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Facebook as integrated blended learning tool in technology and livelihood education exploratory

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KEYWORDS

Contextualized Blended Learning Tool
Facebook
Integration
Redefining Classroom

ABSTRACT

The propagation of digital learning tools and the need to incorporate contextualized pedagogy plays a vital role in the development of 21st-century skills. The action research sought to explore the effect of Facebook as an integrated blended learning tool for students learning outcome using a quasi-experimental pretest-posttest and interview research design. The study gathered data from 15 students for the experimental group that was based on internet access profile and online behavior towards integrated blended learning mechanism and 15 students for control group infused in a traditional approach. The instrument used was the researcher-made test based on the prescribed learning competency in TLE exploratory validated by a master teacher. The salient findings yielded, that the students who involved on integrated blended learning tool had a significantly greater achievement in two of the exploratory learning competencies: entrepreneurship and prepare and use of tools in Technology and Livelihood Education Grade 7 exploratory. Despite limited access to the internet, student's experience in the blended instruction was exemplary, proving that Facebook was an effective learning-teaching integration and supplementary instruction in redefining classroom. Hence, it fosters motivation and confidence in interacting with other students. Finally, Facebook as blended learning integration is an effective instructional tool for teaching TLE exploratory which allows millennial learners to learn according to their own pace, time and place.

Introduction

Nurturing the holistically developed 21st-century learners catalyze every student to be equipped with information, media, and technology skills, learning and innovation skills, effective communication skills, and life and career skills. Enrich curriculum is one of the salient features of the K to 12 curriculum encompasses contextualized curriculum flexible enough to enable and allow schools to localize, indigenize and enhance the curriculum based on their respective educational, social, technological and global context (R.A.10533). The proliferation of digital tools plays an important part in re-engineering the 21st-century pedagogical approaches. Studies show that students grasp their lesson well if they can relate to them articulated as millennial learners. Indeed substantial change brought by globalizing the curriculum relevant to the learner creates remarkable learning outcomes. The significance of

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technology creates an opportunity for innovation and development of instructional tools that brought a valuable contribution in various institutions and considered as future of education (APEC, 2015).

It can be said that one important feature of curriculum development is enriched with the use of technology. Technology infused with online learning is blended learning and the concept of any time and anywhere education is optimized through the availability of computer equipment or gadget and internet connection (Mancao et al., 2014). To feed young minds encourage budding dreams and inspire promising lives, harnessing the best of tradition and technology (Aguiluz, 2016). Radical teaching-learning strategies focus on the holistic development of the learners anchored with 21st-century skills adhering technology-mediated instruction such as social media, Quipper School, and SchoolBook and other blended platforms which are now considered in modern instructional practices. Teachers as technology-driven leaders can do strategic to maximize the use of any available new technology in redefining classroom instructions with the combining instructional approaches and digital tools that allow students to control learning at their own pace, time and place appropriate to millennials. The rapid change of technology and how it is used yield another challenge to overcome towards the attainment of inclusive education. Classroom teacher plays a vital role in breaking down the barriers to students' failure. Moreover, different models of blended learning such as face to face driver, rotational, flex, online lab, self-blend and online drivers (Staker and Horn, 2011). These four combinations range from those that are more connected to people and brick-and-mortar buildings or rotation, flex to contexts in which the students are primarily self-directed through online courses or platforms that deliver the curriculum--self-blend and enriched virtual. Since the student is the core of learner-centered education, one that would benefit most should be the utmost priority of education sector to invest enough for blended learning indicative capabilities that will prepare learners to be globally competitive, adequately equipped with necessary skills and competencies required for work and lifelong learning.

