate a strong relationship between academic adjustment and academic achievement. Poor adjustment to university has many implications for students. The development of academic predictors of academic success is a critical issue for educators. This is particularly relevant in the first year as research-based evidence suggests that there is a positive relationship between student academic performance and student retention rate. Enhancing student performance in the first year and increasing retention rates should be important priorities for universities, with focus on support, especially for students at risk. Students do not always seek help while trying to adjust to the demands of university life or when they have academic difficulties and may only seek assistance at a late stage.

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NEW WINE, TATTERED WINE SKINS: RESHAPING EDUCATION

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Abstract

Education and educators have been criticized frequently and forcefully for not keeping up with changing times. On the other hand there are cries when curricula are altered or when more current teaching methods are adopted to revert to the tried and tested methods that were used when we were in school. Additional demands arise because schools are expected to constantly incorporate all elements of most recent technology; pay serious attention to 'useful' subjects and ensure that all students acquire the skills, attitudes and even attributes that will make them prime candidates for post-secondary institutions and at the same time highly employable in the turbo-charged industrial/consumerist world of today. Schooling has never been faced with the turbulence that is manifest in today's environment. Schools no longer cater to a comparatively homogeneous population of students. Neither society nor parents are satisfied that all students be treated the same. Individual differences must be acknowledged and provided for meaningfully. Greater attention must be paid to the rights of students – rights that are advocated for by forceful groups of parents and human rights activists but which frequently clash with the traditional modes of operation prevalent in schools. No longer is the authority of the teacher assumed to derive mainly from the doctrine of in loco parentis, but more and more from their role as state agents or agents of either police or governments.

The diversity in the student population in this Liquid World challenges teachers at many levels. They must work with students with a broad range of abilities, from widely different backgrounds, and whose cultural and religious backgrounds are notably different from the host community. Many of these students come from what Bauman refers to as the dark side of globalization. For many the promises of increased opportunities and greater choice and expanded freedoms to practice their beliefs and live their cultural diversity have not come true. They are faced with emerging distrust and intolerance as indigenous populations struggle to cope with the growing numbers of "others" in their midst. Our current ways of delivering educational schooling in the western world is inadequate to deal with the rapidly changing circumstances of today's educational environments. This paper explores the challenges educators face in the new realities of schooling today and proposes different approaches and values that might be adopted in light of these challenges

Keywords: change, diversity, human rights, values, respect.

RELATIONSHIP BETWEEN EDUCATIONAL ATTAINMENT AND ABSOLUTE POVERTY IN NIGERIA

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Abstract

Absolute poverty according to is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services. It is a situation where a population or section of the population is, at most able to meet only its bare subsistence essentials of food, clothing and shelter in order to maintain minimum standards of living. Going by the figures of the Nigeria's National Bureau of Statistics, as much as 60.9% of Nigerians were living in absolute poverty in 2010. Education in particular, has been increasingly recognized as a key element in the alleviation of poverty whether it is explained in terms of potential provision of income earning, assets or production of public goods. The study analyzes the incidence of poverty in Nigeria and the progress the Nigerian government has made in alleviating the high rate of poverty in the country; further to this, the study analyzes the absolute poverty profile of the country based on living below the World Bank $1.25 extreme poverty threshold. This study investigates the relationship between educational attainment and absolute poverty in Nigeria. The study focuses on household adult members aged 15 – 64 and uses living below the World Bank $1.25 extreme poverty threshold as yardstick for measuring absolute poverty among them. 54 household comprising 353 adult members and 60 household members comprising 696 adult members were surveyed in Jigawa State (northern part of Nigeria) and Osun State (southern part of Nigeria) respectively, and the results of the survey revealed that 67% and 83% of those educated below secondary school level in Osun and Jigawa States respectively were living below the World Bank $1.25 absolute poverty threshold thereby confirming a relationship between low level of educational attainment and living in absolute poverty in Nigeria. The study finally proffers some suggestions as to how to make more people have higher educational attainment and how to help poverty stricken people with low educational attainment   in the country out of the extreme poverty trap.

Keywords: absolute poverty, educational attainment, Nigeria.

1. Introduction

The level of absolute poverty is high in Nigeria and this has been attributed the low educational attainment of individuals and households. This has been affirmed by a couple of previous studies namely Canagarajah, Ngwafon and Thomas (1997); Appleton, Mckay and Alayande (2008); Akerele and Adewuyi (2011); Ijaiya and Nuhu (2011); Anyanwu (2012). This study verifies the claims by these experts to add a voice to the validity of their claims.

2. Methodology

This study used the quantitative method, using the survey method. It employed the questionnaire administration as its type of survey. The mode of questionnaire administration adopted by the research is the face-to-face questionnaire administration, which allowed for items to be presented orally by the researcher in form of interview. The sampling frame for the study consisted of 730,313 and 810,310 regular households by housing units consisting of 3,416,959 and 4,361,002 people in Osun

and Jigawa States respectively as reported by Nigeria's National Population Commission in its 2006 Population and Housing Census of Nigeria.

3. Findings

The results of the survey revealed that 67% and 83% of those educated below secondary school level in Osun and Jigawa States respectively were living below the World Bank $1.25 absolute poverty threshold thereby confirming a relationship between low levels of educational attainment and living in absolute poverty in Nigeria.

4. Recommendations

Educational attainment and inadequate education/poor educational system are also factors claimed by authors and reports to be causes/determinants of poverty and reasons for uncertainty of the attainment of the MDGs' targets on the reduction of extreme poverty and hunger by 2015 in Nigeria; and this is confirmed by the results of this study (see chapters two, three and six). To find solution to these in order to alleviate poverty in Nigeria and increase its chances of meeting the MDGs' targets on the reduction of extreme poverty and hunger by 2015, the following measures should be taken:

- Section 18 of the 1999 Constitution of the Federal Republic of Nigeria which stipulates that Nigerian government should provide free, compulsory and universal primary education, free secondary education, free university education, and free adult literacy programme should be fully enforced. This would make it easier for parents who cannot enrol their children in schools because of the cost of acquisition of qualitative education develop much interest in educating their children; and subsequently deduce the school drop-out rates owing to financial incapability of parents.
- Education should be adequately funded. Budgetary allocation for education in Nigeria should always meet the recommended UNESCO standard which specifies that not less than 26% of annual budgets of countries should be allocated to education. All the states of the federation should allocate the same percentage to education in their respective annual budgets to pave way for uniformity of development within the country.
- Teachers, instructors and lecturers in the education sector should be well paid and the payment of their salaries and allowances should be regular and timely. Elementary and secondary school teachers should undergo regular training that will help them meet new challenges in the education sector. At the tertiary level of education, there should be a restructuring that will guarantee the production of graduates that would be able to be self employed.
- Nigeria's educational system should be refocused towards entrepreneurship development to reduce primary and secondary pre-mature drop-outs in the eastern part of the country where boys drop out of school for economic reasons and the northern part of the country where girls drop out of school for cultural reasons. This measure will serve as tool for poverty alleviation in the country.
- Proper supervision of schools should be ensured through regular inspections from both the federal and state ministries of education to ensure that both teacher and students are doing what is expected of them within the education sector. Also, automatic promotion from primary schools to secondary schools without entrance examinations should be discontinued and promotion of academically poor students from a lower class to a higher class should be discouraged.

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VIRTUAL PRESENTATIONS

ONLINE TRAINING SPECIALIZATION FOR HOSPITAL TEACHERS ON USE OF ICT

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Abstract

Currently, teachers face the challenge of incorporating technology into their classrooms, and adapt it to traditional classes. They also face a new kind of student, the "digital native" who routinely uses mobile devices and social networks as a means of communication and even as a way of "life". In hospital education and home care contexts ICT (Information and Communication Technologies) are even more relevant as they make possible to improve communication and coordination between schools, family and hospital, decreases children isolation and offer new ways of learning and relating to them. Therefore, in this paper we describe a specialized postgraduate online training proposal for teachers, in which they can learn tools, strategies and methodologies which enable them to use ICT in hospital and home care education.

The online graduate degree "Expert in Use of ICT for Hospital and Ambulatory Care Education (uTICe)" aims to train hospital and home care education professionals, to be able to design and develop training programs for children with long hospital stays, and prepare them on the field of education for health promotion in the educational system (prevention of unhealthy habits) and health education in society. Thus, our online course provides new graduate professional opportunities for teachers, teachers and educators in general to prepare professionals specializing in the design of educational activities at hospital and home, and capable of supporting their functions with ICT. So, in this paper we present the design of this specialized training program and the evaluations and conclusions of its development.

Keywords: teaching and learning, hospital education, ICT, eLearning, distance education.

1. Introduction

Currently, teachers face the challenge of incorporating technology into their classrooms. They also face a new kind of student, the "digital native" who routinely uses mobile devices and social networks (Prensky, 2001). In the hospital and home care educational contexts ICT are more relevant, because it improves communication and coordination among schools, families and hospital. Moreover, ICT can decrease the isolation of children and offer them new ways of learning and relate. Thus, it is possible to reduce the sense of isolation and the stress cause by long stays in hospital through the use of technology (Violant et al., 2009). Moreover, ICT have a great potential as a teaching tool, as an element of communication and production of information, and to facilitate social and school integration. For this reason, this paper proposes a specialized course, in tools, strategies and methodologies, which enable teachers to use ICT in hospital and home care education contexts.

The course presented in this work grew out of a research project called SAVEH (Service to Support Virtual Hospital Education) (González et al., 2011), to offer an online degree for specialized training in the hospital education area. Furthermore, this course enables teachers in the use of ICT as tools to support their interventions. Mainly, during the years that the SAVEH project has been developed, a gap in the

specialized training for this type of professional was found (González et al., 2013). There are some analysis of similar qualifications to this proposal, such as study about the state of university education on hospital teachers conducted by the association HOPE (Hospital Organization of Pedagogues in Europe) in 20 countries of the European Union. This analysis reveals a lack of previous university training to be a teacher or work in a hospital with sick children (Lizasoáin, 2010). Therefore we can say that, on the one hand there is a growing demand and need for specialized training in the use of technology on the hospital and home care educational practice. On the other hand, there are no specific qualifications for the training of specialists in the educational use of technology as a fundamental tool in support and care of hospitalized children.

2. uTICe: an online specialization in the use of ICT for hospital teachers

Given the demand and need of specialists in the use of ICT for hospital and home care educational services, a postgraduate course called "Use of ICT for Hospital and Ambulatory Care Education (uTICe)"[i] has been designed at the University of La Laguna. This course has 150 hours and is taught by internationally renowned specialists on the field of Hospital Pedagogy and Educational Technologies. The competencies to be acquired through the title are guaranteed at least for those contained in the Spanish Qualifications Framework for Higher Education (MECES) (Aneca, 2009). Moreover, Table 1 summarizes the general and specific skills to be acquired through this degree.

General Competences	Specific Competences
• Learning to work with the main pedagogic intervention strategies applicable in the field of infant hospitalization and home care. • Learning how to use various technological tools and resources in the design of educational proposals in the hospital and home environment.	• Knowing how to organize teaching-learning proposals tailored to students in a hospital and home setting. • Be able to adapt technologies to social and educational environment to foster communication environments of learning and cognitive processes. • Be able to develop instructional and curricular changes proposed taking into account the special and / or specific needs of students. • Be able to develop technology-supported teaching proposals tailored to the special and / or specific needs of students.

Table 1. General and specific competencies of the course "uTICe".

Besides the wealth of pedagogical activity itself (planning, teaching , evaluation, etc.), other skills within the medical environment are learned (understanding of clinical terminology, general knowledge about various diseases, illnesses, etc.) and specific skills such as: accompaniment own processes, family, among others. Also, this training emphasizes the design of interventions with motor games and active video game in hospital classrooms, with educational, rehabilitative and recreational applications.

The methodology of the course is online, and the practices can be performed or implemented in education centers or hospital schools, in order to contribute to the professional practices of teachers. Self-learning and collaborative work are supported by mentoring and monitoring of teachers, as well as different individual or collaborative activities, proposed along the course.

On the lessons organization, we have structured the topics in four main modules: Introduction to the Hospitality Education (30 hours), Teaching Strategies in the Context of the Importance of Education in Prevention and Health Promotion (30 hours),

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[i] Sitio web del Curso uTICe: *http://utice.saveh.es*

Attention to Diversity and ICT tools (30 hours) and Motor Play and Active Videogames: Educational Applications (30 hours). All skills are finally applied on a Final Project Course (30 hours), supervised by teachers.

3. Conclusions

The first edition of uTICe had 16 graduate students, from Spain, Colombia and Mexico, with different profiles (pedagogy, psychology and social education). After completing the course, the degree of satisfaction of students was assessed. These results were highly satisfactory, as 100% of students assessed as adequate or very adequate on the objectives, content and timing. Also, the individual assessments of the modules have been good or very good (100%) in terms of topics, activities, and tutoring methodology.

As strengths of this experience, note the following points: a) the fact that it is an online degree allows students studying at their homes or workplaces to do so from different places and at different times; b) the current needs of society and organizations to have professionals specialized in use of technology for education; c) the multidisciplinary vision, research and actual practice of the degree and; d) the practical approach.

As weaknesses to improve, we can mention the difficult coordination with professionals and organizations (hospitals, schools, ministries, councils, etc.) of regional, national and international scope. For the next edition, as improvements, we highlight that a) although keeping the actual sequencing modules, we can increase a week in each module to give students opportunity to recover the overdue tasks and, b) we can improve the actual practices of students, increasing communication and exchange of experiences among professionals involved in the issue of infant hospitalization.

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ASSESSING LEARNING IN TEACHER TRAINING. CREATING A TEAM OF IN-HOUSE TRAINERS IN LOCAL ADMINISTRATION

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Abstract

The overall objective of this project was to assess the transference of learning achieved by local administration staff taking part in a trainer training course offered by the *Diputación* of Barcelona (Barcelona Regional Government) during 2012 and 2013. We aimed to design a transference assessment model which would enable public administration personnel: to determine the knowledge, skills, and attitudes necessary for delivering training sessions which would be both effective and adapted to workers' needs; to discern whether participants transformed their training practice as a result of their acquisition of course contents; and lastly, to upgrade the *Diputación* of Barcelona's Local Administration Trainer Training Program.

Keywords: assessing learning, teacher training, in-house trainers.

1. Introduction

With increasing frequency, local public administration needs its professionals to receive training as a strategic tool for innovation and improvement. Ongoing training is a key instrument both for public employees' professional development and for local government to achieve quality services for citizens (Álvarez, 2008).

Up to now a great deal of training in this field has been delivered by external consultants who may on occasion be unaware of the local administration's dynamics and the real environment where the training received will be put into practice. This may contribute to the following effects:

- Firstly the transference of training to the workplace and its impact are reduced;
- And a further result is a poor contextualization of training, reducing the motivation of participants with practical experience in the subject.

To mitigate these effects local public administration is beginning to opt for the creation of teams of in-house trainers. In concrete terms these teams consist of a group of public employees with a high level of specialization in a specific professional field and a level of skills high enough to transfer their knowledge and experience to their co-workers. All that remains is to complement their training practice with a teaching methodology corpus which can equip them to deliver effective workshops and courses.

Since 2012 the *Diputación* of Barcelona (DIBA), in collaboration with the International Teaching Profession Observatory (OBIPD) at the University of Barcelona, has been developing a Program of In-House Trainer Training which aims to identify and boost expertise within local administration. The target clientele of this program is public employees from city councils and the *Diputación* of Barcelona itself who, thanks to their knowledge and experience, can participate as trainers in training initiatives aimed at local administration personnel. Those taking part in the Program must be experts in a field of specific knowledge in public administration, and preferably with some teaching experience or interest in training.

2. Objectives

The overall objective is to assess the effectiveness of learning achieved by local administration professionals attending the 2012-13 Trainer Training Course.

Once the Program had been implemented from 2012 to 2013, we aimed, in the project presented here, to carry out an assessment which would provide us with information on learning transferred to participants' professional training practice. Specifically, *this study focuses on assessing the transference of training in one of the most strategic fields of public administration: the training of in-house trainers.*

Assessing transference will enable us to verify and analyse the applicability in the workplace of competencies acquired in training and the conditions that have allowed or hindered this application.

The specific goals were:

a) To design a *transference assessment model* enabling public and local administration personnel to determine the knowledge, skills and attitudes necessary for delivering training workshops and courses which are both effective and adapted to the needs of the workforce.

b) To ascertain whether trainees *transform their training practice* thanks to the content studied in training, what applicability the competencies acquired have, and what conditions facilitate or hinder their application.

3. Methodology

The methodological approach utilized was a *qualitative evaluation study*, where evaluation is seen as a strategy for understanding and assessment, for discovery and building new knowledge. Evaluation research is a particular type of social research oriented towards social programs, plans and institutions, and towards decision-making (Escorza, 2006). Its purpose is to assess the quality of a specific practice according to criteria which have been set up with the goal of improving that practice (McMillan y Schumacher, 2005).

The study is divided into the following phases:

- *Phase 1:* Design of a training transference assessment model for local public administration. Currently under development.
- *Phase 2:* Design and development of the empirical part of the study through the following steps: selection of participants, information-gathering process (interviews, discussion groups, semi-open questionnaire, and participant observation). We are currently designing the information-gathering instruments.
- *Phases 3 and 4:* Analysis, interpretation of data, and conclusions.

4. Results and Conclusions

Briefly, the expected results and conclusions are oriented towards:

- Improving the design of the In-House Trainer Training Program targeted at local administration professionals, and transferable, with relevant adaptations, to contexts other than the *Diputación* of Barcelona.
- Affording information on the results of the assessment of transference on the In-House Trainer Training Program of the DIBA. Analysis and proposals for improving training.
- Design of a transference assessment model for training in local administration contexts: principles, processes, and instruments for application.

Table: informants and data-gathering procedures

		37 INFORMANTS			
		30 participants	4 face-to-face trainers	2 on-line trainers	1 program coordinator
INSTRUMENTS	In-depth interviews	7			1
	Discussion group		1	1	
	Non-participating observations of training	5			
	Interviews on comprehension and analysis of practice	5			
	Participant questionnaire	30			

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DOCUMENTING THE EXPERIENCES AND PERCEPTIONS OF YOUTH PARTICIPANTS IN THE SHELTON LEADERSHIP CHALLENGE PROGRAM

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Abstract

This ethnographic case study drew on intensive participant observation, interviewing, and analysis of archival materials, to document the experiences and perspectives of high school and college age participants in the Shelton Challenge, a summer camp designed to inspire and scaffold values-based, transformative leadership. This study focused in particular on youth reports of the impact of the Shelton Challenge experience on their use of reflection, critical thinking and values in decision-making.

Purposeful sampling across 13 high school and 4 college students ages 14-19, allowed depiction of differently-positioned informant perspectives. Participant observation; fieldnotes online, face-to-face, and teleconference interviews; power sensitive conversations; and analysis of program-related documents and artifacts were layered to produce a multiply-voiced account. Data were indexed by emergent themes, analyzed using the constant comparative method (Creswell, 2009), and member checking provided informant verification.

Narrative analysis of themes emerging from indexed field observations, archival documents, and transcripts of conversations with youth, yielded the following four moments in youth experience of the Shelton Challenge: a movement from initial isolation and disequilibrium to group cohesion; breaking out of the comfort zone; learning the value of teamwork; and reflection on a life changing experience. Thus the study documents both *the process* through which the youth moved across their experience in the Shelton Challenge, and also *the outcomes* of that experience. Such findings hold promise to inform program development for youth, particularly in the area of ethical leadership development, and future research on outcomes and processes involved in youth leadership development overall.

Keywords: transformational leadership, values-based leadership, youth development, reflection, critical thinking.

