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The Effect of Cooperative Learning: University Example

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Abstract

Problem Statement: Motivation is a significant component of success in education, and it is best achieved by constructivist learning methods, especially cooperative Learning (CL). CL is a popular method among primary and secondary schools, but it is rarely used in higher education due to the large numbers of students and time restrictions. The literature does not give much space to the use of CL and its motivational effects. This study aimed to fill this gap in the literature and practice.

Purpose of the Study: This study sought to investigate the effects of CL on students' motivation and student products at university level.

Method: With an implementation of CL at a university, this study was performed with mixed-method techniques. Jigsaw and Team-Game-Tournament techniques were implemented in two sections of a selective course at a state university in Istanbul, Turkey to outline the motivational effects of CL on students between the ages of 18 and 25. To reach more satisfying results, a mixed methodology was used and pre- and post-motivation questionnaires were supported with document analysis of students' products.

Findings: The study showed that the university level is not a hazardous place to implement CL. On the contrary, it is a fruitful level to see positive motivational effects. Both the qualitative and quantitative data supported the positive effect of CL on students' motivation and cooperative learning strategies.

Conclusion and Recommendations: Based on the findings, it could be asserted that CL is effective on students' motivation and cooperative learning strategies. Especially for students at faculties of education, the use of CL was rather generous in terms of their own learning. As their profession involves teaching how to learn, it is important that they know the specific path.

Keywords: Cooperative Learning, motivation, teacher training, higher education.

Introduction

Motivation is one of the key determiners of success in almost every field. All the requirements of success lie under the hidden garden of motivation: determination, hard work, will, belief, time management, etc. As Steve Jobs (2005) pointed out, "The only way to do great work is to love what you do." Motivation is regarded as a fundamental element of education (Deci, Vallerand, Pelletier, Ryan, 1991; Rienties, Tempelaar, Bossche, Gijselaers & Segers, 2009; Zhou, 2012; Ray, 1992). However, it is known that the underachievement or disengagement of students is caused by a lack of motivation (Rowell & Hong, 2013) and a positive correlation has been found between engagement and motivation (Klauda & Guthrie, 2015).

When five areas that could increase motivation of the students are analyzed, the first is identified as the program or instruction type: i. a motivating program; ii. enjoyable and different activities for students; iii. defining a goal; iv. peer-motivation; v. encouraging parents to learn (Thompson, 1987). When those areas are given a deeper look, an instruction type would be noticed as meeting them: Cooperative Learning. Cooperative Learning (CL) is a learning model with deep theoretical and practical roots dating back to the 1900s and before (Johnson, Johnson, & Smith, 1998). It is asserted by many researchers that CL increases the level of motivation (Ning & Hornby, 2014; Law, 2008; Nichols, & Hall, 1995) and the academic success of students (Adu & Galloway, 2015; Bayraktar, 2011; Keramati, 2010; Slavin, Hurley, & Chamberlain, 2003). However, CL is neglected at the university level (Herrman, 2013) although it has been proven to elicit positive results including success and motivation at kindergarten (Artut, 2009), elementary (Tarhan, Ayyildiz, Ogunc, & Sesen, 2013; Ebrahim, 2012; Law, 2011), and secondary levels (Orora, Keraro, & Wachanga, 2014; Topping et al., 2011; Keramati, 2010). This study analyzed, the motivational effect of CL in two university classes along with student products with the aim of demonstrating the effect of CL on university students' motivation and products.

In other words, it is believed that motivated students are more successful and engaged in education than non-motivated students. For this reason, many instruction models, teaching materials, and ideas have been developed to increase the motivation of the students. A CL model is a model that promises to increase the motivation of students in a way that is compatible with the requirements of the 21st century (Johnson & Johnson, 2014).

This study seeks answers to the following questions:

1. Does CL increase the perception of motivation of group work?
2. Does CL affect university students' products as a result of group work?

The answers to these questions will enable researchers to understand the effects of the use of CL at the university level and suggest some implications about CL. Thus, the instruction at universities will be enhanced. Moreover, as the empirical study is applied in the Faculty of Education at a state university, the pre-service teachers will experience a real classroom environment and instruction based on CL. It is known that pre-service teachers find it difficult to put the knowledge or theories they learn into practice (Ross, 1994). Although there is a need for further research, one benefit of this study would be the insight of pre-service teachers about CL and the possibility to use it in their future classrooms.

Cooperative Learning

CL is a learning method that enables students to work in groups of four to six and interdependently create their own learning (Slavin, 1987). It is a constructivist model of learning; as a result, it requires the students to explore information and puts students at the center of learning process (Wadsworth, 1996). It does not ask teachers to teach the students, but instead to direct them to the sources of information. This way, the students create their own learning. CL, on the other hand, enhances the aim of Constructivism and enables teachers to ensure that each student has reached the target learning level. To do this, teams of four to six are created and interdependence is generated so that the group members help each other reach the target.