Many blended learning practices already fit well with a vast array of hybrid face-to-face and digital experiences that students encounter in K–12 schools, including distributed learning, distance learning, or e-learning (Friesen, 2011). The flipped classroom experience showed that by transferring classroom components online, students take control of learning. Better class interaction meanwhile allowed the teacher to better guide student learning. The study assumed that all students had access to the internet but still, there were a handful of students who had difficulties in regularly going online. These overarching ambitions of our education will be realized if Philippine schools totally embrace technology and engage learners in virtual reality and providing students with essential ICT resources in school by redefining classrooms and incorporating learning to teachers' pedagogy. As a matter of fact, integration of ICT into teaching and learning promotes better learning and retention, motivations, individualization, consistency, learner control, high-speed personalized responses, and collaboration. Besides, it arouses interest and increases achievement rate of the learners (R.A. 10533). House Bill No. 53, state that one of the solutions to address the deteriorating quality of education is through the utilization of various ICT as a tool for learning and teaching. Several studies have underscored the benefits of integrating ICT particularly in the education system (Benitez (2013). Utilizing ICT significantly contributed to the acquisition and absorption of knowledge among the students by increasing their motivation and engagement in classroom activities, particularly a computer with internet connectivity provides the learner an opportunity to connect with other people and provides them ready access to wireless data and information. According to Vermillion (2014) K to 12 schools that pushed through a range of barriers to developing innovative and student-centered learning environments using Google Apps and the learning management system. Blended learning, where students' face-to-face education is blended with Internet resources or online courses, has been gaining considerable attention in education reform circles. It has become entangled with the ambiguous notion of personalized learning and is being positioned as the new way to individualize learning in competency-based education systems (Phil McRae, 2014).

Blended learning is a "mix" of two different training delivery methods. Here, the traditional and online learning formats are combined together to create a comprehensive learning experience (Deepika, 2015). The competency framework for the professional growth and development of high-performing school heads in Southeast Asia adopt the 21st century needs in education. These instructional approaches and digital tools that allow students to control learning at their own pace, time and place appropriate to diverse learners. Classroom teacher plays a vital role in breaking down the barriers to students' failure. Different models of blended learning such as face to face driver, rotational, flex, online lab, self-blend and online drivers create potential opportunities for students' learning outcomes (Staker and Horn 2012). Since the student is the core of the learner-centered curriculum, one that would benefit most is the paramount priority of education sector that will prepare learners to be globally competitive, adequately equipped with necessary skills and competencies required for work and lifelong learning. The transition of education system creates flexibility that allows students to progress to master skills at their own pace, time and place. Make better use of technology, support new staffing patterns that utilize teacher skills and interests differently and each of these presents an opportunity to achieve greater efficiency and increase productivity (Khan Academy).

The learners of the 21st-century are pronounced as millennial as they are also called digital natives who are born in the digital age, an environment where they can easily access on the internet and knowledgeable on using gadgets, social media communities, and online platforms and digital-based materials. Despite the scarcity of technology resources, congested classroom size and students failure in school, still teachers engagement on enrich curriculum is the key towards students learning achievement. It is therefore imperative for educators to learn to incorporate various 21st-century technologies and platform in order to make learning relevant to the learners. Teacher as transformative classroom leader of adopting change must be an agent in redefining classroom and embrace innovative pedagogical practices, making the teaching-learning process relevant and engaging and it allows learning according to students pace, time and place.as well. To superficially know if the Facebook as contextualized blended learning tool can be effective using experimental approach,

the study aims to determine the effect Facebook as integrated blended learning tool in Technology and Livelihood Education exploratory among Grade 7 students of General Emilio Aguinaldo National High School, Imus City, Cavite.

Specifically, it sought to answer the following questions:

1. Is there a significant difference in the pre-assessment mean scores of the control and experimental group?
2. Is there a significant difference between the pre-assessment and post-assessment mean scores of the control group?
3. Is there a significant difference in the post-assessment mean scores of the control and experimental group?
4. Is there a significant difference between the pre-assessment and post-assessment mean scores of the experimental group?
5. How the students perceived Facebook as a teaching-learning tool?
6. Based on the findings, what recommendations for action is to adhere in school context towards redefining classroom?

Methodology

This study aimed to explore the effect of Facebook as an integrated blended learning tool on the learning outcome and attitude of students in TLE exploratory. A quasi-experimental method of research, particularly the nonrandom sampling was used and the counter support of the focus group discussion that answers the internet access capability and perception of the students towards Facebook as contextualized blended learning integration and intervention among homogeneous and heterogeneous sections of grade 7 students of General Emilio Aguinaldo National High School.