1. Introduction

This ethnographic case study (Flyvbjerg, 2011) documented the experiences and perspectives of high school and college age participants in the Shelton Leadership Challenge, a summer camp designed to develop, inspire, and scaffold values-based transformative young leaders. This research examined youth experiences within and perceptions regarding a program that aims to nurture young leaders and through nurturing them, to provide the skills they need for success in their futures. Students in the Shelton Challenge participate in activities aimed to promote the development of General H. Hugh Shelton's five cornerstones of values-based leadership: honesty, integrity, diversity, social responsibility, and compassion. As they work to understand these cornerstones, youth have opportunities to learn reflection and personal assessment; explore the role of values within the decision-making process; and engage in goal setting, teamwork and empowerment (Shelton, 2009). Key objectives for the Shelton Challenge include identifying basic leadership skills; gaining experience with public speaking; exploring leadership styles, goals, and motivation of others; and developing interpersonal skills ("Shelton Leadership Center," 2011).

2. Objectives

This study's purpose was to document the experiences and learning of new participants in the Shelton Challenge. The study drew from the week-long experience from the perspective of the first year participant, held at NC State University July, 2013. There were also two additional levels of participants that were studied. Peer leaders and coach/mentor/trainers (CMT's) that were youth staff members. The peer leaders and CMT's must have participated for the first time in their respective role.

3. Methods

Purposeful sampling (Denzin & Lincoln, 2011) provided the selection of 11 first time high school age youth based on age and geographic location. Youth staff participants (peer leaders and coach/mentor/trainers) consisted of two high school students and four college age participants that allowed for the depiction of differently-positioned informant perspectives regarding the impact of the experience on youth

A pre-online written interview (Briggs, 1986, Gatson, 2011; Hammersley & Atkinson, 2009), consisting of 14 questions, was conducted with each participant prior to participation in the Shelton Challenge to provide background and baseline information about each one. A post-online written interview consisting of 19 questions was conducted immediately following the Challenge with a focus of critical thinking, reflection, values and impact of the Shelton Challenge.

Finally, face-to-face and teleconference follow-up interviews were conducted one month after participation which provided youth with an opportunity to elaborate on their Shelton Challenge experiences, and thoughts in the ensuing days as they re-entered their daily lives after the program ended.

My study's aims would have been very difficult to accomplish without the opportunity to talk with youth using the method of power sensitive conversations (Bhavnani, 1993; Haraway, 1988). Being able to converse with every study participant at the end of the Shelton Challenge week provided depth of the experience as they lived it. Data from these conversations provided a connection and a youth perspective that enriched my own perceptions as a participant for the week. Being able to hear the struggles and successes of my study participants recounted in animated conversation provided a rich database. As participant observer, I worked directly with my study participants as a Shelton Challenge instructor during their week of participation in the program. I documented all observations with field notes (Emerson, Fretz & Shaw, 1995). Audio and video recordings of certain Challenge-related conversations and activities, along with social media and photo-ethnography, were used to document proceedings during the week.

4. Findings

The themes that emerged from the layering of indexes from all my data sources formed a story recounting not just youth perceptions of Shelton Challenge *outcomes*, but also of the *developmental process* they went through across the week of the experience, and their reflections several weeks later after they had re-entered their everyday worlds. Narrative analysis of themes emerging from indexed field observations, archival documents, and transcripts of conversations with youth, yielded the following four moments in youth experience of the Shelton Challenge: a movement from initial isolation and disequilibrium to group cohesion; breaking out of the comfort zone; learning the value of teamwork; and reflection on a life changing experience. Thus the study documents both *the process* through which the youth moved across the week in the Shelton Challenge, and also *the outcomes* of that experience.

Youth built their self-confidence to become more outspoken and unafraid of expressing their thoughts. Jordan explained: "*I've come out of my shell a little bit more.*

I'm somewhat, I wouldn't say introvert, but borderline, I guess. I'm a little bit more reserved than other people. I think this camp has helped me come out a little bit more and be a little bit more outspoken." Thomas shared, [This curriculum is] *"really like core fundamental principals, pertaining to the dynamics of human interaction that people need to know. I can't imagine myself now without it. I think its exceptional the way they made it work, curriculum something that's studiable, learnable, and attainable. That IS the Shelton Challenge."*

Cognitive reflection, decision-making, honesty and integrity, and to a certain degree, critical thinking emerged as key outcomes. Youth participants stated that they had learned to recognize the effects of values-based decision-making, reflection, and critical thinking on others, and its importance in leadership. Overall, the youth who participated in this study credited the Shelton Challenge with providing life-changing opportunities to lead, collaborate with teammates, face their fears, learn better communication skills, come out of their shell, gain a sense of accomplishment, and increase their self confidence.

5. Conclusions

Can a one-week summer camp experience have an impact on youth leadership development? My study found that youth utilized 'take-aways' that were salient to them. Across the pre-, post-, and follow-up interviews, my study participants credited the Shelton Challenge for their improvement or change in a number of areas. Some stated that they were competent in various areas before attending, and that the Challenge did not improve or affect their learning in a particular area. Jordan said that his critical thinking skills had not changed, either, since participating in the Shelton Challenge. However, he noted that he thought his reflection skills had changed: *"I do use reflection now in a slightly different way, now that I've been through the Shelton Challenge. When I reflect now, I think about different alternatives that I could have used that would have helped me to more efficiently solve whatever problem I was dealing with".* In a final Oovoo interview, Winter argued that while her decision making process had not changed, but her critical thinking skills had: *"My critical thinking skills have changed. I see the bigger picture instead of focusing on one part."*

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PLACE-BASED AGENTS OF CHANGE

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Abstract

This paper will describe how a teacher education program produces teachers who are multicultural social-justice oriented Agents of Change by focusing on a culturally and contextually relevant curriculum. The overarching themes for the Professional Development School partnership were cooperation and collaboration where all stakeholders in the school community were given the opportunity to contribute to the best of their abilities.

Keywords: *agents of change, culturally & contextually relevant curriculum, professional development school, teacher education.*

1. Introduction

Teachers can increase their expertise by modeling and sharing their best and most effective instructional practices, mentoring new teachers, and collaborating with their collagues (York-Barr & Duke, 2004). These teachers can then make more personal contributions to the teaching profession by sharing what they know with their peers in geographically diverse communities of practice (Riel & Becker, 2008). As these teachers become more adept at their craft, they can begin to focus on bigger picture issues and eventually become Agents of Change for their school community.

2. History

Over the past 23 years, graduates of the Master of Education in Teaching (MEdT) program at the University of Hawai'i at Manoa (UHM) have excelled in the classroom, as three State Teacher of the Year winners indicate, and in administration, where graduates include principals, vice principals, and others in higher administration. The MEdT program is part of the College of Education (COE) and as such, the COE's framework and mission of preparing "knowledgeable, effective and caring educators who, through their sense of purpose and sense of place, contribute to a just, diverse and democratic society", drives everything that the MEdT program does.

3. The Partnership

Cooperation and collaboration are key components of the Professional Development School (PDS) partnership between Waipahu High School (WHS) and UHM. The relationship is based on the simple idea that parties must work together to be successful in any endeavor. Typically, teacher education programs have used partner schools as a place for teacher candidates (TCs) to observe and do student teaching. Our relationship, however, was expressly designed to be different. The overarching focus and day-to-day theme for everything UHM did with WHS was needs-based and focused on the question "What can we do for you?" rather than the all too common "What's in it for me?" This constant focus on each other's needs provided significant benefits for the PDS and created a wealth of opportunities for our TCs.

4. Four Guiding Principles

The MEdT program is founded on four guiding principles: (a) Integrating Theory and Practice, (b) Inquiry-based Learning, (c) Collaboration, and (d) Reflection. These four principles were deconstructed and used to create eight Teacher Preparation Outcomes (TPOs) that operationalize the outcomes in the delivery of MEdT courses, instruction, teaching internships, and field experiences (UH MEdT, 2013). The TPOs are as follows: (a) Teacher as Communicator, (b) Teacher as Curriculum Developer, (c) Teacher as Resource Manager, (d) Teacher as Advocate, (e) Teacher as Reflective Practitioner and Researcher, (f) Teacher as Facilitator of Cross-Cultural, Opportunity, Diversity, and Equity, (g) Teacher as Leader, and (h) Teacher as Life-Long Learner.

5. Four Important Pieces for the Teacher Candidates

Excellent teachers know their content and pedagogy but to become Agents of Change there must be support systems in place that are designed to allow the teachers multiple opportunities to practice and refine their craft. Four examples of how the MEdT program provides these supports, encourages and provides opportunities for students to become active members of the school community are described below.

5.1. School portrait

Context is extremely important and TCs use the School Portrait assignment to research and learn about their school and surrounding community. This assignment can be integrated into the cohort classes in to allow TCs to ask big picture questions like: "What skills do we have that would benefit the school?" What does the school (or department) need?", etc. The answer to these questions can serve as a starting point for collaboration needed to plan and implement school and community-wide activities.

5.2. Importance of the Cohort Structure

TCs and cohort coordinators remain together for two-years. Cohort coordinators teach all required classes and do most, if not all of the field supervision. Cohort coordinators also serve in many roles for the TCs, including being an instructor, mentor, adviser, etc., which creates strong bonds between the teacher candidate and cohort coordinators that allow for collaborative rapport and the co-construction of knowledge. Cohort coordinators also work regularly with all PDS personnel, university faculty and community members. The program, in its most basic form, is founded on the power of creating, maintaining, and growing personal relationships – between PDS students, TCs, cohort coordinators, university faculty, mentor teachers, PDS personnel, and community members. These relationships build trust between stakeholders that allow for the creation of opportunities for TCs to become Agents of Change.

5.3. The Co-Coordinator System

The early years of the program saw a lot of faculty turnover and a lack of continuity between cohorts. The MEdT program now has tenured faculty who have similar views on teaching, education, etc. These faculty members provide the program with a clear, common vision and are responsible for cultivating and maintaining inter- and intra-cohort relationships as well as strong relationships with their PDS.

Each cohort has two coordinators who run the cohort. The two-coordinator system (a) allows the cohorts to be K-12, since one of the coordinators can have elementary experience and the other can have secondary experience, and (b) effectively doubles context area knowledge because coordinators with similar areas of expertise are rarely paired together.

5.4. Professional Disposition Assessment

The Professional Disposition Assessment (PDA) reflects the TC's overall growth as a teacher. The five areas of the PDA correspond to the COE's conceptual framework: (a) Professional and Ethical Conduct, (b) Communication and

Collaboration, (c) Individual and Cultural Sensitivity, (d) Work Habits and Emotional Management, and (e) Self-Reflection and Professional Development. The PDA is a collaborative document between the TC, cohort coordinator, mentor teacher, and University faculty. It minimizes misinterpretations and ensures that all parties are aware of each other's views. TCs who perform poorly are counseled, put on a Plan of Assistance and monitored closely by both the mentor teacher and cohort coordinators.

6. Four Important Pieces for the Organizations

A teacher education program needs several things to be in place to build the relationships necessary to create a successful PDS. First, personnel must share a common vision and be versatile enough to handle multiple tasks and responsibilities. Second, the relationship between the PDS and University must be sustainable, that is, the relationship must be grown and cultivated. This is not always easy because people leave and circumstances change but it is essential that there is an ongoing two-way commitment. Third, there must be top-to-bottom commitment to the success of the PDS relationship where everyone at the University level, from Deans to Department Chairs to Faculty and everyone at the PDS including Principals, mentor teachers and school faculty must work towards the same goal. Finally, tying the field component of the program to the TCs' immediate needs is vital because the integration of theory and practice serve as confirmation that what we do and teach works in the real world.

7. Summary

Collaboration is essential to the success of our program because PDS-based teacher programs produce teachers who are more competent than TCs from non-PDS programs in (a) instruction, where they not only present content accurately but also in encourage critical thinking in their students, (b) management, where they establish and use routines, manage multiple activities and handle disruptions effectively, and (c) assessment, where they use multiple assessments and give students constructive feedback (Castle, Fox, & O'Hanlan Sounder, 2006).

In the future, MEdT faculty must work continuously to strengthen the relationships with our PDS colleagues so we can provide opportunities for our TCs to become contributing members of the school community. A few examples of opportunities that have allowed our TCs to become Agents of Change include: (a) planning and executing a community-wide Safety Fair, (b) having our TCs provide PD for the PDS faculty, (c) on campus substitute teaching, (d) full-time teaching jobs at the PDS and other schools, (e) collaborating on national presentations with PDS faculty and other TCs, (f) a tuition funded Masters degree cohort for mentor teachers, and (g) the opportunity to teach college courses at the PDS for high school students to receive early college credit. These are just some of the possibilities that became available as we guide our TCs to recognize and embrace their sense of place and become Agents of Change within and among the greater school community.

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COACHLABUC: COACHING LABORATORY FOR UNIVERSITY SCHOLARS AT THE UNIVERSITY OF CANTABRIA

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Abstract

Since the EHEA implementation, a reflexion based on the conceptual frameworks undertaken by university scholars is required over the complexity of university teaching role and its different meanings. The CoachLabUC objectives are to train university scholars as educational leaders, to provide them with theoretical and practical knowledge in a multidisciplinary approach to Coaching and to encourage cooperative, reflexive and experimental learning methodologies from "peer-colleagues". Furthermore, we foster the implementation of technical coaching and emotional intelligence in the teaching repertoire and to give teachers certain expertise in the application of techniques and dynamics to conflict resolution in the classroom, in their respective academic disciplines. Lab participants are introduced to key principles of effective coaching giving them the support they need to achieve their goals and striking the right balance by means of providing clear direction for teachers while maintaining their academic independence. The laboratory starts by preparing teachers to receive critical feedback, and then continues with a careful selection of goals and scaffolds to ensure that feedback is well implemented. Finally, scholars are encourage to show and share their skills and resources to deal with the various situations they have faced in their teaching, supported by peer supervision.

Keywords: coaching for university scholars, feedforward, innovation, peer supervision.

1. Introduction

In nowadays, university scholars are faced with increased complexity of the teaching and the different meanings acquires the basis of the conceptual frameworks made by faculty; they must therefore question beliefs and ideas hitherto in force and to investigate the reasons that have informed; restructure and find ways to work focusing on alternative methodologies consistent with the proposed students from European harmonization educational model.

From the perspective of socio-constructivist dialogical educational paradigms that sustain the development of professional and personal skills, teachers accurately incorporate the learning processes, strategies, dynamics, roles, in short, active methodologies that enable the student becomes the real protagonist of their learning, taking a more active role in the construction of knowledge and development of skills of analysis, selection, query and evaluate information; enhance its autonomy, reflective and critical thinking, collaborative professional attitudes and social skills to interact with their environment and professionally. For this it is necessary that teachers acquire and develop parallel social, emotional and professional skills that will help you get to develop that function guide and ongoing advice. Different studies demonstrate the success of teacher training through techniques and methods involved in Coaching (Casado et al, 2012; Ward, 2012, Rodriguez et al, 2009; Fernández, Valdés and Gonzalez, 2008).

2. Design

Our proposal is embodied in the CoachUC Model. This model arises in three phases that depart from teacher training course "Coaching Teachers" and integrate in the first instance, a laboratory of coaching (coachLabUC) and a later school coaching training for teachers to enable coordinators to achieve the ultimate goal: create support groups for teachers in each center of the UC that can be managed by them.

From the course "Coaching Teaching", interested attendees are given the opportunity to be part of a group to develop a coaching process we call "Pilot Support Group" as part of the coachLabUC: laboratory coaching for teachers. The coachLabUC is the framework that hosts the group, posing a monitoring process of a (two semesters) academic year October 2013 to June 2014, with monthly sessions of 2 h duration on the third Wednesday of each month. To achieve the objective of creating end-groups of self-support center comes into play in a second academic year, the school teacher coaching (coachDocUC) for training as coordinators interested participants of "Pilot Support Group".

The methodological approach to training will be given theoretical and practical based on cooperative learning, training peer and equal, existential analysis and reflection, for the articulation of innovative teaching proposals in university teaching.

Specific development in teaching Coaching:

- Bases of Coaching
- Personality Structure
- Beliefs and values in the learning process
- Classic Coaching Process:
    - Setting targets or
    - Study of the current situation
    - Action plans
- Motivation in the classroom
- Strategies Accompaniment helping relationship
- Tools for enhancing the "talent" of the student
- Time management: prioritization of activities
- Communication and feedback
- Identification of emotional states and nonverbal language
- Introduction to NLP applied to teaching
- Introduction to communication based on Transactional Analysis
- Leadership in the classroom and teamwork.

3. Objectives

Create a space monitoring and tracking permanent teaching.

Theoretically and technically train teachers to manage teaching-learning relationship during the process of teaching, learning and assessment.

4. Methods

4.1. First stage: coachLabUC

The University of Cantabria (UC) offers a pilot group the possibility of developing a coaching process over one academic year from October to June. Belonging to the training of teachers "Teaching Coaching" course is the gateway to coachLabUC for participants interested in continuing their coaching process. The first session emphasized the need to acquire a formal commitment to attend and participate in the working group (maximum of 20 attendees). It also reports the schedule of monthly sessions. Finally, it delivers all the documentation relating to the teaching methodology, the theoretical axis programming and development of subsequent

sessions. Each group session is divided into four parts, as shown in the following table, based on a theoretical approach to the presentation of specific cases or problems. Our interest is to offer very dynamic and active sessions that motivate participants to continue and deepen their coaching process, being permanently accompanied and led by a dynamic and support staff.

	Overall development of each session (2 hours)
Part A	Theoretical approach
Part B	Proposal of technical and/or participatory activities and practices relating to the theoretical approach
Part C	Sharing Space (cooperative learning)
Part D	Supervision Space (specific cases or problems, and monitoring-oriented group for those situations)

4.2. Second phase: coachLabUC

After analyzing the results of the pilot group, the model continues coachUC proposal to stakeholders to participate in training and group coordinators within their centers, as part of a school of coaching for teachers of UC (coachDocUC). The planning of this school was made according to the needs and interests of teachers wishing to participate in this second year of coaching. In parallel, would teach the course "teaching coaching" giving way to new teachers interested in this initiative.

4.3. Third phase: support groups center

At this point, they have made two editions of coachLabUC coachDocUC and the school, which will offer sufficient critical mass to implement educational support groups in those centers where interested staff there.

5. Discussion and Conclusions

Main contributions of our proposal:
- Train teachers and educational leaders.
- Provide psycho, within the multidisciplinary approach to coaching, to university teaching theoretical and practical knowledge.
- Encourage cooperative, collaborative, reflective and experiential learning methodology teachers from "peer - colleagues."
- Encourage the implementation of technical coaching and emotional intelligence in the teaching repertoire.
- Feeling certain expertise in the application of techniques and dynamics to conflict resolution in the classroom, in their respective academic disciplines.

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THE CONSTRUCTION OF PROFESSIONAL KNOWLEDGE IN PRE-SERVICE TEACHER EDUCATION

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Abstract

In this paper we present the results of a study whose aim is to identify, analyze and interpret the perceptions of teacher educators regarding the knowledge being built while carrying out the curriculum for the degree in primary teacher education and how this knowledge contributes to professional identity.

The research methodology employed in the study was qualitative. The main strategies for gathering information were: in-depth interviews and document analysis. We analyzed data from interviews with ten teacher educators of the University of Barcelona as the curricular plans and other legal documents. The results of the study may give rise to the analysis needed to promote changes aimed at addressing the demands of teaching in 21st-century society, providing guidelines and solutions responding to the new requirements of The European Higher Education Area (EHEA), and contributing to the development and improvement of teacher training.