It has been asserted that CL has positive impacts on the learning process of the students, including success (Ray, Leeper, & Amini, 2014; Keramati, 2010; Nakiboglu, 2001) and their motivation (John & Ng'eno, 2014; Nichols & Hall, 1996; Dedi & Ryan, 2011). As for academic success, it has been argued that CL has a positive effect on the academic success of the students in many areas such as as science (Ahmadpanah et al., 2014), algebra (Bunrasi, 2012), written expression (Sahin, 2011), technology (Tarhan, Ayyildiz, Ogunc, & Sesen, 2013), and geography (Kus, Filiz, & Altun, 2014).

In a longitudinal study in Hong Kong, the effects of CL were found to be advantageous for enhancing attitudes towards learning such as 'self-learning' and 'having a voice' (Chan, 2014). Similarly, CL has been found to increase intrinsic values (Ning & Hornby, 2014).

Ning and Hornby (2014) found that CL increases intrinsic motivation more than traditional instruction, although it seems not to have any effect on the other five aspects of motivation according to self-determination theory. This theory suggests that there are six categories of motivation, which are in a continuum from a motivation to intrinsic motivation (Deci & Ryan, 2011).

CL also affects the academic success of the students at university level (Tran, 2014; Karacop, Doymus, Dogan, & Koc, 2009). Another study of university students in Turkey found CL positively affects the academic success of the students for chemistry teaching department (Nakiboglu, 2001) and in an experimental study conducted with 110 tertiary students from the Faculty of Education (Tran, 2014). When the effect of CL is analyzed more deeply, though, it is clear that the favorable effects (motivation, social cohesion, and developmental and cognitive elaboration) of

CL are realized at university level (Artut & Tarim, 2007). In this study, the motivational effect of CL was analyzed more deeply.

Motivation

Motivation has a positive impact on accomplishment and achievement, and finally on attainment to the lesson (Gottfried, Marcoulides, Gottfried, & Oliver, 2013). In this study, 114 students were observed and analyzed over 20 years from ages 9 to 29 and results showed that students were directly motivated when they were 9. Both their attainment and motivation declined over years indirectly as a result of decline in course accomplishment, which indirectly lowered the motivation and attainment level of the students. Another recent study showed the attitude towards a lesson could change via the CL instruction (Adu & Galloway, 2015). The study conducted on 82 senior secondary school students chosen through convenience sampling reflected a positive change of their attitudes towards economics.

On the other hand, a study of 324 11th grade students in Brunei signals highly motivated students achieved better in a combined science lesson (Chow & Yong, 2013). Similarly, a regression analysis of academic achievement and motivation demonstrates that school performance and academic achievement could be estimated by looking at motivation rather than intelligence (Steinmayr & Spinath, 2007). Not only the true success, but also the perceived competencies were found to affect motivation (Freiberger, Steinmayr, & Spinath, 2012). The multi-way investigation of the factors affecting intrinsic motivation, accomplishment, perceived competence, and teachers' perceived competence reveals that teachers' and students' perceived competence affect intrinsic motivation rather than accomplishment.

Method

Research Design

This study was designed as a mixed method study with the combination of qualitative and quantitative techniques. Mixed method studies have been found to be more consistent and powerful for the data analysis; they provide a more complete picture and avoid biases (Denscombe, 2008). The two hypothesis, tested in this study, were: i.CL increases student motivation at university level, and ii.CL has a positive effect on student products at university level. Pre-experimental one group pretest-posttest study design was implemented in this study. To test the effect of an instruction method, a dependent variable was to be introduced and experimental practice should be followed (Chen, Manion, & Morrison, 2007). On the other hand, Hatch (2002) stated that authentic performances in true places by true people are best analyzed via qualitative research. In other words, the context is a cultural and natural setting that requires a qualitative research (Neuman & Neuman, 2006). The authentic performances (student products) through this 4-week period of CL implementation were analyzed with a document analysis technique.

i. Before the implementation, the students were informed of the aim of the study, the ethics, and the process they would follow. They were asked to complete the motivation questionnaire created by Pintrich & Groot (1990) in English and adapted into Turkish by Erden and Altun (2007). The students were asked to think of the first day of the lesson and answer the questions accordingly. They assigned a nickname for themselves for the researchers to compare their pre- and post-questionnaires.

ii. During the lessons, the researchers observed the students and took notes. After each lesson, the researchers discussed the process, the students' motivation, and the classroom atmosphere.

iii. The products were collected by the researchers.

iv. The motivation questionnaire was applied again as a post-test.

Participants

Purposive sampling was applied in this study and two university classes were chosen. Designing a lesson with a CL method takes much time and effort. Instead, Dr. Altun's "Individual Differences in Teaching" lesson was chosen for the study for its practicality and both sections taught by the same instructor at Yildiz Technical University of the lesson were taken into the study. The lesson was optional for the students in the Faculty of Education, so it could be asserted that the students were already eager to learn about individualistic differences in teaching. Table 1 shows a distribution of the student features.

Table 1.