The researcher taught both the experimental and control group. The experimental group composed of 15 students who were engaged on Facebook as supplementary integrative blended learning instruction and another 15 students for the control group who were engaged in the conventional method or usual classroom instruction, measured by their posttest scores. This study use of the following strategies for contextualized blended learning integration and supplementary instruction: flipped, flex and cooperative learning-teaching approach using the Facebook group as technology-mediated instruction and some other alternative learning approach and intervention that was deemed responsive to students as millennial in terms of their learning preferences. The study used to sets of teacher-made formative test, one for the pre-assessment and the other one for the post-assessment composed of 30 items, which covers the basic learning competency prescribed by K to 12 Curriculum of TLE exploratory particularly personal entrepreneurial competencies, use of hand tools and mensuration. T-test for dependent variable was used in the study that determined the significant differences between the pre-assessment mean score and the post-assessment mean score of either control or experimental group.

The researcher primary integrative blended learning platform was the used of Facebook to supplement instruction. The lessons were presented in various pedagogical approach using differentiated instructional materials: modules, topic videos, audio-visual presentation, enrichment and online activity posted on the Facebook group. The close group accounts strictly for students' member only to be utilized for teaching-learning purposes. The students were also given suitable learning interventions to make learning in progress and allowing students ample time to respond according to their pace, time and place. They were also given the prerogative to work alone or in groups and interest. Restriction from the unrelated topic or media posted on the group is not allowed. Orientation, motivation, and encouragement to create Facebook and join the group were made and the outcome of the study does not affect the grades of the students. Figure 1 shows some of the pedagogical activity using Facebook as contextualizing blended learning integration and intervention.

Figure 1. Facebook Group as Contextualized Blended Learning Integration and Instructional Intervention

Results and Discussions

The results and discussion of the study presents the findings in illustrative tables, analysis and interpretation based from the treatment of the data.

Homogeneous				
Group	Pretest Mean	t-value	p-value	Remarks
Control Group	14.67	2.863	0.006	There is significant difference
Experimental Group	14.8			
Mean Difference: 0.13				

Heterogeneous				
Group	Pretest Mean	t-value	p-value	Remarks
Control Group	13.07	1.086	0.147	There is no significant difference
Experimental Group	14.67			
Mean Difference: 1.6				

Based on Table 1, the findings revealed that the homogeneous class in the control group got a mean pretest of 14.8 while the experimental group got pre-test mean score of 14.67. This yielded a difference of a mean of 0.13. For heterogeneous class, the control group got a mean pretest of 13.07 while the experimental group got pre-test mean score of 14.67. This yielded a difference of 1.6. Using t-test, the obtained t-value was 2.863 and p-value was 0.006. Since the p-value < .05, then the differences in the pretest scores were statistically significant in homogenous class. This means that before the experiment, the experimental group has prior knowledge in the learning competencies compare to control group. The heterogeneous class obtained t-value of 1.0862 and p-value of 0.1478. Since the p-value > .05, then the difference in the pretest scores was not statistically significant. This means that before the experiment, the control group and the experimental group were equivalent in terms of knowledge in the learning competencies. The experiment conducted in the two groups are equivalent or equal. The result of homogeneous class led to the rejection of the null hypothesis that there is significant difference in the pretest scores between the control and the experimental group while the result of the heterogeneous class led to the acceptance of the null hypothesis that there is no significant difference in the pretest scores between the control and the experimental group.

Table 2. Difference in the Performance of the Control Group

Homogenous				
Test	Mean	t-value	p-value	Remarks
Pretest	14.8	3.027	0.002	There is significant difference
Posttest	19.13			
Mean Difference: 4.33				

Heterogeneous				
Test	Mean	t-value	p-value	Remarks
Pretest	13.13	3.424	0.000	There is significant difference
Posttest	17.6			
Mean Difference: 4.47				

The homogeneous and heterogeneous class which consists of 15 students in the control group who were not engaged in blended learning have no significant difference in performance. To determine if the performance of the control group improved significantly in the prescribed learning competencies even without blended learning, t-test for dependent samples was used between the pretest and posttest scores in the control group. Table 2 shows the result. Using t-test for dependent samples, the obtained t-test value was 3.027 and p-value was 0.002 in the homogeneous class. Since the p-value < .05, then there is a significant difference between the pretest and posttest scores of the students in the control group while the obtained t-value of heterogeneous was 3.424 and p-value were 0.000. Since the p-value < .05, then there is a significant difference between the pretest and posttest scores of the students in control group.