Keywords: teacher knowledge, teacher education, higher education, lecturers, qualitative study.

1. Introduction

The construction of professional knowledge is a question of constant interest in research on teacher education, approached from various theoretical and methodological perspectives. In pedagogical research, pre-service education is considered a key element in the formation of teachers' professional identity and in the development of teaching knowledge. The international literature clearly reflects the key role of initial teacher education in shaping the professional identity of teachers and the idea that professional development should be the goal of any training activity.

In this paper we present the results of a study carried out at the University of Barcelona (Spain), whose aim was to identify, analyze and interpret the perceptions of teacher educators regarding the knowledge being built while carrying out the curriculum for the degree in primary teacher education, and how this knowledge contributes to professional identity.

2. Design

The pre-service training of teachers is the first step in a long process of continuous professional development which, while it does not provide complete and sufficient preparation for full and effective practice, should at least give teachers the foundations for beginning to build a certain "pedagogical way of seeing," provide tools for understanding the practice of teaching, and lead future teachers into an activity which they have hitherto experienced only as receivers, but without reflecting on it and from it.

In the field of teachers' pre-service training, the relationship between theory (propositional knowledge taken from the disciplines making up the training program) and practice (situations which approach the reality of teaching in the various

institutional fields) constitutes an endemic problem. This is shown by a number of studies whose results show that teachers' real learning takes place in the practice of working with students (Sohlberg et. al., 2007), rather than as a result of their initial training. Comparable results are found in other studies which indicated that one of the most recurrent problems in describing teacher education programs in universities is precisely the lack of connection between the training derived from pre-service courses and experiences of real practice (for example, Avalos, 2009; Brouwer and Korthagen, 2006; Tiana, 2013, etc.)

It should be noted that most of the data relating to this issue comes from studies focused primarily on practical experience in the first years of employment. There are few studies which explore professional knowledge obtained during the whole period of initial teacher education, the primary objective of our study.

Thus the research that we present here takes on more interest, as it strongly affirms the importance of pre-service training as a decisive stage in beginning to build professional knowledge.

3. Objectives

The objectives of this study are the following:
- To analyze the professional profile of the primary school teacher in its regulatory, curricular, and epistemological contexts.
- To investigate teacher educators' perceptions of the professional knowledge gained through the Primary Education Degree and its influence in shaping students' identity as teachers.
- To determine the viewpoints of teacher educators concerning the relationships between theory and practice on the Primary Education Degree.

4. Methods

The research methodology employed in the study was qualitative. The main strategies for gathering information were: in-depth interviews and document analysis. Regarding the research process, this was structured into two phases:
- *Document analysis:* The selection and analysis of basic documentary sources, enabling us to determine in depth the legal framework, curriculum design, and institutional framework of the study programs on the Primary Education Degree at the University of Barcelona.
- *In-depth interviews* with teacher educators on the Primary Education Degree at the University of Barcelona. Through these interviews we were able to obtain an in-depth and reflexive view of the type of knowledge which, from the university teachers' point of view, the students were building in the course of their degree. Specifically, 10 teachers on the Primary Education Degree took part.

5. Discussion/Conclusions

In the following we present an outline of the study's most significant results, extracted from the main body of our findings:
On the professional profile of the teacher:
- There is no existing shared terminology in the scientific literature, legislation and university curriculum. In each of these fields different features of the figure of the primary school teacher take precedence: the legislation focuses on her/his functions, the epistemology concentrates on professional knowledge, and the study plans are centered on skills and competences.
- While the scientific literature addresses the teacher's abilities focusing on general pedagogical knowledge, knowledge of the subject, didactic knowledge of the subject, knowledge of the curriculum, self-knowledge, knowledge of

pupils, knowledge of context, and experiential knowledge, current education legislation establishes functions in three fundamental fields: general functions (innovation and improvement of practice, permanent teacher education, relationships with families, etc.), classroom functions, and school functions.

- All the competences involved in the functions indicated by the legislation are included in the curriculum of the University of Barcelona's Primary Education Degree. Thus although the legislation prioritizes school functions, the university curriculum centers around the development of competences relevant primarily to classroom functions, leaving the school functions in second place.

On the construction of professional knowledge and the relationship between theory and practice:

- The subjects on the Primary Education Degree are designed to integrate various didactic elements: rather than a single perspective they start from the diverse elements which then work together to shape the teaching process: a global and integral form of learning combining competences, contents, objectives, activities, and assessment. In this way, the tutors provide students with situations which lead their learning towards the construction of a body of theoretical-practical knowledge linked to reality, from a perspective of critical and reflexive construction, of questioning what is being learned and their role as future teachers. In every case, work on specific and transversal competences in the subjects is a central feature of the teaching-learning process, on occasions conceived as the nexus which unifies all the elements involved in this.

- According to the teachers interviewed, theory and practice appear to clash mainly because of the rigid structure of the pre-service training curriculum. The organization of the study program into subjects split into quadrimesters, the division of the units, spread between teachers dealing only with their own specialized disciplines, and the temporal and spatial difficulties involved in linking the knowledge and skills acquired in this fragmented way, do not help students give proper attention to the theory-practice relationship. Also, the teachers taking part in the study considered that neither the "theory to practice" approach giving practice predominance over theory work. Thus many of the teachers surveyed, starting from the specific contents of their subjects, tried to help their students bring meaning to the practice of teaching through the analysis of experience, framing analytical reflection as observation of their own practice and as an exercise in theoretical reconstruction.

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THE PROFESSIONAL DEVELOPMENT PLAN IN TEACHER EDUCATION

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Abstract

Although teachers' interpersonal competencies are considered basic to their profession practice, the role of these skills in teacher education degree programs is limited. Their development in university classrooms is meagre, and their assessment almost non-existent.
In this paper we present a process undertaken in a teacher training class to promote the acquisition and assessment of interpersonal competencies amongst trainees. This intervention aimed to provide trainees with the tools to establish a personal professional development plan based on self-awareness in the area of the above-mentioned skills.

Keywords: self-awareness; interpersonal competencies; assessment of competencies.

1. Introduction

The figure of the teacher is fundamental to any educational process. Her/his knowledge and the role s/he plays in class are crucial to the construction of students' own learning. A teacher is in turn expert, facilitator, guide, mediator, coach, mentor, communicator, analyst, and critic; a combination of knowledge, skills, attitudes, and personal attributes which s/he sets harmoniously in motion.

Throughout their pre-service training, trainees acquire an abundance of knowledge blending the scientific dimension (the knowledge needed to teach their specific subject matter) with the pedagogical dimension, including the pedagogical-didactic knowledge which should allow their teaching interventions to be as appropriate as possible. Apart from this they acquire certain skills which enable them to take decisions, work in a team, and manage information and their own time and emotions; and finally, a small range of personal attributes and attitudes of respect, tolerance and professional ethics through which they can relate more effectively to others.

For both students and teachers themselves the human, interpersonal factor is considered of vital importance for establishing favorable relationships between teachers and their students and also amongst teachers. Some analyses exist which reflect this situation: "I have often asked myself whether many of the problems which schools suffer are really produced more by disturbances in the emotional balance and maturation of teaching staff, and less their lack of psycho-pedagogic or subject knowledge" (Imbernón, 1994: 18).

Despite this, the development of interpersonal competencies in university classrooms is limited and their assessment negligible.

In this paper we present an intervention undertaken on a teacher training course, with the aim of helping trainees develop their interpersonal and social competencies.

2. Objectives

Our objectives (enumerated below) were framed around the acquisition and assessment of teachers' self-awareness, and more specifically awareness of the social and interpersonal competencies which teachers should have:

- To identify the personal attributes and competencies that teachers should have
- To promote self-awareness
- To provide strategies for improving the assessment and self-assessment of interpersonal skills
- For teachers to learn to manage their own interpersonal skills

3. Methodology

We planned the actions needed to achieve our objectives according to transversal framework, staged in the following phases:

1. Identification of competencies. We started with an observation task, an analysis of a video featuring different types of teachers, through which we detected each one's strengths and weaknesses. This led on to a brainstorm resulting in a list of the qualities which define a good teacher.

The resulting scheme was given out to trainees so that subsequently and individually they could complete the initial findings. They were asked to analyze the practice of teachers that they had in other subjects or that they remembered from previous courses. After three weeks, the competencies individually noted were shared amongst all, and a single list compiled.

A review of the literature concerning the interpersonal and social competencies that good teachers require enabled us to confirm some of the attributes already described and add others that had not yet emerged from the observations.

Data gathered from interviews with practicing professionals (teachers and school directors), carried out by groups of trainees, completed the original list. These tasks allowed us to ascertain the competencies which, in a generalized way, teachers use in in their professional practice.

2. Identifying one's own competencies. Using the ideal competencies profile outlined in the first phase, each trainee had to analyze her/his own skills. To this end we used participative activities such as oral presentations, group work, debates, case studies, and materials development, in which trainees could identify (using the scheme previously worked out) what their own strengths and weaknesses were. These were then reflected in a table:

Strengths	Weaknesses

3. Setting objectives. Each trainee individually then set their own development objectives, aimed at both optimizing their strengths and addressing their weaknesses. For each item to develop, they outlined the short- and long-term strategies they would use to achieve this.

	TO MAINTAIN		TO DEVELOP	
	Qualities	Strategies	Qualities	Strategies
Short-term				
Long-term				

4. Assessment phase. In this phase we established how the steps proposed in the professional development plan would be assessed, what period of time would be given to each improvement, what tools would be used to make them tangible, how each would be assessed, and what actions would be taken if any of them were not achieved.

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Although this phase could not be carried out due to the short duration of the project (one semester), planning how to assess it allowed us to close the circle of its design.
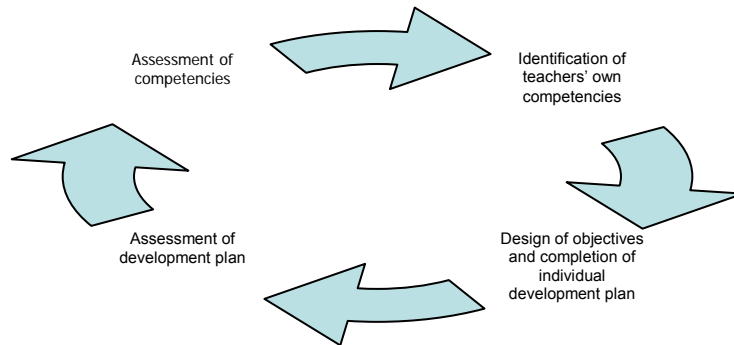
4. Conclusions

All trainees evaluated extremely positively both the process and the result, stating that the self-reflection, the setting of development objectives, and the assessment of improvements made gave them a high degree of autonomy.
Most trainees noted that they had great difficulty completing the project due to their inexperience in this field and the short period of time they had to identify, implement and assess their competencies. The experiment was focused on one teacher education subject for the duration of one semester.

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TEACHERS TRAINING COURSES: COACHING FOR TEACHERS

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Abstract

Widely demonstrated and developed in the U.S.A and many European countries, Coaching is being developed in some Spanish Universities as an instrument for fostering skills and attitudes in teachers that can be useful in their mentoring projects and tutorials, as well as in their personal development. Several investigations show coaching benefits in the cross-curricular development for both: students and teachers.

We are interested in raising the profile of the teacher as a coach who can accompany students in their learning. To do this we consider important to enhance the approach to coaching bases for further development in the classroom. We have carried out teaching a course of 8 hours in the Teacher Training Courses Program at the University of Cantabria (UC). The course is entitled "Coaching for Teachers". It has been developed during two days with the participation of 20 teachers belonging to this university campus.

The main objectives of this course are to learn the of coaching basics and schools following different ways of thought you can rely on, to know the different types of coaching in the world, and to obtain an overview of the role of the coach.

These types of initiative are well received by teachers because of its utility for teaching. Furthermore, quality surveys conducted confirmed the great acceptance of developing coaching tools for teacher performance in university classrooms.

Keywords: coaching, competences, teachers training courses, higher education.

1. Introduction

There are several ways to transmit knowledge and values: Teaching usually use the instruction to transmit information, practice this knowledge to set and evaluated to see if we have achieved that goal. Sports or music have technical performance, we train ourselves to develop new skills. When we reached a very high level of expertise, for example in athletes, it is found that the challenge is what we call the inner game. And that self-discovery of inner resources is what we call COACHING. The concept was developed by Tim Galwey and John Whitmore (Whitmore, 2003) mainly in tennis and also exported to creating business management executive coaching.

Throughout his career, coaching has become a key tool in successful business management and its influence has spread to various areas (Batt, 2010). Our proposal seeks to transfer their educational strengths, considering that, with the proper application of this technique in university classrooms, training teachers will lead students to learn more and better, and be better prepared to proactively face their future.

Each way, the teaching, the training or coaching provide practical and effective solutions. Coaching for teaching new skills is in addition to those already deployed by those who work with students every day (Cajina, 2011).

Coaching is not a school for educators or parents, neither provides solutions to a particular style or ideology. Coaching allows everyone to find their own answers and

strategies by itself. Respect for the values and orientation itself is the basis of Coaching, cause develops and expands the criteria itself.

Objectives to pursue with the teacher coaching are:
- Coaching as a process for improving teacher performance;
- Coaching Training to implement in the classroom: Teachers - Coaches;
- Coaching to improve coexistence: In the faculty, in the classroom and with parents;
- Violence prevention and conflict management with empathy and active listening.

The choice of this technique has not been fortuitous, since their principles coincide largely with the philosophy that chairs the Bologna process (Obiols and Giner, 2011). In both approaches learner autonomy, self-learning and skills development is promoted from his commitment during the learning process. In Spain, one of the first publications on coaching applied to education, appears in the Journal of Counseling and Educational Psychology (Bisquerra, 2008), as a technique worthy of note in the field of guidance.

Our Coaching for Teachers course offered is based on the following set of principles (Saphier and West, 2010):
a) importance of individual autonomy and self-learning;
b) conduct is conditioned by the peculiar worldview that forms the subject throughout his life;
c) need to coexist high motivation , responsibility to desire for change and transformation;
d) relevance of the communication process, then, through language, verbalization of goals and the use of powerful questions, the individual discovers himself and tends to act.

Coaching from its educational aspect, fits perfectly with the new roles of those involved in the teaching-learning process , considering the teacher (coach), as a "facilitator", and the student (coachee), as "your knowledge generator itself."According Bayon et al. (2006, p 47.), "The coach can play seven different roles in relation to the pupil: teacher, partner, researcher, mirror, teacher, guide and notary." Based on these principles, our model is based on the creation of knowledge by the student (self-learning), and in consideration of the professor to guide the process of learning and discovery facility the (counselor). This is in line with the philosophy behind the Bologna Process, the constructivist. We believe that with its implementation, not only students can achieve success in the acquisition of knowledge, but their motivation can be enhanced, which positively affects their attitude to the study.

2. Objectives

Deploying an educative intervention on educational coaching for academics.

We have carried out teaching a course of 8 hours in the Teacher Training Courses Program at the University of Cantabria (UC). The course is entitled "Coaching for Teachers". It has been developed during two days with the participation of 20 teachers belonging to this university campus. The main objectives of this course are to learn the of coaching basics and schools following different ways of thought you can rely on, to know the different types of coaching in the world, and to obtain an overview of the role of the coach.

The topics covered during the course were:
- Introduction to Coaching and backgrounds.
- Education Coaching and applications.
- Teaching and learning styles.
- Coaching tools applicable to teaching: Emotional Intelligence and NLP.

3. Results

Twenty places were offered that were covered in its entirety. The course was taught by a professor at the University specialist in Coaching, NLP and emotional intelligence. The methodology of the course was theoretical and practical, blending theoretical discussion with experiential exercises, powerful questions and group reflections. The results in the satisfaction survey were high and teachers indicated the desirability of encouraging this type of training for all university teachers.

4. Conclusions

We can conclude that these types of initiative are well received by teachers because of its utility for teaching. Furthermore, quality surveys conducted confirmed the great acceptance of developing coaching tools for teacher performance in university classrooms.

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HIGH SCHOOL EDUCATION PERSPECTIVES IN THE AGE OF GLOBALIZATION: EDUCATION FOR WHAT?

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Abstract

This study analyzed the proposed High School curriculum, the final stages of the formation offered under Basic Education in Brazil, which should, according to the guidelines outlined in the Law of Guidelines and Bases of National Education-Law No. 9394 of 1996, relate to the world of work and social practice. It is a qualitative and bibliographic piece of research that discusses the underlying assumptions of the relationship between school and the workplace, based on theoretical references related to the theme, such as those of Manacorda, Carnoy, Segnini, Marx and others, and which discusses whether or not the curriculum offered for the subjects has a humanistic nature focusing on personal development, or if it is a form of working class training for the dominant mode of capitalist production in Brazilian society. Through the analysis it was found that the intention of preparing young students to be able to gain access to the labor market has shifted from its primary focus of the development of these individuals and preparing them for entry into the social life, to the main intention of consolidating their position in an alienating practice and in an action committed more with the capitalism interests than with people education. At the same time, it offers only basic conditions for the formation and development of these young people, given the precariousness of educative practices. However, paradoxically, it may contribute to the subjects emancipation, being that the school is an organization mediated by social contradictions that enables educating for resistance and critical conscience. Thus, the educational practices should steer themselves with a view to offering a comprehensive training for those to whom it is addressed.

Keywords: education and work, high school, curriculum, vocational education, emancipation and alienation.

1. Secondary and professional education: legal assumptions of the implementation of perspectives in Brazilian education

This article is the result of qualitative and bibliographic research that discusses the underlying assumptions of the relationship between school and the workplace, based on theoretical contributions with regard to the theme. This article also discusses whether or not the school curriculum has a humanistic nature, focusing on personal development, or if it is a training of the working class concerning the necessities of the capitalist society, given that this is the dominant production mode in Brazil.

Thus, it was found that in Brazil the Law of Guidelines and Bases of National Education - LDB, Law No. 9394 of 20/12/1996 is the instrument that regulates education in the country, in line with the Federal Constitution of 1988 and sets conditions for high schools as part of basic education. Article 21 points out that school education is made up of basic education which covers preschool, elementary and secondary education, and higher education.

Thus it appears that high school incorporates the basic stage of education considered as the basis for student development, the formation of citizenship, and access to productive activities, to allow them to pursue the highest levels of education and, as pointed out in the " National Curriculum Parameters (Secondary) " - PCNEM,

providing instruments that guide the development of this type of education in Brazil. In line with these parameters, it also possibly points that the LBD, in article 22, shows the objectives of education in high schools.

In article 36, it is pointed out that the high school is the final stage of basic education. It has the characteristic of having a final aim of creating an informed citizen, offering an opportunity for the students to consolidate the knowledge they have acquired in previous their earlier schooling, offering the students the possibility of enhancing their personal development, providing the opportunity for students to develop their capability for further study if the student desires, and to offer a basic preparation for work and citizenship. It presents, therefore, a general opportunity for character formation that seeks to relate the training offered with the requirements of modern society while also proposing, pursuant to article 2 of the LDB, that this type of education should be bound by the labor and social practices which should occur throughout school life.

The PCNEM indicates also that the structure of education should be based on four pillars, namely: learning to know, learning to do, learning to live and learning to be. These general guidelines incorporate the four assumptions outlined by UNESCO as structural axes of education in contemporary society, highlighting the Brazilian perspective with regard to the adequacy of its education system as it is aligned to the requirements of international institutions and to the dictates of the capitalist model of society prevalent in Brazilian society.

Faced with this reality, is important to consider what Carnoy (1980) states, showing that the school system was historically established to function in a way that would make the popular masses unable to participate in the social and economic development, because the economy was and is organized to maximize such participation to a few, instead of many.