Participants

	Male	Female	ET	CT	S I	S II	So	J
Frequency	54	26	46	34	43	36	10	69
Percent	67.5	32.5	56.3	41.3	53.8	45	12.5	86.3

(Abbrevations: ET: English Teaching, CT: Computer Teaching, S: Section, So: Sophomore, J: Junior)

Data Collection

Motivational Strategies Questionnaire. This study used the 'motivation' aspect of the Turkish version (Altun & Erden, 2007) of Pintrich & Groot (1990)'s "Motivational and self-regulated learning components of classroom academic performance" questionnaire as a quantitative data collection method. The questionnaire was translated by Altun and Erden and its reliability coefficient value was determined between .80 and .91. For this study, the questionnaire was implemented as pre-test and post-test: at the beginning and at the end of this process. The questionnaire included six sub-scales: self-regulation, intrinsic value, task value, learning belief, self-efficacy, and exam anxiety. The self-regulation sub-scale was designed to measure students' tendencies to direct themselves for lesson goals, while intrinsic value was aimed to measure students' internal urges to study and learn. The task value sub-scale was designed to measure the value students assign for the tasks of the lesson; learning belief was to measure the beliefs of students about their learning process and activities; and self-efficacy was intended to measure students' thoughts about their own competence. Lastly, exam anxiety was intended to measure the level or the presence of students' concerns –or stress- for evaluation tests.

Student products. For qualitative data, a document analysis technique was used to analyze student products like posters and presentations. As Berg (2001) stated, document analysis involves the in-depth analysis of items such as videos or photographs that could be transferable into texts. The products of students were collected and analyzed via themes and the conjunction of manifest and latent analysis strategies, which entitles the researcher to illustrate what is physically present and the interpretation of those present items (Berg, 2001). Examples of student products are shown in Figures 1 and 2.

Implementation process. This process of CL was carried out in an elective course at university level. This process was designed in accordance with the Understanding by Design Approach (UbD). UbD enables the program developer to start from the main goal and proceed to objectives, strategies, and techniques so that every little practice in the design is aligned with the main goal – called the 'big idea' in the UbD approach (McTighe & Wiggings, 2005). The approach tries to ensure the learning of big idea by going over it at every phase of the program. In this study, the big idea was set as: "Everyone is different, so everyone learns in a different way". In accordance with UbD, a poster illustrating the big ideas was hung on the wall for the students to see in every lesson hour. The process was directed as follows:

- The First Lesson (2 hours): Students were informed about the 4-week lesson plan and the assignments they were going to complete. They were asked to sit together with their previously formed groups and they were given a study-booklet with the content of 'Different Learning Styles'. Some groups took 'Visual-Audial-Kinesthetic Learning Styles' while the others took 'Every Child's Unique Learning Styles'. Each student took a different learning style within their groups, but some students needed to take the same material because of the number of

group members. They studied their materials individually and answered questions on their worksheets. At the end of the lesson, the students moved to their 'Expert Groups' to study the second worksheet, which included more challenging questions. After they studied the questions in their expert groups, the lesson ended.

- The Second Lesson (2 hours): The students were asked to sit together with their expert group members and review the questions on the second worksheet once again. Then, they were asked to go back to their first groups and share their knowledge with one another. After sharing their knowledge, the 'Visual-Audial-Kinesthetic Learning Styles' groups were asked to design a lesson plan according to different learning styles while 'Every Child's Unique Learning Styles' groups were asked to prepare an informative poster for teachers, students and parents about the innate different learning styles. The students were presented samples of lesson plans and posters and guided by the instructors during the process. They studied in their groups and set a time to study after the lesson for the presentation day.
- The Third Lesson (2 hours): The students were prepared for their presentations of lesson plans and posters. The presenters were decided by lot. One student from each group presented their work, and the other groups evaluated their peers with the group-evaluation rubric they received before preparing their presentations. Each group presented their work and the instructor commented on their work, highlighting strong and weak points. The groups were presented certificates for their contribution and reminded of the tournament for the next lesson.
- The Fourth Lesson (2 hours): The students were asked to choose three representatives who had not made the presentation the previous lesson. The representatives sat one after another and the tournament rules were explained. The website "kahoot.it" was used for the tournament. The instructor explained the answers of the questions one by one after they answered. The winning group received a cake pop bouquet as a prize.

Data Analysis

Quantitative data analysis. As for the quantitative data analysis, the analysis of the motivation questionnaire was made with Statistical Product and Service Solutions 17 (SPSS) as this program gives a clear, reliable output for research purposes (Buyukozturk, 2013). Paired-samples t test analysis was conducted to reach a trustable consensus about the motivation of students. T-test analysis tests whether there is a difference between two measurements on the same group after a certain implementation process is applied (Can, 2013). The significance value was taken as .05 as the social sciences generally accept this value for analysis (Buyukozturk, 2013).

Qualitative data analysis. As for qualitative phase of the study, both descriptive and interpretive document analysis techniques were used to analyze student

products. Document analysis involves the analysis of written or visual material about the construct or constructs under scrutiny (Yildirim & Simsek, 2013). Manifest and latent document analysis techniques should be used together because descriptive document analysis enables the researcher to describe what is present in the documents, but this should be supported with interpretive document analysis techniques to reach the underlying meaning of the documents (Berg, 2001). Additionally, coding technique, which helps the researcher to get more comprehensive results (Neuman, 2014), is used to interpret the documents. To increase the reliability of qualitative analysis and minimize researcher subjectivity, two other experts went over the codings and the analysis of the data.