Table 3. Equivalence between the Control Group and the Experimental Group after the Experiment

		Homogeneous		
Group	Posttest Mean	t-value	p-value	Remarks
Control Group	19.13	4.261	0.000	There is significant difference
Experimental Group	23.73			
Mean Difference: 4.73				
		Heterogeneous		
Group	Posttest Mean	t-value	p-value	Remarks
Control Group	17.6	0.888	0.191	There is no significant difference
Experimental Group	18.67			
Mean Difference: 1.07				

Using t-test showed the obtained t-value of the homogeneous class was 4.261 and p-value was 0.000. Since p-value < .05, then there was a significant difference in the mean gain scores of the control group and experimental group. The heterogeneous class obtained t-value was 0.888 and p-value of 0.191. Since p-value > .05, then, there was no significant difference in the mean gain scores of the control group and experimental group. This means that the performance of the experimental group who engage in blended learning model in homogeneous class improved significantly better than the control group who did not engage in blended learning. This was revealed by the higher gain scores obtained by those who infuse blended learning. This result led to the conclusion that blended learning helps significantly in improving the student's performance in exploratory TLE for grade 7. Hence, blended learning is a positive approach that increases students' performance. However, the performance of the experimental group in heterogeneous class who engage in blended learning has no significant effect than the control group who were not engaged in blended learning approach. This means that the two groups were a correspondent in terms of their knowledge in the learning competencies. Blended learning has been effective in improving the performance of the Grade 7 TLE exploratory as compared to conventional method of teaching without blended approach. This is asserted that effective learning in today's and tomorrow's organizations needs to harness and connect the 21st-century learning potential that exists across the natural phases of transformation (Wilson & Biller, 2012).

Table 4. Difference in the Performance of the Experimental Group

		Homogeneous		
Test	Mean	t-value	p-value	Remarks
Pretest	18.6	4.379	0.000	There is significant difference
Posttest	23.73			
Mean Difference: 5.13				
		Heterogeneous		
Test	Mean	t-value	p-value	Remarks
Pretest	14.67	2.733	0.010	There is significant difference
Posttest	18.6			
Mean Difference: 3.93				

Based on table 4, the pretest score of the homogeneous class experimental group got a mean of 18.6 while the posttest scores got a mean of 23.73. This yielded a mean difference of 5.13 while the pretest scores of the heterogeneous experimental group got a mean of 14.67 while the posttest scores got a mean of 18.6, yielded a mean difference of 3.93. Using t-test for dependent samples, the homogeneous class obtained t-value was 4.379 and p-value of 0.000 and the heterogeneous class obtained t-value < 2.733 and p-value 0.010. Since the p-value of the homogeneous and heterogeneous class is < .05, then there was a significant difference between the pretest and posttest scores of the students in the experimental group.

It is clear that Generation Y (ages 28 and younger) belongs to the 21st century where the fast pace of digital tools change the behavior of the millennials. Students in the 21st century as digital natives' underscores technology orientation which creates impact significantly. Nevertheless, because more classroom time is devoted to student interaction, the value of blended learning in many classrooms is seen as advantageous (Nicdao, 2012). Obtaining students feedback perception about the Facebook as contextualized blended learning tool is an important for the successful integration and implementation of the process.