Thus it becomes clear that the dominant sectors are behind the decisions to implement an educational model whose link with the world of work is inherent in the proposals implemented that do not occur and are not committed to the aspirations of the working classes who naively attend the public education system. However, they are determined by the productive structure, and having seen that, as Carnoy (1980) notes, the production process is organized to benefit the ruling class by reinforcing the social inequalities inherent in Brazilian society.

Given these considerations, we question the actual role of the Brazilian educational system in relation to the training offered to young people in high school. Does it offer a critical and emancipatory education with a view to the full training of young citizens contemplating the different aspects involved in developing individuals, or is it an alienating training for the labor market that is productive to the needs imposed by contemporary society? These points will be discussed and presented here.

2. Education for work versus alienating training for the labor market: the educational prospects in Brazilian society

It was found that education for work " [...] is a social relation (class, gender, ethnicity, generational), far beyond educational or vocational training, which is established in the productive processes, within a society governed by exchange value and strongly marked by cultural values that allow the formation of prejudices and inequalities. This means that the knowledge gained by a worker through different processes and social institutions - family, school, company, etc. - added to his abilities, also socially acquired and added to their personal characteristics, subjectivity, his world view, constitute a set of knowledge and skills which means, for him, the worker, value in use, which only becomes exchange value at a given historical moment and is recognized by capital as relevant to the productive process " (Segnini , 2000, p.8).

Thus, according Segnini (2000), educating for the job is a mechanism that ends up by expressing power relations within the production process and within society, and,

although necessary, is insufficient with regard to the full development of youth, such that they can have full integration into society today, not only as a productive force, but also as full citizens, such as is involved in the education of the "omnilateral" man, fully contemplating the human development.

So, it was concluded that education, in order to move towards training for human emancipation, should be implemented with a view to educating the "omnilateral" man, contributing to the formation of citizens who are conscious and critical with regard to the problems inherent in the historical moment in which it operates. It means that they should be able to act critically in social life and to contribute to changes sought by the working class in a capitalist society. It relates to what can be pursued for the humanizing of social relationships, considering that only public policies implemented through actions that enable effective social and economic development, for those involved, may allow the overcoming of social inequality. We consider that this focus should permeate public policy with an educational basis in Brazilian society because:

According Segnini (2000) education is fundamental for a critical citizen formation, not as an end in itself, but like a complete process focused on the human develop.

Thus, as a result of the analysis, is possible to consider that the education process must be oriented by emancipatory principles. So, it was found that the intention to prepare young students to gain access to the labor market has shifted its primary focus in terms of the human development of these individuals, and of preparing them for entry to social life. The main intention is consolidated in the form of an alienated practice and in the form of an action committed to the interests of capitalism. At the same time, it offers only basic conditions for the formation and development of these young people given the precariousness of educative practice. However, paradoxically, it may contribute to the subjects' emancipation, being that the school is an organization mediated by social contradictions that enables educating for resistance and critical conscience, when the education effectively contributes to the formation with a critical and reflexive nature and committed with the social transformations search, that, unlike what has been proposed and implemented in Brazil, as presented here, should permeate the educational proposals in this society, because " the education would be powerless and ideological if it ignores the purpose of adaptation and not prepare men for guidance in world. But it would also be questionable if he got it, producing nothing but well-adjusted people, good people adjusted, in consequence of which the existing situation requires precisely at its worst. Accordingly, since the beginning there is in the concept of education for awareness and to rationality an ambiguity. It may not be possible to overcome it exists in, but certainly we cannot deviate from it."(Adorno, 1995, p.143-144).

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PROFESSIONAL PRACTICES OF WORK WITH INSTITUTIONALIZED CHILDREN AND THEIR FAMILIES

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Abstract

Research has evidenced that institutionalization of children and young people has massive implications on family-child relationships. For this reason, it is important to promote and optimize the relationship with the families. Institutionalized children and young people come from families referenced to, as being at risk. These families are those which, for a certain period of time, are vulnerable and unable to look into the children's biological and psychosocial needs. It is therefore important that these institutions, through their professionals, provide suitable conditions for children and the young institutionalized as well as facilitate their interaction with family and new conditions for family reunification.

The present work shows the results of an ongoing research integrated in a larger PhD project aiming at studying social mediation with families. Overall the project explores the uses of meditational approaches/strategies made by a multidisciplinary team of professionals, working with institutionalized children and families (Law n.147/99 of 1st September).

During a two-month interval, we undertook participant observations in five Portuguese institutions for children in residential care. Eighty-one individual cases of children and young people aged 12 years or older were analysed and twenty-one semi-structured interviews with professionals who work in team (Psychologists, Social Workers and Educators) were conducted at this preliminary phase of the investigation. The content analysis of this data will be presented. In addition the results are discussed for the purpose of needs assessment.
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Keywords: *institutionalized children, mediation, professional practices.*

1. Introduction

According to Portuguese Law N.147/99 of 1st September, the host institution in residential care is a measure of promoting and protecting the rights of children and young people at risk, the objective being to promote a stable and quality environment necessary for their full development. The host institution aims to provide answers to the needs of children and young people at risk, ensuring appropriate care of their needs. It also seeks to provide them with conditions which protect and promote their health, safety, education and training, well-being and integral development. Article 53 of that law also provides that the host institution should promote the child or young institutionalized an effective relationship family type and a personalized daily life. In order to provide these conditions, the social services, have the worry of reducing the number of children that each institution may receive as well as of increasing the child-caregiver ratio. In addition to this, the social services have sought to create conditions necessary for life plans of institutionalized children and youth so that they do not remain in the institution for more than the necessary time, deinstitutionalization them at a proper time. Professionals working in institutions Childcare included have ensured better training and consultation this area, through monitoring devices.

2. Objectives

This ongoing research aims to study and understand the role of mediation in a multidisciplinary team of professionals in their work with institutionalized children and families, particularly to identify the extent to which professionals recognize mediation

as a resource for improving their work with families. It is considered important to create mediation devices with families of children and young institutionalized, as a way to (re)discover, (re)construct, (rein)force and (re)evaluate these same families. The mediation will be an essential strategy in the work of professionals with families, children and young people institutionalized, with a view to restoring family relationships and their personal and family empowerment, thereby contributing to the welfare of the child or young institutionalized. For this, two main objectives were delineated: a) To investigate the contribution of socio mediation in multidisciplinary teams of professionals in the work institutionalized children and youth in establishing positive family interactions; b) Define the role of mediator in childcare multidisciplinary teams of social support in the childcare institutions and youth.

3. Methods

This research focuses on a methodology of research-action-training and is set to sample a set of twelve institutions of childcare and youth, randomly selected, situated north of Portugal. The first phase of the research focused on identifying the conceptions and practices of multidisciplinary teams of professionals who work in the host institutions, which included the work they do with families. Semi-structured interviews were conducted for all professionals, participant observations, during two months, in five of these institutions (experimental group), which also consulted and analyzed eighty-one cases of individual children and young people, aged twelve years or older. The professionals of multidisciplinary teams of five institutions that comprise the experimental group will participate in the second phase of the investigation, training and monitoring their practice program, which includes interaction and mediation, the remaining seven institutions constitute the control group.

4. Discussion

From the perspective of connections between the importance of interaction between children, young institutionalized and their respective families, professionals understand that these have an important role in fostering the connection between the child and the family, including the time when the project to life of the child and / or institutionalized young goes through family reunification. It is also understood that family visits to institutionalized children is a privilege to potentiate relations in order to assure the equilibrium between children's rights and duties of their families, reconstruction of family ties, and adequate socio-affective development.

However, there is a divergence of perspectives on the work that must effectively be developed: some recognize that they must work and interact regularly with families and potentiate their relationship with institutionalized children; others consider that this work should be developed by professionals from other institutions, such as EMAT (Multidisciplinary Advisory Team to the Courts) and CPCJ (Commission for Protection of Children and Young People).

Although few, some professionals considered it was necessary to work with families making them participants in the (de)institutionalization process and demystifying the pejorative image that families have of institutions. They also considered that they should also take the initiative to seek out the families and not the other way round where families try to locate these institutions.

At the level of concrete practices most professionals emphasize that their contact with families, which mostly happens at the beginning of the institutionalization process, aims at collecting information they consider relevant and do not include the process of the child or young person. The first contacts are for the diagnosis and assessment of the situation and the position of the family in relation to institutionalization, as well as the transmission and understanding of rules and procedures of the institution with the family and vice versa (rules of visits, timetables,

phone calls). Subsequent contacts with families in the institution focus on the confirmation or otherwise of what was agreed between them and the institutions (courts, CPCJ, host institution, EMAT).

Regarding family visits to children and / or young professionals, these are not prepared, only the timings are set in advance. They also point out that the initiative for the visits have to come from the families; the institutions are limited to just complying with what was stipulated in the promotion and protection agreement with regard to the said timings.

There are several reasons given by non professionals with regard to working directly with families: i) lack of resources, ii) the geographical distance between the institution and the residence of families; iii) work with families within the competence of other entities, such as EMAT, CPCJ. Other professionals consider that lack of work with families is due to the latter and to their resistance to collaborate with the institution.

The reasons identified by professionals have a connection with the rather negative representations of families, characterizing them as: disinterested, disorganized, inefficient and self-centered. Often negative value judgments are expressed undervaluing the efforts of the families demonstrated during visits and considering them not capable of change and improvement of their parenting skills, and when they do something, more proactive, it is termed as being done because they feel obligated.

Ultimately, professionals need to manifest greater training on conflict management, intervention in family context as well as in the prevention of risk behaviors. The need to create spaces for exchange of views, questions, doubts and experiences between professionals from other institutions is felt.

In summary, it can be stated that there is a divergence between conceptions and practices of professionals in relation to working with families of children and young institutionalized, noting that the difficulty of interaction with families may result among other reasons, from the representations of those on the latter.

5. Conclusions

The specific literature on the problematic (Pereira, 2013) underlines the need to strengthen the guidance, support and to connect families of children and young institutionalized. Also professionals participating in this research recognize the importance of working with families. However, they reveal difficulties at the practical level in this work and some manifest impossibility to execute it, either for material and logistical reasons or because of the incapacity of the families.

Despite concern for the needs and well-being of children and youth that have been institutionalized, object of most attention, the context of family has not been protected, the training needs of professionals which they possess in this respect have also been not protected, an aspect also noted by professional analysis.

In this sense, it reveals how important and timely it is to upgrade the skills of childcare and youth skills institutions to work and interact with families in the (re)establishment of their parenting skills, creating opportunities for greater involvement of the same project for the promotion and development of children and youth.

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USING APP DESIGN AS MOTIVATION FOR LEARNING STEM IN A HETEROGENEOUS URBAN CLASSROOM

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Abstract

By combining app development with classic research methodology, we were able to engage students in collaborative learning and higher-level research, thereby providing students the benefits of individualized learning and motivation in the classroom setting. The high school was identified by the NYCDOE as a "failing" school with an exceptionally high dropout and low college attendance rate. Each of the four STEM fields (science, technology, engineering, and math) were highlighted during this full year course. *Science:* Students generated authentic questions and created experiments in which they worked as research teams. Students also engaged in evaluating ethical science behaviors that ultimately led to their creation of marketing surveys. *Technology:* Students were particularly engaged with the online and offline technology aspects of this process, requiring them to play games, read and write code through NetLogo and Moodle. *Engineering:* The course began with students hands on practice in computer hardware design and the creation of electrical schematics leading to their understanding of the value of accurate documentation. *Math:* Throughout the year, students were asked to resolve classic unsolvable math problems to learn about critical thinking and perseverance in an academic setting. This class was particularly successful in the integration of students with various abilities and interests to work together towards a common goal.

Keywords: motivation, technology in the classroom, app design, integrated STEM.

1. Introduction

The project discussed in this paper is a collaboration between a NYCDOE teacher and a NSF GK12 fellow. Doctoral students are often faced with the task of 'teaching' a course with little or no pedagogical training.

The CUNY Science Now GK-12 Program's primary goal is to train doctoral students to become better communicators of their own scientific knowledge and research. Our strategy is to engage the GK-12 fellows in a curriculum development process in collaboration with high school teachers to create research experiences in which students investigate their own neighborhoods. The curriculum products that result from this partnership, Authentic Research Modules in Science (ARMS), become a permanent resource for teachers and their high schools. These Modules also become part of a collection of science courses that are offered to high school students through CUNY's College Now Program.

2. Description of pupils, school environment, and pedagogical approach

The course, Science Research Methods, *SRM* was developed specifically to be taught as a full year course for 3rd year high school students, ages between 16 and 17 years old to enhance their college applications.

Within the context of the school, 10 of the 14 students enrolled in the course were considered "high achievers." However, on national tests, like the PSAT, these students were in the lower third of all college-bound students. Additionally, one student

who has been diagnosed as relatively, high functioning on the autistic scale was also enrolled in the class.

With only 432 students in all four grades, this was considered a small school, with approximately one teacher per subject per grade. Diversity of the school is listed as 97% minority with 45% African American, 52% Hispanic, and 3% White. 23% of the students had Individual Education Plans and were receiving special education support either in the regular classroom, in out of class support, or in restricted classrooms. Approximately 78% are receiving free lunch.

During the Fall semester, the school was notified that they were scheduled to be closed along with 24 others. A major public, political, unsuccessful campaign to stop the closing ensued which involved many students, staff, and administrators' efforts and emotional resources.

3. Design of the course

The pedagogical underpinnings of the course centered around two books: *STEM Student Research Handbook* (Harland, 2011) and *Teaching Inquiry-Based Chemistry: Creating Student-Led Scientific Communities* (Gallagher-Bolos & Smithenry, 2004). These books guided the planning of units, lessons, and activities to insure standards and practices were in place. Since there was no budget to provide textbooks to students, the instructors identified an online website that could be used to provide the foundation of science research methodology and they assigned readings to the students from this e-text (Blakstad, 20008; and Shuttleworth, 2008). Note that this website has been redesigned since used in this course but the content is consistent.

We used literacy protocols similar to the ones proscribed in the CREATE method knowing that many of the students lacked regular, college preparatory, non-fiction reading in their prior course work (Hoskins, Lopatto, & Stevens, 2011; Hoskins, Stevens & Nehm, 2007). The CREATE method has been shown to help students understand highly technical academic literature by cartooning and creating mind maps of the ideas individually and in groups.

The mathematics for classic science research methods requires both standard statistical analysis and basic logic. Students were already being exposed to statistics in their regularly assigned mathematics course. Students were introduced to programming techniques and the concept of algorithms through their use of NetLogo (Wilensky, 1999). After acting out their algorithms, as in "Prisoner's Dilemma" and "Dining Philosophers," students then were able to test their theoretical work with a computer simulation (Poulter, 2003 and Wilensky, 2003 respectively). As another method of running and checking algorithms, students created rubrics for evaluating applicants for each of the jobs required in their small app development "companies." For their statistical analysis, students had to design and run a product research study of their proposed app. Based on their analysis, they made presentations to their product teams and changed designs accordingly.

Students had both multiple-choice and constructed response quizzes throughout the year to assess basic content understanding and provide feedback to the instructors on future lesson planning. The majority of assessments were project-based, long form research papers, short essays, and online dialogue with each other.

4. Evaluation

From the perspective of the original goals, standards, and design, the course was a success. Students engaged in quality critical thinking as evidenced from their work on the problem solving tasks and conversations within the online environment.

A number of students complained about "being forced to take another science class." These students were more engaged in the acting out of the "Stable Marriage" problem (Gale & Shapley, 1962). Without being fully aware of the mathematics

involved, students were highly motivated to solve the problem and create the most mathematically stable marriages. Students were also highly motivated during the science ethics and market research (statistics) units.

The most academic growth was most evident in the one special needs student taking the course and we wish to highlight his particular experience. We will refer to him by the pseudonym Jack. Jack was at the time an 18-year-old African American male. Normally, Jack was highly medicated to maintain frequent outbursts as well as irrational behaviors and verbal rants. When there was a lot of physical movement in the class, Jack was clearly confused. Jack's special instructional team informed the classroom teacher that his major academic goal was to write a full paragraph by the end of the year.

Another reason Jack was placed in the class was because he received over the summer and was obsessed with his iPad. When he was assigned the job of Game Designer in his group and told that the beginning of any good game begins with writing the instruction manual, Jack took the task seriously. He drew diagrams and sketches of screen shots he wanted to create and wrote explicit instructions for all of the buttons he thought end users should have. With very little guidance and encouragement, Jack turned his ideas into 5 pages of text and 2 complete screen shot diagrams. By the end of the school year, Jack had 10 pages of documentation and 4 complete sketches of his design.

5. Conclusion

Students with low skills, who otherwise have the cognitive ability and personal motivation to go on to college can build on their low skills and gain insights into actual undergraduate level expectations before they attend the university if given the expectations, tools, and scaffolds to do so.

Students with a variety of special needs can be active and productive participants within the creatively designed classroom.

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CROSSING BOUNDARIES
TO FOSTER ACTIVE LEARNING AND CRITICAL THINKING

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Abstract

In order to foster students' academic development, creativity, and critical thinking skills in the digital age, we have opted for a cross-disciplinary learning and teaching approach that introduces some Adobe Photoshop's tools/functions in the Arts/literature classroom. Our interdisciplinary research and teaching project is based on the following premises: (1) Our students are constantly exposed to and decoding multimodal texts. Thus, in different contexts, they need to draw on a multiplicity of socially shaped modes that contribute to meaning (visual, spoken, written, and others, depending on the domain of representation). (2) Whereas the order of the written text is fixed, the order of the image text is (relatively) open (Kress & Leeuwen, 2006). (3) In literary criticism some Photoshop tools/functions can be used as metaphors to visualize how the literary critic proceeds when analyzing a text.
In this paper, we present and reflect on the theoretical underpinnings that guide our classroom practices in an Arts/English course. We analyze the way the course allows students to explore a text by drawing analogies with Adobe Photoshop, the leading industry photo editing/manipulation program. The course also allows students to learn and use Adobe Photoshop. After presenting the pedagogical underpinnings of our approach, we reflect on the way they relate to our cross-disciplinary course.

Keywords: *interdisciplinarity, analogy, critical thinking, literature, graphic illustration.*

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1. Crossing Boundaries to Foster Active Learning and Critical Thinking

The primary goal of our course is to offer students a multivalent skill-set that gives them a competitive edge and prepares them for a job-market where multimodality is at the heart of a variety of activities in the workplace.

The focus of this module is on selections in Photoshop and selections in text. We will use Kate Chopin's "The Story of an Hour" to show how using the Selection tools in Adobe Photoshop is analogous to processes and procedures involved in the interpretation of literature.

2. Introduction

In order to foster students' academic development, creativity, and critical thinking skills in the digital age, we are using a cross-disciplinary, analogical learning and problem solving approach. When students learn by analogy, they acquire new knowledge about an input entity by transferring it from a known similar entity. According to Brian Clark (2014), teaching/learning by analogy is a process of demonstrating how two things are alike by pointing out shared characteristics, with the goal of showing that if two things are similar in some ways, they are similar in other ways as well. Furthermore, judicious use of analogy goes beyond mere identification of similarities to foster complex logical arguments. Higher-order thinking promotes engagement and retention. Additionally, the same concept can be represented in more than one type of relationship, which helps refine understanding and promote cognitive flexibility.

In our approach, and reflecting on Brian Clark's statement on analogical learning, we introduce Adobe Photoshop's selection tools/functions in the literature classroom to show how the selection of a specific text within a story is analogous to the concept of making selections in Adobe Photoshop. Consequently, new unfamiliar knowledge is connected and acquired using a familiar context.