Findings

Results Related to the First Question of the Research

At the beginning and at the end of this research, the 'motivation' aspect of the "Motivational and self-regulated learning components of classroom academic performance" questionnaire was analyzed with SPSS17, with the analysis of Paired-Samples t-test that the software provides. When the normality test of these tests was analyzed, some dimensions of the questionnaire seemed not to be normally distributed according to Shapiro-Wilk results. However, the Skewness and Kurtosis values and normality plots showed a normal distribution.

As there was a normal distribution and the dependent variable was interval, a t-test could be implemented on the data. When the Paired-Samples t-test was used, it was observed that the sub-scales 'intrinsic value, learning belief, and self-efficacy' had a significant difference between pre- and post-tests (pintrinsicvalue=.014<.05, plearningbelief=.043<.05, pselfefficacy=.000<.05).

For the 'self-regulation' sub-scale, the mean of post-test was slightly higher than pre-test (=.550, p=.278>.05), but the difference between the two tests was not significant. Also, the 'task value' sub-scale did not show a significant difference between pre- and post-test (p=.081>.05, =1.435). Lastly, the 'exam anxiety' of university students did not differ significantly after the implementation process (p=.219>.05,=.873).

Table 2.

Paired-Samples t Test

	N	Mean	Std. Deviation	Mean Difference	Std. Error Mean	df	t	p
Self-Regulation Pre-test	80	23.08	4.01	.55	.50	79	-1.09	.27
Self-Regulation Post-test	80	23.63	2.97					
Intrinsic Value Pre-test	80	21.38	3.91	1.10	.43	79	-2.50	**.01**
Intrinsic Value Post-test	80	22.48	3.39					
Task Value Pre-test	78	33.60	6.57	1.43	.81	77	-1.76	.08
Task Value Post-test	78	35.03	5.10					
Learning Belief Pre-Test	79	21.27	3.80	.93	.45	78	-2.05	**.04**
Learning Belief Post-test	79	22.21	3.43					
Self-Efficacy Pre-Test	78	36.65	6.81	4.20	.72	77	-5.80	**.00**
Self-Efficacy Post-Test	78	40.85	5.50					
Exam Anxiety Pre-Test	79	18.69	6.34	.87	.70	78	-1.23	.21
Exam Anxiety Post-Test	79	19.56	6.31					

Results Related to the Second Question of the Research

Student products and personal notes were analyzed with the document analysis technique. First, student products were coded for their content and a rubric was presented to the students before they prepared their products. Themes were drawn from student products and personal notes.

Table 3.

Student Products – Themes

Frequency Rank	Group Type	Theme	Explanation	Quotations
1	Poster	Learning Styles	Each person has a learning style.	*"I am not planned", "You should study in peaceful and quiet places"* *"I like group work, I am good at communicating with people"* *"I ask a bunch of questions"* *"My teachers call me 'too active'".*
	Presentation	Learning Styles	Each person has a learning style.	*"A video is shown to the students so that audial students could benefit"* *"Visual learners group prepare a poster about natural disasters. They will enjoy preparing a poster."* *"Kinesthetic learners will put the parts of the computer together. They will use their hands and body."*
2	Poster	Picture match	Each learning style is linked with a picture	In Picture 1, students matched each innate learning style with Smurfs while in Picture 2, a poster where students matched each innate learning style with a person –a celebrity or child- and with one color. For example, color pink, Ilber Ortayli, a famous historian who works a lot and is known for being anti-social, are linked with 'Producing Person'.
	Presentation	Active Learners	Students are active in the classroom.	*"Students are given cards with pictures and names of body parts. When the students have cards, they perform the move matched with each body part."* *"Students do origami to complete the body parts in the card."*
3	Poster	Support Learner	Students and their differences need to be supported.	*"Notice my difference, enlighten my path"* *"I get bored when the instruction is long. Instead, we should have trips, dramas, educative games"* - for 'Performance Person'. *"Time should be given to them to get used to individual studying"* – for 'Interactive Person'

Table 3.Continues

	Presentation	**Warm-up**	**A warm-up activity is necessary to draw attention.**	***"Teacher enters the classroom with a map in her/his hand and ask questions to the class." "Teacher hangs some body parts pictures on the walls before the lesson and ask groups to find the names of the body parts in two minutes."***
4	Poster	Instruction Methods	Instruction methods should be chosen accordingly with innate learning styles.	*"Cooperative Learning Method should be used for Interactive Person style." "I like giving examples, analyzing, discussing, diagnosing, and choosing. Design those activities for me." "I like brainstorming and discussions."*
	Presentation	Group Work	Activities are designed for groups and groups are asked to produce a product.	*"Students in the audial group discuss the reasons and results of natural disasters and shoot a video." "Students in the visual group prepare a poster about the parts of the computer."*
5	Poster	Learning Environment	Learning environment should be adjusted for learners.	*"My environment should allow me to show my skills" "Create a learning environment for them to express their ideas without hesitation" "A learning environment with concrete objects should be created for this type of learner"*
	Presentation	Student interaction	Student interaction is important for learning.	*"Students will get into their groups." "Students will discuss the benefits of the natural disasters and make a list." "Students will leave their first groups and form their expert groups to study on the text better."*