When asked about their perception of the use of Facebook as contextualized blended learning integrative instruction and intervention, here are some of the coded voices of the students:

> *Interesting, because I learned the lessons according to my own time and capacity and I have self-confident to answer assessment online. I was able to express my answer freely and given enough time to answer classroom activities. I am aware of blended learning approach which provides me ample time to answer the activities and assessments within my ability and collaborate with my classmates in the classroom. When*

I am absent in the class, our Facebook group helps me to remind, update and inform in advance with our lessons and our teacher is always there to provide intervention to cope up with the lessons tackled. This is my first time to join an online group wherein I am allowed to answer online. Blended learning enhanced my skills through the ideas on the video, files, and pictures that our teacher posted which help my study in TLE. It helps us to learn easier, like in public school where we have limited books but, through blended learning, we gain knowledge, information with the help of technology and internet.

Conclusions

There is a significant difference in the performance between the control group and experimental group before the experiment was conducted in homogeneous class while there is no significant difference in the performance between the control group and experimental group before the experiment was conducted in heterogeneous class. This implies that the two groups in homogeneous class are not equivalent in terms of their knowledge while the heterogeneous class is same in terms of their knowledge in grade 7 exploratory.

Students who engage in the contextualized blended learning instruction and intervention showed significant improvement in the learning outcomes in grade 7 TLE exploratory. This means that blended learning is a helpful mechanism for grade 7 students which improve their learning outcomes.

There is a significant difference between the performances of the control and experimental group in homogeneous and heterogeneous class after the conduct of the experiment. This means that the performance of the experimental group who engage in blended learning methods improved significantly better than the control group who did not engage in blended learning. The primary reason for this is that grade 7 students have internet access and find Facebook as a user-friendly blended learning tool, motivating and interesting.

The contextualized blended learning integration and intervention provides the students with a positive impression as a user-friendly instructional tool which bridges learning according to their own pace, time and place. It fosters supplementary teaching-learning alternative delivery and strengthens collaboration, communication, and interaction. The technology-mediated instruction is relevant to them as digital natives which support student's learning. When properly managed by the teacher, utilizing Facebook as blended learning tool guarantees an effective and engaging learning environment.

Classroom Implementation Plan

1. Area of Concern	**2. Objectives**	**3. Action Taken**	**4. Outcomes**	**5. Person Involved**	**6. Timeframe**	**7. Resources**
Utilization of ICT tools	Integrate the use of technology in teaching-learning TLE exploratory 8.	Utilized ICT tools in pedagogical practice **9.**	100% of the students have engaged in the use of ICT in learning TLE exploratory	Teacher Students	November to March during 3rd and 4th quarter	Personal
Integration of innovative user-friendly online learning	Maximize learners' involvement in blended learning mechanism that allows learning prior to students' pace, time and place.	Students were engaged on blended learning-teaching approach using Facebook	10. 100% of the students have engaged in blended learning instructional tool in TLE exploratory	Teacher Parents Students	November to March during 3rd and 4th quarter	Personal
Track and Monitor Online learning	Consistently provide feedback and maintain interaction on teaching TLE exploratory	Consistently monitor blended learning instruction	Teacher able to monitor efficiently blended learning instructions and interventions various learners	Teachers, Parents, Students	Whole Year Round	Personal

School Implementation Plan

Teachers' Training on ICT: Office Mix, Google Drive, Virtual Learning Sites and other Networking Sites, Social Media or Blended Platforms	To enhance teachers' proficiency in their respective learning areas in TLE in managing blended learning and utilizing appropriate technology mediated practices, design and techniques appropriate for diverse students	The school and division were able to conduct seminar-workshop related to technology instruction and revitalize teachers competence toward information, media and technology skills in TLE	100% of Teachers lesson have adhered the used of information, media and technology instructions 100% of the faculty have attended K to 12 curriculum seminar and training about enrich curriculum	Principal, Head Teachers, Master Teacher, Teachers, Students	Whole Year Round During INSET and Mass-Training and Roll-out seminar	School Fund, Dept. Fund, Personal

Recommendations

1. Teacher should blend traditional and online learning by integrating Facebook as contextualized blended learning mechanism, supplementary teaching-learning instructions and intervention.
2. Teacher should engage students on blended learning approaches suitable for different kinds of learners.
3. Students must develop intrinsic motivation and responsiveness on blended learning instructional integration and intervention.
4. Enhance teachers' proficiency through seminar workshop in utilizing different program or software used for blended learning.

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