3. Selections in Adobe Photoshop and Selections in a Text

In Adobe Photoshop, *selections* can be made using several *selection tools* that students will be introduced to. We start with Adobe Photoshop's *Quick Selection tool,* the easiest of the selection tools. It allows you to quickly and precisely select *specific areas* of an image on which to make changes. Once students acquire the skill and understand the purpose of making selections in Adobe Photoshop, they would be better prepared to understand how these activities are akin to selecting and exploring areas of a story.

In Adobe Photoshop you can use any of the Selection tools: Marquee tools, Lasso tools, Magic Wand or Quick Selection tools, or the Pen tool to select an area of the image. That selected area becomes the only active area within the image. When an area of an image is selected one can make some sort of adjustment to it, such as painting, applying a gradient, adding color, textures or an image or even deleting the area altogether.

In Literature the reader can select any part of the story to explore the narrative structure: voice, distance, types of narration, focalization. The reader can also use the selected passage to comment on mood, elements of setting, characterization, imagery, and symbolism. The analysis of various selected passages paves the way to an overall interpretation of the text.

4. Adobe Photoshop's Selection Tools

The *Quick Selection* tool provides one of the easiest ways to make a selection. When the tool is selected you move it within the area of the image and begin slowly dragging and the tool will automatically find the edges of the area. The result looks like a moving dashed line, sometimes referred to as "marching ants" (see next slide). You can add or subtract from selected areas of the image until you have the precise area selected. Other options allow you to better analyze, refine and smooth the edges of the selection.

5. Literary Application

In the Literary classroom, students have to learn how to make pertinent selections of passages and literary features in order to analyze a text. In the following activity informed by Trent Lorcher's analysis of the story, students are divided into groups, reminded of what symbolism means, tasked to select passages, asked to reflect on the symbols in those passages, and finally to craft an overall interpretation of "The Story of an Hour" by Kate Chopin.

6. Symbols

SYMBOLISM: refers to things that represent other ideas. For example, a white lamb in a poem may be a symbol for innocence.

Now let's select the first two paragraphs of "The Story of an Hour" and identify the symbols that stand out. After sharing ideas in their groups, students concur that *Heart Troubles* is the controlling symbol in this passage.

6.1. Symbols: Interpretation

Keeping in mind the previous example of an ailing heart, Mrs. Mallard's physical heart problem symbolizes her emotional state as it relates to her marriage. Her heart problem is symbolic of malady that represents her dissatisfaction with her marriage and unhappiness due to lack of freedom. The heart ache could also be said to represent women of her time period who were unable to find happiness in marriage and motherhood because their freedoms within marriage are restricted. Furthermore, if the heart of any society is the family, Mrs. Mallard's heart troubles may represent the peril the institution of marriage faces in the late 19th century because of the inequalities therein.

6.2. Symbols in Passage #2

After selecting the passage from "There stood …" to "Free! Body and soul free!", students single out the two controlling symbols in that segment of the story are *Spring Time and Patches of Blue Sky.*

The open window, Spring Time, and the Patches of Blue Sky symbolize the freedom and opportunities that await her after her husband's death.

Overall, based on our selection of symbols, "The Story of an Hour" reads as an allegory, a story in which the characters and events are symbols that stand for ideas about human life or historical situation.

After learning how to use the quick selection tool in Adobe Photoshop, students are guided to apply that knowledge in the literature classroom and to formulate an interpretation of a story.

7. Conclusion

The dual objective of this module was to give the students viable skills in Photoshop and to use them as analogies in order to hone their literary and writing skills.

Proceeding by analogy, we give students a skill set that allows them to navigate and use the Adobe application and also to be more proficient in literary analysis.

As a result, our course offers students a multivalent skill-set that gives them a *competitive edge* and prepares them for a job-market where multimodality is at the heart of a variety of activities in the workplace.

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STUDENTS' CONCEPTIONS ABOUT THE USE OF *GEOGEBRA* IN TEACHING AND LEARNING OF GEOMETRY

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Abstract

Recent studies have shown the advantages of using dynamic geometry contexts in the mathematics' classroom, in learning of Geometry. In general, the students have some difficult in the learning of geometry. The attempt to minimize this problem related to learning of geometry was the motivation that led to this work. This study addressed whether a teaching experience performed with *Geogebra* software, which analyzed the conceptions of students regarding their use and their contributions in the learning of certain geometric concepts. The experience teaching was implemented in a class of the 3rd cycle of basic education (12-13 years old), in a public school in the northern region of Portugal, consisting of 20 students. The geometric theme was "Triangles and Quadrilaterals", in the topic "*sum of the interior angles and exterior angles of a polygon with n sides*", where new geometrical concepts were discussed. The methodology used in this study was qualitative, following a design case study and the instrument for data collection was the questionnaire survey, implemented in mathematics' class at the end of teaching experience, in the school year 2012/2013. In the data processing it was included the analysis of the responses of student to the questionnaire, using content analysis by formulating categories of analysis and the help of qualitative data software NVivo 8. Analyzing the results, it can be concluded that students expressed a positive attitude towards the use of *Geogebra*, because they liked using it and the lessons were more interesting. For these students, the use of dynamic geometry software allowed them greater facility in understanding and learning the concepts and emerged as something innovative in the context of the classroom.

Keywords: teaching and learning of geometry, dynamic geometry, geogebra.

1. Introduction

The use of technology in the educational context and specifically in mathematics teaching has been to stimulate changes in their way of teaching and learning (Hoyles & Lagrange, 2010). Establishing opportunities for the use of technology in learning concepts, allows students a more active and meaningful learning by providing a better understanding of these concepts. The Geogebra is a software that allows an environment of dynamic geometry, i.e., a learning environment (Goldenberg et al, 2008), allowing students to create geometric constructions and easily manipulate them, freely moving some elements of the building and observing other properties that correspond to conditions that have changed. The concept of learning considered in this study follows the idea of Marlowe and Page (2005) that means construction, creation, invention and development of knowledge itself. This dynamic environment enables students to manage their own work, adjusting to their difficulties, establishing a learning environment focused on the student, which is responsible for selecting the direction of their learning. To study students' conceptions about the use of Geogebra in the teaching and learning of geometry, we follow the ideas of Thompson (1992), who identifies concepts as a mental structure, which is part of both faiths as well as any kind

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[i] *http://www.utad.pt*

of knowledge acquired through experience, namely, meanings, concepts, propositions, rules, mental images or preferences. Schoenfeld (1992) gives a wider meaning to the idea of conception defining it as "individual understandings and feelings that shape the ways each conceptualizes and engages in the situation" (p. 358).

2. Design/ Objectives/ Methodology

This study aims to analyze and interpret the students' conceptions in a class of the 3rd cycle of basic education (12-13 years old), about using Geogebra and their contributions in teaching and learning of geometry. The methodology used is qualitative and interpretative, using the case study (Stake, 1995). In order to have a data collection, a questionnaire survey was implemented at the end of teaching experience in math class. For the analysis of the data was used content analysis, establishing categories of analysis, taking into account the participants' answers. The teaching experience took place in the thematic unity of *Triangles and Quadrilaterals* in the topic *Sum of internal and external angles of a polygon with n sides*, using a task of exploration and research.

The aim of the present study is to analyze the students' conceptions about the use of technology in math class, more specifically, the dynamic geometry environments with Geogebra software and their conceptions on the contribution of this software in the understanding of geometric concepts involved. The choice of a qualitative methodology was, mainly, due to this study being associated with the five characteristics indicated by Bogdan and Biklen (1994) for a qualitative approach. In the data we used the use of content analysis of students' answers in the questionnaire survey (Bardin, 1979), for which recursively defined categories of analysis were developed, taking into account the objectives of the research (Sampieri, 2003). In qualitative analysis, we used the content analysis of the survey through the identification of categories of analysis and with the help of qualitative data NVivo 8 software.

3. The study's participants/ Questionnaire

The experiment was implemented in a class of the 3rd cycle of basic education (12-13 years old), in a public school in the northern region of Portugal, consisting of 20 students, 10 female and 10 male. In the previous school year in mathematics, the study participants, in a rating scale (1-5), where 1 is the lowest rating and 5 is the maximum, 40% achieved level four, 35% level three, 20% level two and the remaining level five. We prepared a questionnaire with open questions focused to the students' conceptions on the use of dynamic geometry environments, with Geogebra in teaching and learning geometry topics.

4. Results analysis

The content analysis in this study had an exploratory nature, since the categories of analysis formulated were not yet predefined. The categories developed in this study are according to the principles of Bardin (1979) that are: homogeneity, completeness, exclusivity, objectivity and relevance. In order to define the categories considered in this study, we classified the students' answers and we reduced them after having been identified some relevant words in order to reconfigure students' answers to the study objectives. One of the questions under consideration by the implemented survey was the following: *"Do you like to use Geogebra in Math classes? Why?"*

Note that all students answered affirmatively. In the analysis of reasons presented by the study's participants, we elaborated the categories according to the words used and also the use of NVivo 8 software. The categories considered are summarized in Table 1. Many of the students felt that the environment provided by the use of this software in the classroom was one of the most referred, in particular, the

reasons why the class became funny, different, etc.., and allowed them to work in pairs. Moreover, many participants also considered important the skills of the software, and it is easy to explore, learn, conceptualize, and conjecture, because they could easily do the sketches that only require dragging, do animation and perhaps clicking buttons or construction. Also, they reported that, by using this software in mathematics classrooms, could learn with significance the geometric concepts.

Table 1. Categories of analysis and number of reference for each one.

Categories	Nº of references
Environment class	17
Software skils	12
Learning	6
Others	1

Other question under consideration by the implemented survey was the following: *"Was Geogebra helpful to you better understand the new concepts of geometry?Why?"* Note that only two students give a negative answer. In the analysis of reasons presented by the study's participants, we elaborated the categories according to the words used and also the use of NVivo 8 software like before. The categories considered are summarized in Table 2.

Table 2. Categories of analysis and number of reference for each one.

Categories	Nº of references
Learning concepts and new things	17
Easy in understanding	10
Others	1

The students considered that the dynamic geometric environment help them to learning more easily the new geometric concepts and provide classes more funny and different.

5. Conclusions

The results show that the students' conceptions about the use of Geogebra in the mathematics classroom are positive, because of the dynamic learning environment provided and the skills of the software used. Regarding the contribution of the use of this software in the understanding of geometric concepts involved, the participants intend that he was a facilitator in the learning of these concepts.

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STAGING ART HISTORY: ROLE-PLAYING ASSIGNMENTS IN THE ONLINE ENVIRONMENT

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Abstract

What can online art history instructors and course designers do to engage and motivate online learners? The paper questions whether it is possible to effectively engage online learners through role playing and reenactment of historic events. The paper discusses the effectiveness of creating scenarios in art history courses by asking students to act as historic figures. The paper shows that personally "involving" students in historic past may spur their interest for the subject and create a lively and engaging environment in the online classroom.

Keywords: *art history, asynchronous discussions, instructional design, eLearning, online courses.*

1. Introduction

Discussion board assignments are instrumental in fully online courses. Not only they provide a forum for student-student and student-instructor interaction, they also serve as an instrument for engaging students and intellectually stimulating them. The wording and the details of discussion board assignments are of pivotal importance, a poorly designed and worded discussion board assignment can be very boring, whereas a slight twist can make the same discussion board assignment motivating and fun to work on. This article reports some of my findings after years of experimentation with different discussion board assignments and shows how to use online discussions to improve student engagement and class participation in art history online courses.

I strongly believe that motivated and engaged students enjoy learning and are more successful. In my fully online courses I try to create a collaborative learning environment, where students learn not only from the textbook and instructor's feedback, but also benefit from their peers' research. To motivate and intellectually stimulate online learners, I use several instructional strategies, including role-playing and scenario-based assignments. In these assignments students are placed into imaginary situations and accept the identity of historic figures.

2. Role-Playing Assignments

As I have seen in my online courses, placing students in imaginary situations within the cultural environments of particular historical periods promotes critical thinking and encourages students to explore the social, political, and religious conditions of the societies in which the works of art were produced. In my discussion board assignments I suggest scenarios – stories taken from history and ask students to act as historical figures, thus recreating the actual conditions in which artists lived and worked. I believe that scenario-based assignments personalize the learning experience, compelling students to exercise both curiosity and creativity – essential components of engaged learning.

Scenario-based assignments are particularly effective when role playing is involved. When students are assigned roles, they often engage with extreme originality;

they also interact with their peers with creative playfulness. Role playing may be used in a variety of situations, small group assignments, or be left open to the entire class to get involved. In my efforts to foster engaged learning and more active class participation I replaced all discussions with stories associated with artists and historic figures.

Here is one example of a "story" from my art history survey coures. In the section on Early Renaissance art I wanted students to compare the two *Sacrifice of Isaac* panels for the Florence Baptestery by Filippo Brunelleschi and Lorenzo Ghiberti. In this case I used reenactment of an actual competition and asked my students to act as jurors of the 1401 competition of the wool merchant's guild, Arte di Calimala, for the bronze doors of the baptistery and evaluate the two panels. I have used this assignment successfully for several years and I see excellent participation. Students engage in a constructive argument and lively conversation with opponents, consider differing opinions, convince other "jurors" to agree with their opinion. It is amazing how hard they try, support their views with factual material, analyze the two panels, compare their emotional impact, and formal qualities. Students seek supporting information in Ghiberti's and Antonio Manetti's writings, refer to the Old Testament story, discuss Abraham's feelings, analyze how each of the panels conveys the story. They also learn to face the opponent, whose opinion might differ from their own. Students write passionate speeches, often with the same students posting several times, returning to the same assignment and engaging again and again in a debate with their peers. This type of knowledge construction is almost impossible in a traditional classroom or in the online environment with a more traditional and impersonal assignment formulated as "compare and contrast."

I use role playing stories for all discussion board assignments. Here is another example of a scenario, instead of asking students to compare Peter Paul Rubens's portraits with Rembrandt van Rijn's portraits I ask students to act as Anne of Austria, Queen of France, and decide between the artists who to commission the work. Or, for the section on late 19th-century painting, I allow my students to purchase one painting for their gallery in Paris from any Impressionist painter. On the section on Gothic architecture I ask students to act as tour guides to discuss architectural structures or plan their wedding in a Gothic cathedral in Europe.

3. Discussion

After designing fourteen online art history courses I came to believe that any discussion board topic can be successfully reworded and turned into a role-playing assignment. I see how role-playing allows students to exercise their imagination, sense of humor, show their creative talent, and, most importantly, be motivated about the material and the coursework. The theory of instructional design supports this observation. According to Keller's model of motivational design among the methods for grabbing the learner's attention are games and role playing, humor, and inquiry. Inquiry arousal stimulates curiosity, which can be reached by posing challenging questions (Keller, 1987). Some of the elements of Keller's model proved to be effective in the creation of an engaged learning environment in online art history courses. When discussion board assignments are designed in such a way as to stimulate active learning by causing curiosity and intensive inquiry, they motivate students. By slightly modifying the tasks and avoiding impersonal "describe, discuss, analyze" and replacing them with imaginative scenarios the learning outcomes drastically improve. If the topic allows the students to use their imagination and sense of humor, they are increasingly motivated to write detailed and thorough discussions and to display their knowledge of the art related aspects of the society and the cultural environment.

4. Student Feedback

Every semester I ask all my online students to provide feedback about the course in general and discussion board assignments in particular. I ask them to indicate their most favorite and least favorite discussion board topic. I am always very curious to find out what students think of these assignments. The vast majority of students provide very positive feedback about my courses. Students stress that discussion board assignments are interesting and intriguing. Here is an excerpt from a student feedback: "The role-playing element is exciting, it gives the assignment a certain flare and dynamic and really gets you involved in the mindset of the time period from a writer's perspective! Thanks for an interesting assignment, totally refreshing. Teachers usually have you just write about stuff without really having you get into the mindset of someone in the time period. I enjoyed reading other classmates' postings; it is really interesting to observe the way in which different students digest this assignment! I haven't had captivating writing projects like this since high school!" (Summer 2010, History of Art II, Southern Connecticut State University).

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SOCIAL COMPETENCES AND ORGANIZATIONAL DEVICES IN THEIR RELATIONSHIP WITH OF UNIVERSITARY STUDENTS' RETENTION. A STUDY AT UNCUYO

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Abstract

This project – included among the priorities of the University Policies Office – is the extension of a research programme developed by its Director. It includes three central projects and subprojects. The first one, analyzes the problems connected to academic achievement taking into account structural, socio-cultural and pedagogic - institutional factors in graduated students. The second project, observes academic *failure* and its relationship with structural factors (labour market insertion) in students that started studying at UNCuyo in 1980 and quitted afterwards. The third project investigates students that have been studying longer than expected. It studies the causes that produce the delay of the final graduation in students that have started a career in 1990 and still have not graduated and who have registered again in 2004.
This project deals with the academic units that show results about retention and performance above the medium rate, including not only basic socio-cultural and psychosocial factors but also aspects related to the psycho sociology of the organizations which have an impact in their organizational quality. The methodology is quantitative (statistic analyses, systemic) and qualitative (semantic associations). A semi structured questionnaire and interviews will be applied. The approach will be macro-micro-macro.
We expect to understand the impact that the factors referred to have at the levels of academic achievement. It is expected, at a theoretical level, to contribute to the understanding of factors that have a positive impact in the students' achievement and in the academic units in which they are inserted. At an applied level, it is expected that this study allows us to know the distinctive profiles and common aspects of these micro institutions so that they are transferred to those who take decisions and afterwards can lead to programmes for ongoing improvement.

Keywords: academic career, university, quality, psychosocial factors, organizational devices.

1. Theoretical Framework: Achievement Related Approaches

We can identify five approaches: psychological, sociological, economic, organizational and interactionist, which are supported by empirical research. As regards the *psychological* approach, the pioneers Fishbeim & Ajzen (1975) put the emphasis on the role of attitudes and beliefs As regards the *sociological* approach of academic achievement, the French School has made important contributions since the 70's, especially from cultural reproductivism (Bourdieu & Passeron, 1970). The economicist models put the emphasis on the cost-benefit ratio students observe between their investments on education and what they expect to obtain from it within the labor market (Becker, 1964; Lévy-Garboua, 1976). Finally, the *organizational* approaches emphasize the opportunities provided by the institutions in terms of extra-curricular offers, sports, academic support, laboratories, tutoring, etc. The interesting thing is, in our opinion, that these are more easily controllable factors in the managing areas (intervention level) (Corman, Barr & Caputo, 1992).

Along this line, different models show the impulse of adaptation to university life and acceptance of the fashion or "identity" each institution presents; the role of engagement and positive interactions among students and with teachers, as well as the role of perspective, which, as stated by Tinto (1975) exhibits an individual side and an academic one. A more recent approach, the *psychosocial approach*, claims that it is necessary to test the relationship among *motivation, social and institutional constructs* (Robbins, Lauver, Le, Davis & Langley, 2004).

In this study, we deal, especially and always from a qualitative point of view, with the psychosocial aspects of the problem (processes leading to dropout and going against retention), and the institutional aspects, which have been observed in some typical practices identifying each course of study and, in a more global manner, the university[i]. Individuals, institutions and macro-social contexts interweave in this analysis (Aparicio 2008, 2009 b, c). Here lies the uniqueness of our quantitative/*qualitative sui generis* model.

2. Objective

Identifying effective teaching practices which have a decisive impact on the continuance and graduation of students, with the purpose of designing a quasi-typology for each course of study.

3. Working Hypothesis

As regards retention and achievement at university (objective, from the point of view of performance, and subjective, from the point of view of satisfaction), the following play an key role in comprehension: a) psychosocial variables (effort, motivation, engagement); b) social competences (resilience, coping styles, cooperation and inclusion capacity, problem-solving skills,…); and c) effective organizational-educational practices, etc.).