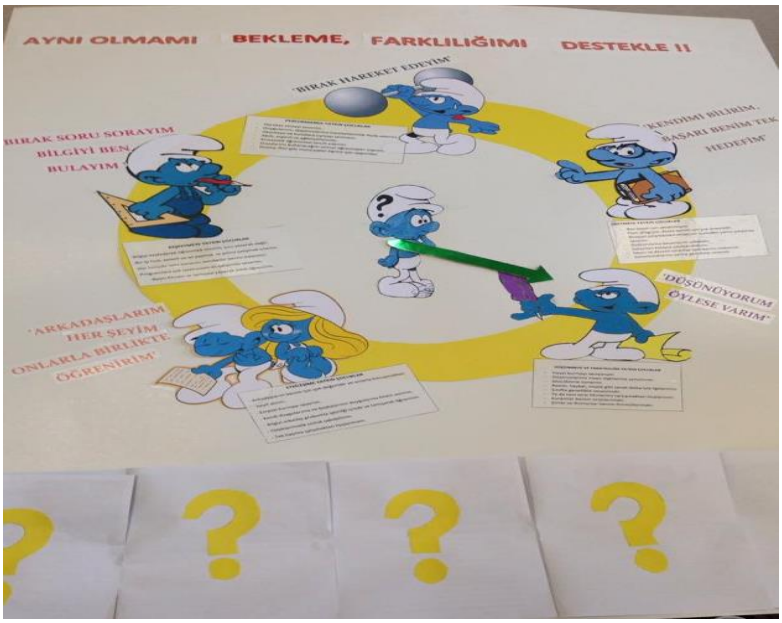

Figure 1. *A poster example*

Themes on the poster: *learning styles, picture match, and instruction methods*

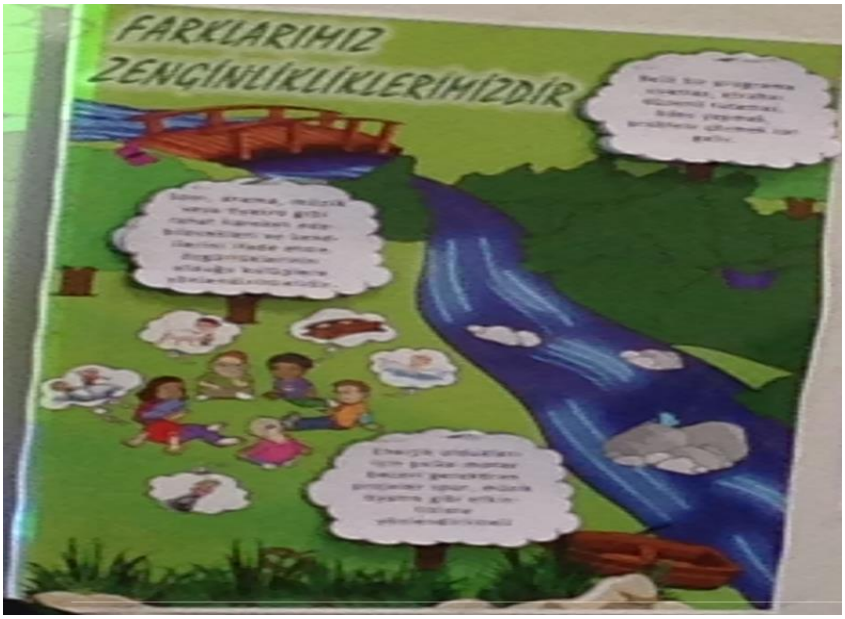

Figure 2. *A poster example*

Themes on the poster: *learning styles, picture match, and student interaction*

Discussion and Conclusion

The implementation of CL at the university level revealed positive outcomes in terms of *intrinsic value, learning belief,* and *self-efficacy* although the other three sub-scales of the motivational scale (*self-regulation, task value, and exam anxiety)* did not reveal an increase. '*Intrinsic value*', involving intrinsic motivation, generates the urge to do something inherently rather than because of a positive outcome or reward (Ryan & Deci, 2000). Self-determination theory asserts that students value education, gain self-confidence, and get interested in learning when they are intrinsically motivated (Deci & Ryan, 1991). Thus, educators claim intrinsic motivation to be a desired component of education as it positively affects learning (Lei, 2010), especially its quality rather than the quantity according to a meta-analysis (Cerasoli, Nicklin, & Ford, 2014). For school performance at university, intrinsic motivation has also been found to be an estimator in a meta-analysis where longitudinal studies were included (Taylo et al., 2014). Hence, the positive effect of CL on the intrinsic motivation beliefs of university students is a sparkling sign for educators to apply the method.

In parallel with the increase in intrinsic motivation, the *'learning belief'* of students significantly differed as a result of CL, meaning that students not only considered themselves to be more motivated (intrinsically), but they also believed in their learning. It was found that students learn better when they have learning belief (Dandy & Bendersky, 2014), and teachers attend 'Continued Professional Development' in relation with their learning and teaching beliefs (De Vries, Van De Gift, & Jansen, 2014). It could be claimed from these studies that students learn better when they have belief and seek solutions even if those beliefs are not satisfactory. Therefore, it is important to gain learning belief for students and it was found from this study that university students increased their learning beliefs as a result of CL. Similarly, *self-efficacy* results revealed that students started believing in their own competencies and capabilities. Self-efficacy is described as seeing oneself in a screenplay with positive outcomes and success (Bandura, 1993). As Goethe declares: "Magic is in believing in yourself. Then you can make anything happen." Many studies have shown that self-efficacy is advantageous for academic success (Pajares & Miller, 1994), and students' learning (Zimmerman, 2000). Also, self-efficacy is better to be gained at university as teaching is strongly linked with the efficacy, and pre-service teachers believed their degree affected their self-efficacy (Filatov & Pill, 2015). Through CL, the self-efficacy of pre-service teachers can be improved, which is advantageous for the bachelor programs.

However, it was observed from the results that the '*self-regulation'* sub-scale did not show a significant difference between pre- and post-tests. This means that students did not force their tendencies to direct themselves to the goals of the lesson. This could be explained in two ways: students had already directed themselves to lesson goals as the lesson was not obligatory but based on the will of the students to take it, or students did not direct themselves extrinsically as they had intrinsic motivation. It should not be forgotten that the literature often relates self-regulation to undesired behaviors (Klark, Gong, & Kaciroti, 2014; Scheier & Carver, 2014;

Cadima, Doumen, Verschoueren, & Buyse, 2015). However, a definitve explanation for this issue could be investigated further in future studies.

Lastly, the *exam anxiety* sub-scale demonstrated no significant difference before and after the implementation of CL. This could also be linked to the non-existence of an exam for the course. The evaluation was announced to be on student products and engagement, so students were not concerned about a test.

Students in this study were expected to get the gist of *'different learning styles'* and integrate this into their learning environments. Correspondingly, the most frequent theme was found to be *"learning styles"*. There are various reasons to reach this objective of the lesson: the lesson was designed in accordance with an effective method: CL; the lesson was focused on the big idea: "*Everyone is different, so everyone learns in a different way*"; and students received rubrics and corrections throughout the 4-week implementation process.

When student products were analyzed through the document analysis technique, it was observed that students integrated CL items in their posters and lesson plans along with the course-teaching item. "*Active learners, support learner, instruction methods, group work,* and *student interaction"* were all components of CL, which was the medium of the lesson plan rather than the objective. Therefore, one important side effect of this implementation process was that students integrated CL techniques and components in their hypothetical lesson plans or environments. Research supports the notion that implicit learning is as effective as explicit learning (Cubukcu, 2012), so teaching pre-service teachers in the way they are expected to teach can be classified as a beneficial practice. This way, in-service teachers would be using CL as they are reported to need a deeper understanding of CL methods (Hennesey & Dioingi, 2013). However, when teachers use constructivist methods, their self-efficacy beliefs increase (Temiz & Topcu, 2013) and it has been noted that self-efficacy brings success within itself (Pajares & Miller, 1994).

All in all, CL has been found to provide an active learning environment for students at the university level. When an active learning environment is fostered, student participation (Obenland, Munson, & Huthinson, 2012; Park & Choi, 2015), and motivation to produce a product (Ruan, Duan, & Du, 2015) both increase. Indeed, during the implementation of CL, students participated in the lessons and they were observed to be motivated to produce. They also reflected how well they learned the subject in their products. Additionally, they improved their metacognitive awareness and reflected their awareness in their products and classroom dialogues.

CL has been observed to provide active learning. Through this type of learning, students are provided an opportunity to create a more accurate perception about themselves. CL also allows the instructor to evaluate the activities properly. Thus, CL should be encouraged at university level for the class participation, motivation, metacognitive awareness improvement, and teacher evaluation.

The practitioners of CL would understand the positive and the negative aspects of the method, they would use it more effectively, and they would get more accurate information about the method when it is implemented in faculties of education. This would motivate them to use the method in their teaching experiences more accurately. Their use of CL when practicing teaching could be investigated in relation with the CL implementation at university. Another suggested topic for future researchers is the effect of CL implementation at university on the pre-service teachers' attitude towards teaching as a subject.

Two suggestions could be made for university classes: integration of CL is beneficial for the motivation and learning of the students, and the way of instruction is also a hidden teaching for the students. However, lack of a control group to demonstrate the difference of CL on students' motivation and student products is a limitation of this study that should be applied for further research. This way, the effect of CL could be put forward more clearly. One other limitation of this study is that it was only a short-term study and the effect of CL on future teachers' classrooms remains vague. For further research, those two points should be studied.