4. Methodology

Qualitative techniques: we included open questions at the end of the semi-structured survey so the individuals can express themselves freely, we carried out in-depth interviews and we interviewed key informants. A lexicometric analysis was then performed. Using these techniques helped determining the social self-perception/representation shared by students concerning the effective educational practices encouraged by the institution which could cause a higher degree of students' engagement and involvement in their studies, and therefore, in their success at university.

5. Results

a) At the psychosocial level, there appear dimensions, in the core of the shared representation, such as engagement and the ability to face difficulties (positive coping strategies). There also appears, in a significant manner, the sense of effort, clear goals and well-defined life projects, previous successful academic experiences, prevalence of search for personal fulfillment over other factors. b) At the organizational level, the students of each course of study revealed the strengths and weaknesses regarding administrative staff support, organizational quality, mechanisms of support, institutional consulting devices. Finally, reference was made to extra-curricular activities which

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[i] Other factors related to achievement, such as engagement and internality, measured through specific tests, have been the object of the quantitative analysis and are excluded from this work.

strengthen the socio-emotional bonds and favor the consolidation of social competences (i.e., being able to act in specific "situations").

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PROMOTING MATHEMATICAL MODELLING AS A COMPETENCE: STRATEGIES APPLIED IN PROBLEM SOLVING ACTIVITY

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Abstract

Current international trends claim that schools should enhance modelling competencies. The objective of the paper is to identify high-school students' initial conceptions and strategies in mathematical modelling that can be taken in consideration when teachers work out educational activities. A clinical interview approach is applied to understand which modelling strategies are applied by nine students during their problem solving activity. Furthermore, they are asked some questions about their conceptions as well as their attitudes towards mathematics, as they learn it in school and as they find it in their out-of-school activities. The task the students are asked to solve are: finding the kilometer rate price of a taxi trip and creating a mathematical equation that represents the proposed ride; inferring the height of a statue by comparing it to an unconventional unit of measure; establishing the travel distance and creating a journey planning, in relation to the proportions of distances in a map. The students showed different approaches in: their use of algebraic symbolism, in the construction of their argumentation, justification of their reasoning; representing their ideas mathematically. The findings can help teachers in designing school activities to promote modelling competencies in students.

Keywords: modelling competencies, mathematical modelling, mental processes, learning, mathematic education.

1. Introduction

The Recommendation of the European Parliament and of the Council (2006) claims to the development of competence in school education (Pellerey, 2000). Mathematical modelling can be considered a competence, since it implies the application of mathematical knowledge in real-world situations. According to De Corte (2007), the acquisition of mathematical competence is possible through a classroom environment in which students should have the opportunity to learn mathematics as a dynamic discipline rather than the acquisition of a standard system of procedures.

In recent years, mathematics education set up the objective of promoting students in recognizing the relationship between the real world and the mathematics world, as well as in understanding of role mathematics plays in the world (Unesco, 2012). These abilities are related to the development of mathematical modelling competence. Although they are considered an important educational objective, modelling activities are rather rare in mathematics lessons, and there still exists a considerable gap between the ideals of educational debate and the everyday teaching practice (Blum et al. 2002).

2. Theoretical background

Modelling is a procedure that places the real world and mathematics in a constant interaction (Blum et al. 2002). Mathematically, the process of modelling is defined as procedure to transform real problems in mathematical problems and solve them, interpreting their solutions in the language of the real world.

Figure 1: Modelling process (Maaβ, 2006)
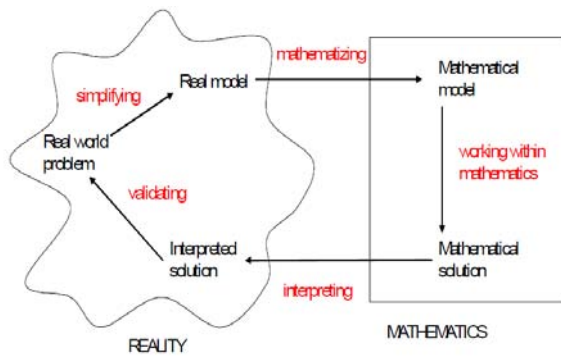
The modelling process initiates with the *real world problem.* By simplifying, structuring and idealizing the present problem obtained a *real model.* The mathematizing of the real model brings a *mathematical model.* By working within mathematics, a *mathematical solution* can be found, it has to be *interpreted* first and then validated (Borromeo Ferri, 2006; Maaβ 2006; Blum et al. 2007).

Modelling activity mobilizes knowledge and competence of the students to solve an everyday life problem, they assume an active role on the construction of they own knowledge. Such activity requires a constant reflection on the processes involved to solve the problem and stimulate their ability to plan strategies for more complex solutions (Blum et al., 2007). Modelling competencies can be articulated according to Blum and Kaiser (1997, apud Maaβ, 2006 p. 116): Competencies to understand real problems and to set up a model based on reality; Competencies to set up a mathematical model from the real model; Competencies to solve mathematical questions within this mathematical model; Competencies to interpret mathematical results in a real situation; Competencies to validate the solution.

3. Method

The objective of the present study[*] is to identify constraints and opportunities in the working out of innovative educational activities that can promote modelling as a competence. Nine high school students of different colleges and technical institutes were inquired. All interviews were video-recorded and transcribed.

In order to understand the strategies the students apply in modelling, three mathematical situations have been proposed. A clinical interview approach (diSessa, 2007) was applied in inquiring students' modelling processes during the activities, allowing each interviewee to reveal his/her natural way in solving the problems. Furthermore, they were asked some questions about their conceptions of mathematics and their attitudes towards that subject-matter as they learn it in school and as they find it in their out-of-school experiences.

4. Results

Students are able to recognize mathematical activities outside school, although they rarely ask themselves about the applicability of the mathematical content they learn in school. The participants show a low level of self-efficacy and tend to avoid challenging tasks. They are in general motivated in learning, except in mathematic. They are unaware of their math competence and exhibit conflicting answers.

Regarding the modelling activities, the interpretation of a real situation remains the central problem in the development of competence. Identifying key variables and creating a model based on reality are crucial activities in solving a problem. As it is observed in the task of making inference about the height of a statue by comparing it to an unconventional unit of measure:

> **ANN:** *In science I studied that the body of a person is 8 times its head [...]. In accordance with a child of his age* (in the picture), *I think he is 10 and probably 1.50 m tall. Then I realized that there is more "space" between the child and the head* (of the statue).

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[*] This study is part of a Ph.D research in progress.

> *SIM*: *[...] If it* (statue) *were high from head to foot, the statue would be really tall because this was one of the most important persons in German history [...]*
> **I**: How much, according to you? **SIM**: *Maybe three or four meters.*
> **I:** How did you figure it out? **SIM**: *No, sorry! Perhaps it is a little 'more ... five or six meters... Because it would be really important to remember the people about the history after Nazi [...]*

Few students were able to work out a mathematical model from the real model. In the taxi problem, the students found difficult to create an algebraic equation that represents the ride. To create a mathematical model that represents a real situation some competencies are required: identify the relevant variables of the problem and its relations; simplify them if necessary; choose an appropriate mathematical notation; represent the situation algebrically; formulate and justify hypotesis.

To solve a model the subject puts into practise his mathematical knowledge. The procedures used by the students have shown that they in general have arithmetic competence. To understand the solution founded solving a model requires competences to interpret mathematical results in extra-mathematical contexts and generalize solutions that were developed for a specific situation.

To validate the solution one should critically check and reflect about the process or other ways of solving the problem. In most proposed activities the students didn't validate their results. When the students were asked to establish a journey planning on a given map, they had difficulty to complete the task. However, just after having found a solution, a student observed that it wouldn't be feasible in real life:

> **MON:** *Should I do one day multiplied by the minutes multiplied by 1440.* **I:** What does 1440 mean? **MON:** *Are the minutes that you need to do all the kilometers.* (from a previous calculation, the trip was 6280km long). **MON:** *2 days and ...* (for the total trip) *...* The subject asks himself*: **MON:** *Is it too little? Traveling 24 hours a day no stop!*

5. Conclusions

Students need to go through complex process of learning activities in order to develop modelling competencies. According to De Corte (2007), in order to acquire mathematical competencies, the students need to understand the mathematical concepts, operations and relations and take on a flexible reasoning. Furthermore, must reflect and justify logically the reasoning adopted.

In developing modelling competencies, the school should focus on higher order abilities of translation, interpretation and evaluation of the real life problem in terms of the mathematical model and its solutions rather than on algorithmic procedures (Blum et al. 2007). Modelling as a teaching methodology is a great tool to mobilize and enhance different mathematical knowledge and abilities and it should be carefully considered in the planning of the curriculum.

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EMOTIONAL LITERACY EDUCATION IN HONG KONG UNIVERSITIES: REFLECTION AND PROPOSAL

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Abstract

Since the 1970s, emotional literacy has been advocated as a part of the humanistic education project. It is generally agreed that the whole person education should contain what Steiner defines as "the ability to understand your emotions, the ability to listen to others and empathize with their emotions, and the ability to express emotions productively". While this set of abilities sounds commonsensical, there is a thriving international popular self-help literature business to indicate that our education system has not addressed the subject adequately. Although there have been quite a number of studies in the Western academia, proposing numerous ways to include emotional literacy in the curriculum, discussion in the Chinese education context has not been as active. Hong Kong has seen a lot of changes in its education system in the recent decades, but emotional literacy has not been an important focus of discussion. 2012 saw the change of university curriculum from 3 to 4 years, meaning that students enter university a year younger, after one public examination instead of two. Educators have noted the general emotional immaturity of the younger freshmen, and their inability to handle problems that come with this new identity. This paper is a reflection on the present educational direction in Hong Kong, and to advocate a more helpful emotional literacy curriculum in the university.

Keywords: emotional literacy, higher education, course development, humanities, student-centered teaching and learning.

1. Introduction

In the last decade in Hong Kong, new identity-labels have arisen to highlight the emergence of new types of people. Some high achieving school children are referred to as "gao fen di neng" (high-marks-low-ability), because while they demonstrate commendable academic performance, they seem to exhibit rather inadequate survival skills such as self-caring skills, interpersonal skills, and common sense. While scholars are trying to understand the emergence of this new type of school children in Hong Kong, some people refer to the existence of a certain type of parents, labelled as "guai shou jia zhang" (monster parents), who refuse to cooperate with the school authorities, if their own "professional" decisions about their children clash with whatever policies and practices are current in the school. This term is believed to come from a 2009 Japanese TV drama featuring just such type of parents, and is similar in meaning to "helicopter parents" which is the term used in the United States. In a society where proof of good academic training is the sure license to a good job and a relatively stable life, it is no wonder that conscientious parents see the first 20 years of their children's life as a period of fierce and strategic battle to ensure a good life afterwards.

Surely there are different perceptions as to what a good life means. Economically, to have the means to sustain a reasonably worry-free life is a basic requirement. This is probably the most common view, and the easiest to fulfil – in a way – as many of the monster parents are doing it in their own ways. They plan ahead for their children, move to the best locations to access the best schools, enroll their children in as many extra-curricular courses as possible to equip them with extra skills and talents, and invest in the most advanced technology at home so that their children

will not waste time at home not learning. But there are other important requirements besides academic qualification and subsequently economic wealth for a good life. Physical and mental health, emotional fulfilment, a sense of purpose and meaning in life, etc. are the less tangible but significant requirements for a good life. Because of the difficulty to quantify these requirements and ways to satisfy them, they are often not directly addressed in the school curriculum throughout the schooling years.

Daniel Goleman's 1995 book *Emotional Intelligence* brought the topic to the attention of international layman readers, putting emotional intelligence (and emotional literacy, which will be used interchangeably in this paper although there are slight differences between the two indicators) firmly on the map of any discussion of a good life. Although the exact abilities and aptitudes included in emotional intelligence (or literacy) vary with different scholars, it "may be construed as the repertoire of emotional competencies and skills available to an individual at a given point in time, for coping with the environmental demands and constraints" (Matthews, Zneider, and Roberts, 2002, 420). Brian Matthews, a veteran school teacher, quotes Steiner to justify having emotional literacy in the school curriculum, "To be emotionally literate is to be able to handle emotions in a way that improves your personal power and improves the quality of life around you. Emotional literacy improves relationships, creates loving possibilities between people, makes co-operative work possible, and facilitates the feeling of community" (Brian Matthews, 69), although many scholars also indicate that as a result of improved emotional literacy, academic performance also improves.

Despite the significance many scholars attach to emotional literacy, it is still not a compulsory component found in major school curricular. Brian Matthews discusses the difficulties of having an agreed national curriculum on emotional literacy in UK, and one of such difficulties is the assessment of EL (emotional literacy) of the individual children. Assessment of performance is inevitable for any subjects, but in the case of EL, it poses a risk of putting labels on the individual children. Matthews, Zeidner, and Roberts note the range of programs used in the education and schooling of emotional competencies in their *Emotional Literacies: Science and Myth* (2002), and that they "fall under the general rubric of social and emotional learning programs (SEL) – an umbrella term that provides a common framework for programs with a wide array of specified outcomes. It refers to the knowledge, skills, and competencies that children acquire through social and emotional education, instruction, activities, or promotion efforts" (445). Although these programs have different names and also target at cultivating different skills in the students, they are usually part of other problem-solving skills or survival skills programs; and when the focus is on emotional literacy, often run the risk of being seen as teaching students to feel in a specific "correct" way.

2. Discussion

Compared to the Anglo-American school experiences, the Hong Kong situation is even more primitive in its lack of awareness in the significance of EL education beginning at an early age. Due to the intense competition in schools, even young children are often subject to a lot of pressure in their studies, so much so that UNICEF HK made children's "Right to Play" the theme of 2013. This contextualizes the special types of parents and students in Hong Kong, the "monster parents" and "gao fen di neng" students. Hong Kong is in great need of school programs which will educate students in EL from an early age. While this is not the place, and I am not in a position to offer any useful suggestion concerning schooling programs for primary (aged 6-12) and secondary (aged 12-17) school students, I would like to propose certain possibilities in the tertiary education sector now that Hong Kong has moved to a 4-year university curriculum. Being a faculty in the Department of Humanities and Creative Writing, Arts Faculty, Hong Kong Baptist University (HKBU), I believe that EL education for university students can be carried out through the "common year" experience and the "electives" component for students in all disciplines.

Since 2012, HKBU has admitted most students by faculty, and the first year is the common year when students have a chance to try the learning experience offered by different departments within the faculty. At the end of the first year, they will declare their major based on their interest and their academic performance. Besides having the freedom to savor different disciplines within the faculty, students are also required to take some General Education (GE) courses in this first year, to ensure a "whole person education" (a vision advocated by HKBU specifically). These courses cover core areas of Languages, IT management, Numeracy, PE, History and Civilization, Values and the Meaning of Life (HKBU website) as well as a choice from distribution areas (Arts, Business, Communication/Visual Arts, Science/Chinese Medicine, Social Sciences). This year of "common" learning experience for all students of HKBU, despite their chosen major, will be a golden opportunity for the introduction of EL courses, which will not only facilitate their learning in their chosen disciplines, but more significantly, in contributing to their "whole-person" development.

On top of that, the Arts Faculty can play a more proactive role in providing EL learning experiences through course development. As Matthews, Zeidner, and Roberts suggest, "children can learn by observing and modeling real, as well as symbolic, and representational models, curriculum based emotional learning comes naturally with many of the liberal arts" (443). I had made use of films in a course entitled "Lifelong Romance with Films" to describe and discuss the human condition at various phases of life – growing up, identity formation, entering the workforce, establishing and maintaining relationships, love and sex, aging, and death – as well as decision-making in the face of different conflicts and situations. In a course dealing with the appreciation and creation of stories, I had made use of a selection of well-known written and visual narratives to elicit personal comments and responses from students on a variety of issues about human life. As the course engages students in both appreciation and creation, their active participation and contribution is compulsory and natural. From the comments given by the students in the end-of-semester teaching evaluation exercise, it was very clear that they had never had the chance to personally reflect on those issues about human society and life in their learning experience so far. These local students found the opportunity to engage in an honest and intimate discussion about life issues rare and hugely satisfying. It is the best proof that in the lack of any EL programs in our primary and secondary schooling, tertiary education should do its part in bridging the gap.

3. Conclusion

The call for a comprehensive EL education program in Hong Kong to cover the school years is on. For the time being, the universities should do their part when they are admitting younger students than before. The expanded curriculum offers a good opportunity, and the Arts related faculties should also incorporate EL into their discipline-knowledge courses.

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UNIVERSITY PERFORMANCE, ACHIEVEMENT, INSTITUTIONAL IDENTITIES AND PROFESSIONALIZATION

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Abstract

This study is part of the broader research program on University Quality Assessment. It is a project that has been selected as Institutional Project of the Universidad Nacional de Cuyo (UNCuyo). The aim was to go deep into the causes for delay in finishing studies in our country, as well as to be aware of the strong "reasons" leading to a delay, globally, of over the half of the preestablished time assigned to different courses of studies. This brings about a problem at the institutional and personal levels (disappointment, depression, frustration,…). It is important to point out that this Program is part of a larger Program which I launched all over the country in 1995, its core theme being University Quality. At that moment, the Department of University Polices called for a contest to analyze the Causes for Dropout at the National Level, and we won it. It had been preceded by another project (still in progress) dealing with graduates from different faculties, which covered three time stages. Throughout these stages, the structural and economic situations in the country changed dramatically. At the same time, there were also important changes in education. The combination of different factors (basic, personal, occupational, structural, pedagogical, institutional and psychosocial ones), concerning the 20 years of the UNCuyo and Faculties/Study Courses gradually showed which factors predicted different achievement levels, as well as the strongest underlying reasons of the individuals' courses of action and selection. The combination of said actions eventually led to dropouts, graduations or delays (Deferred Gratification Theories).

The quantitative-qualitative method was applied. We worked with cohorts from 6 Faculties of the UNCuyo (1987-2004), N 229 individuals. In this paper, we focus on a motivational factor – *Fear of Failure* – tackled from the quantitative methodologies approach. This factor turned out to be one of the predictive ones for delay along with others, as it showed differentiated profiles according to Academic Units and Courses of Studies (Disciplinary and institutional identities). The results are very relevant within a context in which delay in studies is quite evident, and because it has to do with problems that could be solved by improving the intervention and support systems and Professionalization related mechanisms, and hence to improve University Quality and the students' personal and professional achievement. Then, Performance, Identities and Professionalization comprise macroanalysis (institutional and national policies), mesoanalysis (questions differentiated as Academic Units), and microanalysis (individuals who are affected in their personal health and self-fulfillment due to the lack of non-disciplinary programs aiming at developing social competences).

Keywords: quality, university, delay, identities*, professionalization.*

1. Theoretical Framework

Its development involved work with three subsamples: graduates, delayed students in relation to the established length, and dropouts. This work was carried out within the UNCuyo (National University of Cuyo) (1980 – 2004). The model offers not only the personal factors so usual in the available literature (objective and subjective) but also contextual factors.

Achievement is a crucial problem within the world university policies agenda due to the figures that focus on failure. For the Universities, the loss of students implies a waste of resources in a time of meager budgets and for the students it means frustration (Aparicio, 2005, 2007). There exist plenty of figures and descriptive studies; however, research is inadequate in revealing the actual significance of some factors on

which the educational system itself could work in order to reduce the figures of failure, which appear to lie not only in a change of curriculum, improvement of infrastructure or increase of hours, but on attitudes strengthening solidarity and values in order to cope with adversity. Among these factors, there are the motivational ones and those related to them.