Recommendations

CL has been observed to provide active learning. Through this type of learning, students are provided a spot to create accurate perception about themselves. Also, CL provides the instructor/teacher evaluate the activities properly. Thus, CL should be encouraged at university level for the class participation, motivation, metacognitive awareness improvement, and teacher evaluation.

The practitioners of CL would understand the positive and the negative aspects of the method, they would use it more effectively, and they would get more accurate information about the method when it is implemented in faculties of education. So, they could use the method in their teaching experiences more accurately and motivatedly. Their use of CL when they are practicing teaching could be investigated in relation with the CL implementation at university. Also, it is suggested for the researchers that the effect of CL implementation at university on the pre-service teachers' attitude towards teaching as a subject.

Two suggestions could be made for university classes: i. Integration of CL is beneficial for the motivation and learning of the students, ii. The way of instruction is also a hidden teaching for the students. However, lack of a control group to demonstrate the difference of CL on students' motivation and student products is a limitation of this study and recommended to be applied for further research. This way, the effect of CL could be put forward more clearly. One another limitation of this study is that it was only short-term study and the effect of CL on future teachers' classrooms had stayed vague. For further research, those two points are recommended to be studied.

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İşbirliğine Dayalı Öğrenmenin Etkisi: Üniversite Örneği

Atıf:

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Özet

Problem Durumu: Motivasyon, özellikle eğitim alanında başarının kilit unsurlarından biridir ve bunu sağlayan en etkili yöntemlerden biri Yapılandırmacı Öğrenme Yaklaşımı, ve özellikle İşbirliğine Dayalı Öğrenmedir. İşbirliğine Dayalı Öğrenme özellikle ilk ve ortaokul seviyelerinde oldukça yaygın bir yöntem olmakla birlikte, öğrenci sayısının çokluğu ve zaman kısıtlaması gibi nedenlerden dolayı yükseköğrenimde tercih edilmemektedir. Alan yazın da bunu doğrulamakta ve İşbirliğine Dayalı Öğrenmenin ve onun motivasyonel etkilerine pek yer vermemektedir. Bu çalışma alan yazındaki ve uygulamadaki bu boşluğu doldurabilecek biçimde tasarlanmıştır.

Araştırma Amacı: Bu çalışmanın amacı İşbirliğine Dayalı Öğrenmenin üniversite öğrencilerinin motivasyonları ve ürünleri üzerindeki etkisini araştırmaktır. Bu sayede alan yazındaki mevcut eksiklik kapatılmış, İşbirliğine Dayalı Öğrenme yönteminin kalabalık ve yaşı büyük sınıflarda kullanılıp kullanılamayacağı açığa çıkartılmıştır. Ayrıca bu çalışma, eğitim fakültesi öğrencileri ile gerçekleştirildiğinden öğretmen adaylarının İşbirliğine Dayalı Öğrenmeyi öğrenmeleri, uygulamasını görmeleri de sağlanmış ve bu açıdan çalışmanın ekstra bir önemi de ortaya çıkmıştır.

Araştırmanın Yöntemi: Bu çalışma karma yöntemli bir araştırma olarak tasarlanmış ve dört haftalık İşbirliğine Dayalı Öğrenme Yöntemi uygulamasıyla yapılmıştır. Jigsaw ve Takım Turnuva teknikleri bir devlet üniversitesinin seçmeli bir dersin iki sınıfında uygulanmıştır. İki sınıftaki öğrencilerin yaşları 18-25 arasında değişmektedir. Daha sağlıklı sonuçlara ulaşılabilmesi adına karma yöntem tercih edilmiş ve ön test-son test şeklinde uygulanan motivasyon ölçeği öğrenci ürünlerinden oluşan doküman analizi ile desteklenmiştir. Karma yöntem kullanılması, hem uygulama yapılan iki sınıfın 'ne'liğine dair bilgi vermekte ve İşbirliğine Dayalı Öğrenmenin etkilerini açığa çıkartmakta, hem de bu etkilerin nasıl ve neden oluştuğunu tespit etmeyi kolaylaştırarak derinlemesine analiz yapmayı da sağlamaktadır.

Çalışma içerisinde yapılan dört haftalık bir uygulama, araştırmacılar tarafından tasarlanmıştır. Uygulamada kullanılan materyaller ve çalışma yaprakları araştırmacılar tarafından geliştirilip, uzman görüşüne sunulmuştur. Ayrıca uygulamayı araştırmacılar gerçekleştirmiş ve sürecin tasarlandığı gibi ilerlediğinden emin olunmuştur.

Uygulamanın öncesinde ve sonrasında Pintrich (1990) tarafından geliştirilen ve Altun ve Erden (2007) tarafından Türkçe'ye uyarlanan "Öğrenmede Motive Edici

Stratejiler Ölçeği"nin "motivasyon" boyutu kullanılmıştır. Ön testlerde öğrencilerden kendilerine takma ad vermeleri istenmiş ve böylece hem katılımcı gizliliği sağlanmış hem de son test ile ön testin karşılaştırılması mümkün kılınmıştır. Ön test ve son testler araştırmacılar tarafından uygulanmış ve SPSS programı t testi ile analiz edilmiştir.

Öğrenciler uygulamanın son haftasında uygulama süresince üzerinde çalışılan konularla ilgili ürünler hazırlamış ve bunların sunumlarını gerçekleştirmiştir. Her iki uygulama sınıfında da öğrenciler gruplarca hazırladıkları ürünleri sunmuş ve dönüt almışlardır. Öğrenci ürünleri sunulurken araştırmacılar notlar tutmuş ve bu alan notlarını doküman analizi sürecinde kullanmışlardır. Doküman analizi yapılırken de görsel ve yazılı materyallerin analiz tekniklerinden faydalanılmış, nitel veri analizi yöntemlerinden tematik analiz kullanılarak kodlar ve temalar çıkartılmıştır. Çıkartılan temalar yoğunluk sıralarına göre incelenmiş ve sunulmuştur.

Araştırmanın Bulguları: Toplanan veriler ışığında, öğrencilerin motivasyon düzeylerinin İşbirliğine Dayalı Öğrenme yönteminden olumlu etkilendiği sonucuna varılmıştır. Ön test ve son test arasındaki anlamlı farklılık (hangi boyutlar içerisinde anlamlı farklık bulunduğu makale içerisinde detylıca aktarılmıştır), öğrencilerin motivasyonel durumlarının olumlu etkilendiğini göstermektedir. Ayrıca nitel veriler ışığında öğrencilerin konuya dair öğrenmelerinin oldukça başarılı ve olumlu olduğu, ayrıca öğrencilerin İşbirliğine Dayalı Öğrenme becerilerini de kazandıkları sonucuna ulaşılmıştır. İşbirliğine Dayalı Öğrenme ile öğrenciler yalnızca konuya dair değil, yönteme dair de bilgiler ve beceriler edinmiştir. Örtük bir biçimde gerçekleşen bu öğrenme, işbirliği becerilerinin oldukça öneme sahip olduğu günümüzde değerli bir kazanım olarak ortaya çıkmaktadır. Ayrıca çalışma sonunda üniversite seviyesinin İşbirliğine Dayalı Öğrenme'yi uygulamak için tehlikeli bir düzey olmadığı, aksine oldukça verimli bir seviye olduğu sonucuna varılmıştır. Hem nitel hem de nicel veriler İşbirliğine Dayalı Öğrenmenin öğrencilerin motivasyon ve işbirliğine dayalı öğrenme becerileri üzerinde olumlu etkisinin olduğuna işaret etmektedir.

Araştırmanın Sonuçları ve Önerileri: Bulgulara dayanarak İşbirliğine Dayalı Öğrenmenin öğrencilerin motivasyon ve işbirliğine dayalı öğrenme becerileri üzerinde olumlu bir etkisinin olduğu söylenebilir. İşbirliğine Dayalı Öğrenme, üniversite seviyesindeki öğrencilerin motivasyonlarını olumlu etkilemiş; ayrıca onların işbirliğine dayalı öğrenme becerilerini de geliştirmiştir. Üniversite seviyesinde ulaşılan bu sonuç, İşbirliğine Dayalı Öğrenme yönteminin yalnızca küçük yaştaki öğrenciler için kullanılmayacağını, yöntemin çok daha geniş bir yaş aralığına hitap ettiğini göstermektedir. Öğrencilerin motivasyonlarının artması, İşbirliğine Dayalı Öğrenme yönteminin öğrencilerin başarılarını da arttırabileceğine dair ümit vermektedir. Nitekim nitel veriler de bu durumu desteklemekte ve öğrencileri öğrenmelerinin başarılı olduğunu göstermektedir. Bu çalışmanın sonucunda ortaya çıkan işbirliğine dayalı öğrenme becerilerinin kazanılması ise, İşbirliğine Dayalı Öğrenme yönteminin örtük bir kazanımını açığa çıkartmaktadır. Öğrenilen konunun farklı olmasına rağmen öğrenciler işbirliğine dayalı öğrenme becerilerini de öğrenmişlerdir. Özellikle eğitim fakültesi öğrencileri için işbirliğine dayalı öğrenme becerileri oldukça önem arz ettiğinden, ortaya çıkan bu sonuç

oldukça mühimdir. Özellikle Yapılandırmacı Öğrenme Yaklaşımı'nın Milli Eğitim Bakanlığı tarafından benimsendiği Türkiye'de, öğretmen adaylarının bu yaklaşımın yöntemlerinden biri olan İşbirliğine Dayalı Öğrenmeyi bilmeleri ve işbirliğine dayalı öğrenme becerilerine kendilerinin sahip olmaları, yapacakları eğitim uygulamaları açısından önemlidir. Bu sayede edindikleri işbirliğine dayalı öğrenme bilgi ve becerilerinin mesleklerinde olumlu etkisinin olacağı öngörülmektedir.

Keywords: İşbirliğine dayalı öğrenme, motivasyon, öğretmen eğitimi, yüksek öğrenim