Let us now consider just the motivational factor which was measured through the MAPE test (Montero and Alonso Tapia, 1992). Let us consider for a moment the theoretical bases, which will help us understand the reasons for including this factor within the theoretical model and the results. The individuals may feel inclined towards *an intrinsic* or *extrinsic* goal when faced to learning related tasks (Pintrinch and Schrauben, 1992); i.e., first, they may focus on learning and development of their capacities, or on the other hand, focus on the execution and the image they show at performing such task. Dweck and Elliot (1983) go deeper into this and, based on these two angles, they provide three different possible motivational patterns: Motivation for learning (MOTLE), Motivation for reputation (MOTRE), and fear of failure (FEOFA)[i].

2. Objective

Analyzing the relationship between the motivational factors and delay in studies.

3. Hypotheses

3.1. General Hypothesis

Pedagogical-institutional and structural factors (labor market) as well as psychosocial ones have an impact on the achievement processes associated to academic performance; their interaction could determine selection in higher education and later in the market.

3.2. Specific Hypothesis

H1/ More motivation and high expectations favor Academic Performance (UP), measured by the number of Years at university (2005-COHORT), pre-established Time for the completion of the course of study according to the corresponding curriculum (ANIPLAN), Not-Passed Subjects (MATPLAN-PASSED), number of Subjects in the corresponding curriculum (MATPLAN), Number of Below-Average (FAILURES), Passes Subjects (MATPLAN). H1a/ Motivation for learning (MOTLE) has a positive impact on university performance (UP). H1b/ Motivation for reputation (MOTREP) has a positive impact on university performance. H1c/ Fear of failure (FEOFA) paralyze students and impair university performance.

4. Methodology

We used a quantitative (descriptive and predictive levels) and qualitative methodology.

4.1. Population

Individuals in delay according to institutional records = 1,880; 5%= 304 sampled; only 229 respondents. They are individuals who have been entering the National University of Cuyo since 1985, have not graduated, are still inside the system, and reenrolled in 2004[ii].

4.2. Techniques

We included a semi-structured survey with variables of different kinds, thus covering a wide pedagogical-institutional, structural, core and sociocultural range. We

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[i] In Spanish MOTAPRE, MOTLUCI, MIEFRACA, respectively.
[ii] The effective sample (individuals making substitution, even when they were not located), makes a total of 229 individuals who are distributed as follows: Philosophy and Literature; Economic Sciences, Political Sciences (Social Communication) Law; Medicine; and Engineering.

also included tests in order to measure Motivation/Expectation (Montero and Alonso Tapia), Attributional Style (Seligman), Coping (Frydenberg & Lewis) and Resilience (Hendersen & Milstein).

We also produced sociocultural factors (Cultural Origin, Social Origin) and factors related to the labor world: Satisfaction in the labor world (RESU), Objective Labor Achievement (WORKACH) and Subjective Labor Achievement (RESU).

5. Results: Bivariable Analysis[iii]

Let us now analyze the results.

Summary Table 1: Motivation (MOTLE, MOTREP and FEPFOA) *vs.* UP (Pearson's Correlation)

Motivation	Regression Coefficient	Probability
MOTLE vs. UP	0.000137	0.9076
MOTRE vs. UP	0.000201	0.8852
FEOFA vs. UP	-0.002507	0.2408

The table summarized the findings. As regards Motivation for Learning (MOTLE) vs. University Performance (UP), our findings show that Motivation for Learning has not accounted for a dependent variable, University Performance (UP) nor did MOTRE (Motivation for Reputation). This is because it refers to under motivated individuals in both aspects. On the contrary, Fear of Failure inhibits students and reduces their probabilities for success in studies.

Table 2: Pearson's Correlation Coefficients

	UP	LOG(UP)	MOTLE	MOTREP	FEOFA	RESIOPP
UP	1.000000	0.986687	0.007732	0.009618	-0.077994	0.170907
LOG(RU)	0.986687	1.000000	0.013405	0.015849	-0.083501	0.193229
MOTLE	0.007732	0.013405	1.000000	0.440513	-0.097083	0.112193
MOTRE	0.009618	0.015849	0.440513	1.000000	-0.048622	0.122926
FEOFA	-0.077994	-0.083501	-0.097083	-0.048622	1.000000	-0.037792
RESIOPP	0.170907	0.193229	0.112193	0.122926	-0.037792	1.000000

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[iii] Most of our students remain on the left side, that is, they are not afraid to fail. The results represent a certain consistency, considering that these individuals will not leave university due to fear of failure, despite the difficulties they go through. In other words, "relative" failure has not prevented them from keeping on studying.

THE COSMODERNITY: A TRANSCULTURAL APPROACH FOR THE GLOBAL CITIZENSHIP EDUCATION PROPOSED BY UNESCO

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Abstract

This virtual presentation reflect about the "Global Citizenship Education" (GCE) proposed by UNESCO: creating a framework which respect the historic-cultural characteristics of each community and developing a critical consciousness that addresses common responsibility with the global problems of the world-society. A world-society which must develop a new awareness-identity of "*Earth-Homeland*", where the human being is seen as a same biological specie with the same evolution, because the future history of humanity requires *knowledge evolution* towards new transhumanists and transnational dialectics concepts in order to prevent future war conflicts. Thus, we need to formulate and organize knowledge through a complex, creative, transversal, polysemous, transcultural and transpolitical epistemology that promotes GCE as the causal energy principle of the transformation process of the human being. Metaphorically, GCE has to represent the Big-Bang full of transformative energy in continuously expanding that interacts positively on the lives of people: generating a self-organizing cosmos of infinite potential for personal fulfillment and improving the quality of life in the communities. Then, we propose the Cosmodernity paradigm as transdisciplinary, transnational and transcultural approach to build a new transdemocratic horizon in the GCE proposed by UNESCO for the 21st Century: with the Constellation of Twinned *NGOs-schools* which develop altruistic educational projects of cooperation in all corners of the *Earth-Homeland.*

Keywords: transcultural, global citizenship education, UNESCO, cosmodernity, complex human condition.

1. Introduction

The main subject of this virtual presentation is to reflect about the point of *no return* achieved by the human species in its historical evolution. Since the mid-twentieth century, and for the first time in known human history, the human being has the technological and nuclear potentiality to destroy everything that surrounds itself. In this line of events, the emerging world-society of the twenty-first century need to create and build a meta point-of-view for favoring the meeting between different cultures and coexisting civilizations on the planet, in order to create possibilities for sustainability for all citizens. Therefore, we will focus the discussion on "Global Citizenship Education" (GCE) initiated by UNESCO, using a transdisciplinary methodology with the intentionality to think about the transnational and transcultural problem of safeguarding humanity from an intentional field centered. This field is a combination of a triple area of human condition: epistemological, political and educational. To this end, we will rely on the Complexity Theory to develop a multi-referential understanding of universal interdependence of life on planet Earth.

2. Discussion: What is Global Citizenship Education (GCE)?

In December 2013, UNESCO organized the First International UNESCO Forum with the title "*Global Citizenship Education: Preparing learners for the challenge of the*

21st Century", in Bangkok, Thailand. The Forum, organized in support of the campaign launched by the Secretary of the United Nations, Ban Ki-moon, the "*Global Education First Initiative*" (GEFI), brought together people from different governments, development partners in civil society, as well as researchers from the academy. The purpose was to clarify the actions of the emerging perspective in policy areas, research and educational practice. As a result of the debates and the technical discussions about GCE, UNESCO issued the document "*Global Citizenship Education: An Emerging Perspective*", which elaborated upon common perspectives emerging from the consultation on the following questions: Why global citizenship and global citizenship education now? What is global citizenship education? What needs to be done at the global level to support and promote global citizenship education?

These questions elicit common perspectives that, far from providing magic answers to the common future of the world-society, represent an open opportunity for a transnational and transcultural vision in a way that new generations can become "*citizens of the world*". Citizens of the world who will have to learn to love, to value and to respect life itself in a multidimensional way. Therefore, the GCE encourages us to develop a *cosmodern consciousness* which understands dignity and human freedom in its planetary and cosmic conjuncture. The appearing of humans beings on Earth is just another moment at the universe. We are eco-dependent beings with a dual identity: its own, which distinguishes us, and others of interdependence to the environment. An environment composed by all beings which live in, that can only build their existence, their autonomy, their creativity and their individual richness in ecological relationship.

A *cosmodern consciousness* as we deem it is intended to compliment the point 2.1.2 of the UNESCO document aforementioned:

> In all cases, global citizenship does not entail a legal status. It refers more to a sense of belonging to the global community and common humanity, with its presumed members experiencing solidarity and collective identity among themselves and collective responsibility at the global level. Global citizenship can be seen as an ethos/metaphor rather than a formal membership. (UNESCO, 2013, p.3)

GCE aims to contribute to the clarification of global citizenship without losing sight of the different cultures of the planet, avoiding homogenization in any sense, especially when the concept of global citizenship is used for the profit of a minority. Considering life in its complexity as the focus for everyone in the construction of a sense of global citizenship that attend the principle of alterity, mutual respect, shared otherness by the principle of difference and not just identity, which contemplates dialogically the implicit contradiction of the phenomena. Education must promote the development of feelings of belonging and the understanding of the living beings as a whole.

3. The Transdisciplinary Methodology: Towards the Paradigm of Cosmodernity

At the dawn of the third millennium, the understanding of the human condition requires adequate and pertinent contextualization. The atomic particles that compose life on our planet, and that compose us, are born in the first seconds of the *cosmos.* Our carbon atoms were created in a sun before of current one and our molecules were formed on Earth (MORIN, 2011). The human species is a cosmo-bio-genetic entity coming from the same *post Big-Bang* galactic evolution whose becoming future is interconnected in the space-time. Thus, the co-evolution of human beings with the universe requires a new methodology outside of positivist thinking of the nineteenth and twentieth centuries, which reduces and separates the subject from the object.

That new methodology is necessarily overarching, holistic, poly-logic and transdimensional, understanding human beings as an integral part of an autopoietic cosmic totality. In this sense, the pillars of transdisciplinary methodology formulated by

Nicolescu (2010), represent a new multidimensional and multi-referential epistemological approach. A *transdisciplinary ecology* which is cast in the indefinite and infinite adventure of complex and open knowledge:

> *1. The ontological axiom:* There are, in Nature and society and in our knowledge of Nature and society, different levels of Reality of the Object and, correspondingly, different levels of Reality of the Subject.
> *2. The logical axiom:* The passage from one level of Reality to another is ensured by the logic of the included middle.
> *3. The complexity axiom:* The structure of the totality of levels of Reality or perception is a complex structure: every level is what it is because all the levels exist at the same time. (NICOLESCU, 2010, p. 22)

The complex challenge of building a global citizenship is an issue that goes beyond the essence of mankind and, therefore, it requires a triple reform: epistemological, political and educational. Reflect about the meaning of GCE in the globalized era of twenty-first century demands an approach of the global dynamics (economics, political, cultural, social, educational, etc.) with a holistic and transnational vision which propose creative alternatives for change. To make this "*reading of the world*", it is necessary to start watching the complexity, multidimensionality and interdependence, understanding education as a process in continuous expansion, like the universe itself (COLLADO and GALEFFI, 2012a).

4. Conclusions

There are not doubts the world-society must develop new *multidimensional* synergies of *glocal* nature to achieve the future millennium goals performance of the post-2015 Development Agenda of the United Nations, because they are systemic, interconnected and interdependent targets: just like our own neural connections in our brains. Consequently, we must contextualize the goals through a *cosmodern consciousness*, based on the poly-logical tri-identity of the individual-society-species, to identify the world-society as an integrated whole, and not as the sum of their parts dissociated from each other. An epistemological, political, educational, and spiritual change, which transdisciplinary, transpolitical, transcultural and transreligious approach is simultaneously based on plurality and unity of current´s planetary setting emergency of knowledge society, which corresponds to the *common-responsibility* of everyone with everything. Therefore, humanity must promote new educational networks of altruistic cooperation in the Cyber-Space-Time, symbolizing a symphonic orchestra that disseminator of world peace.

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WORKSHOPS

RE-IMAGINING CHEMISTRY EDUCATION

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Abstract

With current science curricula and methods, students often end up too intimidated or afraid to learn Chemistry. They perceive it as being too difficult, overwhelming or irrelevant. Because of this, generations of students and thus citizens miss the power and beauty of Chemistry knowledge, even the potential for future careers. Society looses out on a citizenry more capable of thinking critically about important issues everyone faces such as ingredients in the food they eat or threats posed by pollutants. In this presentation, Chemistry education is re-imagined so that students learn a great deal of chemistry before they ever take the official course. This is done through a "pre-chemistry science education", woven throughout all of the lower grades with personalized projects, interactive computer technologies and current science news. Students from 2nd grade all the way through middle school are trained in chemical principles personalized to be pertinent to real life. This starts with a paper "Chemistry set" which is reproducible, and will be supplied to other teachers at the conference. Students are taught to use this to model and learn about everything from atomic structure to the Periodic Table. As students master the basics using the Chemistry set, they are taught to use simple, free online animations and animation software. By the end of the unit students will have acquired personal "ownership" of Chemistry principles, and then proceed to in depth, current Science News reading about issues involving Chemistry. The techniques presented are especially effective for use with minorities or those who are not learning in their native language.

Keywords: interactive computer technologies, chemistry education.

1. Introduction

Most people around the world are woefully ignorant of the chemical challenges they face on a daily basis. Because of the way Chemistry is taught, mostly in secondary education, it is often perceived as being too difficult, overwhelming or completely irrelevant to non-science oriented individuals. Research confirms that Chemistry science education in its current state is not highly effective. Teachers who know the subject well and are well prepared to teach it in an inspiring way seem to be few and far between. Educators tend to fall into one of two categories. Either they are good at doing chemistry themselves but may be ineffective at explaining it to others. Or they may be decent teachers with insufficient depth of knowledge. The problem is exacerbated at middle and elementary school levels where most teachers have even less formal science training of any kind.

Insufficient science education of students in general, has led to science deficient educational leaders, policy makers and even educators themselves. The lower grades tend to provide little meaningful chemistry education. Occasionally, teachers will incorporate some simple chemistry experiments into the science training students receive. There may be some introductory exposure to the subject such as an introduction to the Periodic Table. But research shows that by and large, when students arrive at the high school Chemistry class (if they take it at all) it is generally ineffective at fomenting interest in knowing more. For many college students, lack of success in Chemistry screens out many from science oriented careers. This is especially true for low income, minority students.

Although chemistry effects people's daily lives more often than perhaps Algebra, Trigonometry or Geometry do, most people know essentially nothing about it.

For instance, every food we ingest, every lotion, every breath we take, any medication, the very functioning of our bodies – all are chemically significant and dependent situations. Recently in the United States, a consumer discovered that a chemical additive (azodicarbonamide) that gives yoga mats their spongy quality was also being added to breads at a national sandwich franchise. It also made bread more spongy. A patron, perused the listed ingredients and discovered it. She began an online protest. Finally the chain agreed to remove it from their bread. The alert consumer knew because of her chemistry background. There are many such examples where people need to have enough education so they can protect themselves.

2. Proposed solutions

What can be done to improve this sad state of affairs? Part of the solution is to have more pre-chemistry training suffused throughout all levels of children's education. Greater emphasis needs to be placed on making chemistry more accessible to very young learners, too. An increased focus on personalizing it (e.g. what about it affects me?) would also be useful. For instance, when teaching about the food pyramid, one really ought to be talking about food or environmental chemistry.

In this presentation, new pedagogical techniques will be presented in which Chemistry education is re-imagined. Students at lower levels begin to learn chemical principles with personalized projects, interactive computer technologies, and current science news. Once students have mastery of a basic level of understanding, they go on to be quite successful and enthusiastic at the high school and university chemistry course.

3. Specific methods

In many places in California, for instance, this starts with a paper "Chemistry set" which is reproducible. This low tech tool that can be paired later with computer based or high tech tools. Students can be taught to use it to model and learn about everything from atomic structure to the Periodic Table. It is appropriate for younger learners, even as young as 4th or 5th grade. The paper chemistry set has a few "atoms" or "ions" from the first few elements of the Periodic table. Atoms from each element have markings, which relate to their valence electrons and the group they belong to. These are colored (actually colored according to directions, which results in their being color coded) and cut out according to instructions on each page. When complete, students use them to learn the basics of the organization of the Periodic Table, and bonding.

As students master the basics using the Chemistry set, more instruction is provided to help them utilize simple, free online animations and animation software. Students eventually create their own animations of chemistry principles such as balancing chemical equations, and present them to other learners of their age. Because there is personal involvement in a very creative process, students are more connected to the subject matter as opposed to merely viewing pictures in some textbook. Students have a personal connection to their chemistry set. When they see that something they have colored is on the intimidating looking Periodic Table, real affective barriers come down. It is as if each atom is a tiny work of art. Rather than an onerous learning task, now it is personal and creative. Students identify similarities within the Periodic Table, first. Then they begin to build simple ionic molecules, then subsequently more complex ones. Along the way they begin to learn the nomenclature and symbolic significance of chemical formulas.

This low stress method of learning about the organization of the Periodic Table is highly effective with younger students and serves to de-mystify and remove the affective barriers associated with secondary and even tertiary Chemistry courses. Depending on the age and ability levels of students, further lessons can be taught

about the valence electrons and their relationship both to the Periodic Table and to the markings on each of their "atoms" (which reflect the chemical and bonding properties).

The significance of valence electrons are taught in a more personal way with a more anthropomorphic approach. The filling of the outer electron energy levels is simplified into an easy to understand "full" or "empty" model. Although atoms, are non-sentient entities, here they are portrayed as "desiring" to have their valence electron levels be full or empty. For instance, atoms in Group 1, the Alkali metals, all have one "loner" electron. Children are very well aware that being alone is not necessarily a good thing. They get it that this electron would "want" to leave to be with other electrons. For this reason all elements in Group 1 are missing their 1 loner electron. This gives these elements their distinct chemical properties. Group 2 elements have 2 valence electrons. Since their outer electron shells are more "empty," than full (eight is full for most periods except the first), they "get rid of" electrons when the energy level is less than half full, and so on.

By the end of the unit students will have acquired personal "ownership" of basic Chemistry principles. Then they proceed to ongoing in depth, current Science News reading about issues involving Chemistry. As well, chemistry is continually emphasized with frequent personalized references to it as much as possible. As parts of the curriculum are presented, the history and lore of "chemical exploration" are also emphasized.

4. Discussion

The techniques presented here are especially effective for use with disadvantaged students or those who are not learning in their native language. They can also be infused into existing science education, especially in elementary to middle school, starting from as young as seven years old. When students finally arrive at the high school or secondary Chemistry course, they will hopefully be excited about it, and expectant of a good experience. However, because much of elementary science education is often lacking, these techniques can actually be used as part of the high school Chemistry class. Our research shows that since we began this focus on pre-Chemistry, 72% of our students report success in their high school Chemistry experience as opposed to only 35%. In other parts of California where these techniques are being used, there is strong anecdotal evidence for similar results.

Results from changing our teaching methods for chemistry education have greatly improved the success rate of our mostly inner city, socio-economically disadvantaged students when they take the "real" secondary or high school chemistry course. Although the American system differs in some ways from the European and other educational systems, infusing more Chemistry education into lower grade levels, and making it more "user friendly" could have the same positive benefits and would be beneficial to all cultures. Thus more people will be empowered to protect themselves and the planet.

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LEGISLATIVE MEASURES TO COMBINE UNIVERSITY STUDIES AND HIGH LEVEL SPORT

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Abstract

Purpose: Supporting an extraordinary demand for training, increasing with age, student athleteshave better academic performance throughout secondary education. However, this trend is broken in high school and at university, coinciding with the highest level of dedication to training.
Background: In this line, this workshop presents the legislative measures currently offered in order to combine academic studies and sports at several educational stages throughout student life. Participants will focus on university issues, and it would be interesting for them to provide documentation or some information with regard to reconciliation measures of education and sport in their country, to think about and share all of this together. Is it possible to establish common agreements?
Key points: Measures will be studied by comparing educational legislation and sports legislation to examine the degree of relationship, specific grants, in order to finally think about future proposals for improvement. It is also very interesting to compare athletes with established solutions for students of music and dance.

Keywords: secondary and university education, high level sport, study programme, compatibility/ combining.

1. Introduction

In recent years, the reasonable idea that students who spend many hours in sports training and high level sport have to reconcile this requirement with the educational and cultural requirements at each stage of life has gained strength. Often, the precarious assemblage of measures to allow for these demanding dual academic activities has resulted in the abandonment of one of them due to non-fulfillment. In the past, perhaps families had so much care and sensitivity towards their child's training that abandoning studies in order to try and advance professionally in the sports world was accepted. This option, apart from being valued little socially, is currently unacceptable; families with children involved in sport are unable to combine this with the logical priority of studies and instruction

However, governments have made efforts to try to have academic standards fit with dedication to training and competition. We should think that education, compulsory until the age of 16, is essential in a country with a cyclically changing educational system and especially attentive to inclusiveness and the educational needs of its students. Simultaneously, however, regional and national sports policy has enacted laws which protect the right to education of young sportspersons, insisting on a series of measures to facilitate reconciliation between academic learning and sports. Needless to say, sport is an activity of interest to the state, not only due to the relevance of a nation for its athletes, but

because these individuals, by showing their values, culture and effort in order not to abandon their education, can become examples for healthy adolescents and young adults.

2. Objectives

The workshop presents the steps currently offered with regard to the reconciliation of academic studies and sports at various educational stages throughout student life. The measures will be studied by comparing the academic educational legislation (LOE, LEC and Instructions for the start of the 2013-14 academic year), and sports legislation (RD 971/2000, Decree 337/2002), to examine the degree of relationship, specific grants, and finally propose reflection on the points to be improved in the future. It is important to see the close relationship that has historically existed between education and sports, today reaffirmed in the same ministry in Spain (Ministry of Education, Culture and Sports) and which should give more consistency to combining studies with sport. Participants will focus on university issues. It would be interesting to provide documentation in relation to the reconciliation measures of education and sport in their country, to think together if it is possible to establish common policy agreements.

3. Methods

Exploratory - descriptive design in order to examine the internal logic of current regulations regarding educational grants for athletes, and predict individual attention quota for each level of education.

4. Discussion

Regulatory inconsistencies have been found, such as providing better academic grants for lower-level athletes or the recognition of Physical Education always preventing them from achieving their true grade. The determining factor is time management. Documents of concurrent studies in music or dance demonstrate this. Music offers a differentiated curriculum adaptation threshold of 4h-5h and dance a threshold of 7h-15h. It is difficult to justify the exemption of young athletes from Physical Education, regardless of average final grade. Sports give real lessons in discipline of effort, taking care of oneself, or values of respect when the opponent is better. Finally, the best universities are currently developing programs with specific attention to high-level athletes. This represents a new item for assessing the quality of a university.

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MEASURES TO COMBINE ACADEMIC STUDIES AND HIGH-LEVEL SPORT IN THE CURRENT LEGISLATION

EDUCATION		SPORT
EDUCATION: Ministerio de Educación, Cultura y Deporte Departament d'Ensenyament, Generalitat de Catalunya Secondary Education (ESO): Education Act of Catalonia, 2009: (Art. 91) + Decree 143/2007, regulating ESO (art. 23.3) High School: Decree 142/2008, the school organization (individual plans) + EDU/554/2008 Order evaluation of school organization Universities: Organic Law 6/2001, Universities + Law 1/2003, Catalonia (nothing appears)	**Legislative Framework**	SPORT: Consejo Superior de Deportes (CDS); DAN (High Level Athlete) and AR Secretaria General de l'Esport, Generalitat de Catalunya: ANC (Elite Sportpersons) LAW 10/1990, on Sport. Article 6.1. The top-level sport is considered of interest to the state. Royal Decree 971/2007, on high-level athletes and high performance (from 15 years old)... LEGISLATIVE DECREE 1/2000, the Single Text of Law of the sport. Article 47.1 ...managing continuous improvement of sports athletes selected DECREE 337/2002, on the sports performance
Not necessarily Elite young sportspersons (less strict) Nowhere is said to have the right to review any schedule changes, group changes, shift delivery of work ...	**General Features**	...Administration take the necessary measures to reconcile their learning with their responsibilities and sporting activities. In order to reconcile the studies with training and attending competitions of the group of high level athletes and high performance... the implementation of academic tutoring to those with impaired to maintain the normal rate of assistance to reconcile their learning with their sports responsibilities.

STAGES OF EDUCATION

EDUCATION		SPORT
MEASURES NOT INCLUDED	**Child (0 - 6 years old) Primary (6 -12 years old)**	MEASURES NOT INCLUDED
Actions to address diversity in secondary education: Type G. Significant dedication to the sport: G.1. Schools for special attention to sports G.2. Students with significant dedication to the sport in other centers Exemption: Physical Education + Optional subjects (more than Elite young sportspersons)?	**Compulsory Secondary Education ESO (12 -16 years old)**	...primary criterion for admission to reserve places consideration of high-level athlete or high performance. The subject of Physical Education shall be possible exemption upon request.
Type A. Individual Plans - High School. A.5. Combine school studies with intensive practice of sport a) Schools of attention to sports (list) agreements between the Department of Education and the General Secretariat of Sports. Exemption: Physical Education + Optional subjects (more than Elite young sportspersons)?	**High School (16-18 years old)**	...primary criterion for admission to reserve places consideration of high-level athlete or high performance. The subject of Physical Education shall be possible exemption upon request.
MEASURES NOT INCLUDED	**Professional Training + Teaching Sports (16-20 years old)**	...intermediate level and higher level, the educational authorities will establish a minimum reserve of 5% of places offered for athletes ... Family Physical Activity and Sports, high-level athlete or performance shall be exempt from performing the specific part of the entrance examination Credited the skills related to the access requirements of specific character, who possess the status of elite athletes in the modality or specialty concerned.
TITLE XIV. SPORT AND UNIVERSITY EXTENSION. Article 90. Sports at the University. 2. The universities will establish appropriate measures to promote the sport and, where appropriate, provide effective tools to support this practice with the academic training of students. Article 91. Coordination in college athletics. 2. the Government on the report of the Council of Universities articulate formulas for compatibility studies high-level athletes with sports.	**University**	1. Reserve least 3% of the positions offered by universities. 2. CAFE (Physical Activities and Sport Sciences), Physiotherapy and MEF (Physical Education Teacher), additional reserve at least 5% of the positions offered. **Exempt from the physical tests to college.** Universities in their own regulations must be aware that status in relation to requests for schedule changes, and testing groups that match their activities and respect the limits by universities stay ...

BUILDING CAPACITY: AN EVIDENCE BASED MODEL PROMOTING OPTIMAL TRANSITION PLANNING FOR STUDENTS WITH SPECIAL NEEDS

Thomas Coll & Julie Migatz
Elwyn (USA)

Abstract

Elwyn Education Division, part of a non-profit human service organization, will provide an interactive workshop that addresses resolution strategies for several transition challenges faced by students with Autism Spectrum Disorders, Intellectual Disabilities or behavioral/ social/emotional challenges. Elwyn's successful model of consultative and collaborative programming builds transition capacity for administration and staff who work within the special education field.

Presently, Elwyn's successful partnerships with school districts and charter schools include 22 schools, 65 direct care staff, 235 students, 45 businesses, and 2 universities. Success is evidenced, in part, by significant increases in students' acquisition of transition skills, students' enhanced self-awareness/self-advocacy, and students' self-reported accomplishments pre and post-graduation.

Students experience opportunities for individual and small group support, advancement in personal development, and the capacity to bridge school based skills with employment opportunities. Students gain positive experience through the exploration of multiple transition sites within their communities. These opportunities provide students with an array of transition placements as they move from the structure of school to the independent interactions needed to become contributing members of their home communities and society.

Building capacity within school districts focuses on:
- working directly with students
- modeling specific strategies
- mapping resources and tools that promote optimal transition.

Participants will learn to:
- replicate this framework to develop these programs
- build successful collaborative and consultative partnerships
- assess individual student's interests, strengths, and skills necessary to promote successful transition

This workshop is appropriate for up to 150 teachers, administrators, and transition staff who work with transition students. Handouts will be provided.

Keywords: *transition, replicate, building capacity, collaborative.*

1. Introduction

Elwyn is a non-profit human services organization that was founded in the United States of America in 1852. The main campus is located in Media, Pennsylvania. Elwyn also has programs in Delaware, New Jersey, and California. A goal of this organization is to help people with special needs maximize their potential to live happier, independent, and more meaningful lives.

Although the agency serves people from birth through death, the Education Division provides programming and services for children ages 3 to 21. Students are prepared to improve their independence and self-determination. It is our joint mission for them to become participating members of their home communities.

2. Design

Elwyn's community based programs are designed to support people with a variety of disabilities that include Autism Spectrum Disorders, Intellectual Disabilities, and/or behavioral/social/emotional challenges. There are three major areas of focus that are assessed for each student. These are:

- Individualize programming
- Provide an array of transition opportunities and experiences in the community based on ability, interests, and strengths
- Implement positive approaches throughout all aspects of programming

3. Objectives

The objective of this workshop focuses on participants actively learning and engaging in activities that will support a successful and positive student to life transition. Presenters will offer a framework to replicate this program. Participants will explore the development of collaborative and consultative partnerships as well as the assessment of individual student's interests, strengths, and skills necessary to promote successful transition.

4. Discussion

Children with disabilities may drop out of school, are more likely to be unemployed, and are often less prepared with skills to find employment (Eckes et al, 2005). Elwyn addresses resolution strategies for several of these and other transition challenges faced by students with Autism Spectrum Disorders, Intellectual Disabilities and/or behavioral/social/emotional challenges.

Students diagnosed with Autism Spectrum Disorders need more structure implemented in the classroom environment than regular education students (Loftin et al, 2008). In recent years, programs that target the elements of structured teaching have been very successful in promoting student success in autistic support classrooms (Mesibov et al, 2004). These strategies have been effective ways of developing skills and allowing students with autism to use their skills independently (Odom et al, 2010).

For the past eight years, professionals from Elwyn's Education Division have been sharing their expertise of structured teaching by consulting, teaming, and modeling these practices with school districts in programming for students with Autism Spectrum Disorders. Elwyn's consultation has changed the behavioral culture throughout entire schools by utilizing elements of structured teaching within students' educational environments. This practice is widely regarded as one of the most effective ways to extract the full academic, social, and communicative behaviors of students with autism (Rogers et al, 2008). The overall goal of Elwyn's consultation is to build capacity within the school district through staff development, modeling, collaboration, and consultation.

A structured approach is evident in all of Elwyn's outreach programs. Elwyn has partnered with the public school system for the past 16 years in providing therapeutic support to identified students. These students require a more intense mental health support system than their typical peers. Programming for these students includes a variety of approaches such as Cognitive Behavioral Techniques, S.E.T. Principals, Emotion Management, Problem Solving, and communication building. This is then applied to help students transition into their young adult lives. Through addressing challenges they may face, including stress and adapting to new situations, students begin to generalize school based skills into work related skills (Eckes et al, 2005). This in turn leads to the attributes necessary to achieve skill levels for employment and post high school college endeavors.

Successful practice to build capacity allows the students and staff full access to the professionals located within their school, "in-vivo" training opportunities and consistent individualized and small group therapy, positive behavioral support strategies, and collaborative team meetings. Essential components are 1) access to school based files and information 2) ongoing consultation 3) collaboration on goals and direction 4) continuing communication to discuss strategies and to determine next steps 5) ongoing partnership with the student to promote alignment and opportunity for contribution and feedback and 6) continually re-assessing progress of all aspects of the program.

Building program success and capacity are accomplished through specific strategies and techniques which involve the areas of interpersonal expertise, policies, evaluations, behavioral components, and staff development. Specific tools are utilized and developed within each of these frames to increase successful transition into the community.

5. Conclusion

As students progress through these programs, they experience opportunities for individual and small group support, advancement in personal development, and the capacity to bridge school based skills with employment possibilities. Students gain positive experiences through the exploration of multiple transition sites within their communities. These opportunities provide students with an array of transtion settings and placements as they move from the structure of school to the independent interactions needed to become contributing members of their home communities and society.

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FELPS® METHOD: A PRACTICAL APPROACH TO EUPHONIOUS JINGLES AND PHONIC SOUNDCARDS IN THE EFL CLASSROOM

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Abstract

This workshop elaborates on the significance of euphonious jingles and phonic soundcards in the EFL classroom, which are subsumed under the method named FELPS® (Fun with English: Learning with Phonic-jingles and Soundcards). In particular, it will be demonstrated how these multimodal language tools are used in an EFL class (from beginners to advanced learners) as well as optimally they enhance its gain on the part of the learner's language abilities once they are incorporated systematically. Furthermore, different hands-on teaching scenarios will be demonstrated together with the participants in order to sketch how the main ideas of FELPS® may work in every EFL class and how to create a brain-compatible classroom.

Keywords: EFL, jingles, phonics, soundcard, brain-friendly

1. FELPS®: theoretical substantiation

In this section I will briefly enlist a theoretical background of FELPS®, a method invented and tested for EFL classes at Austrian primary schools.

FELPS® was created by the presenter of this workshop focusing especially on neuroscience and sustainable memory. Two main factors for achieving a sustainable memory within EFL teaching are: a wide range of different learning approaches or methodologies *and* repetition of the subject areas (Roth: 2011). With regard to Roth (2011) these two essential components have been used to build the basis of FELPS® as well as the growing number of non-German native speakers at Austrian primary schools (Statistik Austria: 2013) and rather outdated teaching methods such as *Audiolingualism* and *Direct Method* (Buchholz: 2007).

Children learning a language are still open to all various teaching methodologies: visual, auditory, kinaesthetic, haptic or creative. One of the main goals of FELPS® was to unite all these learning approaches or at least to form coherent groups in order to increase the numbers of learners that appeal to it. As Multhaup (2006: 179) equally observes

[…] in teaching for instance, personal factors, stimulating learning environments, choice of interesting topics, and similar motivational 'gimmicks' matter no less than rationally and personal likes and dislikes, they selectively react to objects and events in their environment.

Furthermore, FELPS® also tries to equally regulate the motivation level in an EFL classroom being aware of the great impact of a positively motivated classroom. As motivation does play a vital role in every lesson, auditory and visual stimuli such as euphonic jingles and mnemonic soundcards could enhance the learners' motivation. Knowing that there is a rare ability of about ten million people who take the input from one sense – say a musical rhythmical interval or jingle – and trigger a vivid perception in another (Gamon/Bargdon 2001: 83) – say a colour or an image – FELPS® still focuses on this *synthesia* in particular. Although *synthesia* is a natural ability that was "unlearnt" in early life (Gamon/Bargdon 2001: 83) FELPS® tries to build on auditory and visual patterns that help the brain to actually "re"-learn these forgotten bridges in order to build a vivid picture from an auditory sense.

1.1. Ephonious Jingles:

This topic has been selected by virtue of insights about how the brain impacts language learning. Generally it can be stated that music as such is a mean to comfort people and the right-hemisphere of the brain as well as the left hemisphere are involved in processing melodies or patterns (Lucas 2003: 25). Lucas (2003: 25) also points out:

[…] this would seem to suggest that listening to music engages a significant amount of our brain and that it may be good preparation for learning.

On the grounds of the essential impact of music in language learning and processing it can be explained that euphonic jingles in this respect are short musical sequences such as in the well-known melody of a fire brigade. As already mentioned above music activates more than just the right side of the brain. It likewise elicits emotional responses which are strongly connected to the limbic system. As Roth (2011) has already pinpointed we should not neglect the fact that the limbic system is fundamental for the long-term memory. Webb and Webb (1990) support this predication by saying:

[…] Music acts as a premium signal earner, whose rhythms, patterns, contrasts, and varying tonalities encode any new information […].

FELPS® (Phonic) jingles concentrate on 14 different sounds – see also 2. Design – that are linked with 14 different musical intervals and acoustically performed by 14 different musical instruments. When language learners for instance hear the sounds of /θ/ or /ð/ (voiceless and voiced "th") they will also hear the according jingles. This will condition the learners easily and as soon as letters or phonics are introduced especially the very young learners of English are able create a visual and auditory "picture". Consequently this multimodal learning approach guides language learners into understanding a pattern behind language learning that is supportive and creative at the same time (Rogge 2007: 272).

1.2. Mnemonic Soundcards:

FELPS® soundcards are vivid, concrete, visual images which have a powerful impact on the language learner. These mnemonic cards show a picture representing a sound and offering a TPR (Total Physical Response) (body)-action for the language learner to perform. All the sounds shown on the cards are universal sounds. It was of the utmost importance that all learners no matter of what first language they speak are able to identify these sounds by just looking at the picture, because ample visual examples aim at how the visual stimuli is organised and stored in the brain (Hanson 2002).

Fiske and Taylor (1984) as well as Nisbett and Ross (1980) underline the fact that images have the most impact on the learner's behaviour. According to Jensen (1995: 80) neuroscientists found out that

1) the brain has an attentional bias for high contrast and novelty;

2) 90 % of the brain's sensory input is from visual sources; and

3) the brain has an immediate and primitive response to symbols, icons and strong, simple images

With regard to this given evidence one must understand the sustentative effect of a mnemonic device in learning in general. Thus FELPS® soundcards constitute to enhance the auditory input, named (phonic) jingles.

2. Design

This workshop aims at a presentation of an hour of hands-on material including theoretical background information when needed or appropriate. Furthermore, all participants will get a collection of creative and new didactical ideas as how to integrate

euphonic jingles and mnemonic soundcards in their EFL lesson. Active participation is certainly very much appreciated and helpful to outline different didactical aims.

3. Methods

In a recently conducted survey at three different primary schools in Vienna over a period of six months carried out by the University of Teacher Education Vienna in 2013/14 it was found out that young learners of English have problems in hearing the sounds correctly in the first place and allocate them to the correct letter in the second. Nearly 100 % of all recorded and monitored children were not able to distinguish the sounds /f/, /θ/ and /ð/. After using the FELPS® soundcards and jingles two out of three children have been able to distinguish the sounds and pronounce them correctly.

In this workshop all participants will be able to try out didactical games invented by the author of this article or adapted for an EFL class. Using fly flaps or Cuisenaire Rods to illustrate the great enhancement of the auditory and visual stimuli of FELPS® will only be a small part of the presented programme. Let us now look at an example to illustrate these auditory and visual stimuli:

Sound	Word/Letter	(phonic) jingle	Word(s) used in jingle	soundcard	TPR
/tʃ/	"ch"	Ch-ch-ch-cheer me up (audio-files will be available)	cheer		Bend your left and right arm o 90 degrees and imitate a loco-motive moving along

4. Conclusion

Against this background FELPS® has started to filter the 14 most troubling sounds of the English language for EFL students. These sounds are then transformed into visual and auditory stimuli which enhance language learning and also visualise sounds in the EFL classroom. Admittedly, the potential focus of these 14 sounds is of an English-German language setting. To sum up, I have attempted to show up how these stimuli can be meaningfully intertwined with a brain-compatible classroom including multimodal material.

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