



The Effect of Blended Learning Environments on Student's Academic Achievement and Student Engagement: A Study on Social Studies Course *

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Abstract

The purpose of this study is to analyze effects of blended learning environment on middle school student's engagement and academic achievement. Pretest-posttest control group quasi experimental design was utilized. The study was conducted with 52 students in experimental group and 55 students in control group. According to the results of this study in blended learning environment had meaningful increase in average academic achievement when compared to students in face-to-face learning environment. In addition, blended learning has a medium level effect size on students' levels of academic achievement. No meaningful statistical differences were detected for students' engagement between both groups. However, in blended learning approach, average development of student engagement showed a meaningful rise when compared to face-to-face learning approach.

Keywords

Blended Learning
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Introduction

Levels of student engagement in the teaching and learning process is one of the most important indicators of the quality of teaching activities. Participation of students to explicit or implicit teaching and learning, indicates that a sufficient level of quality of the teaching methods were utilized. Large part of the students in courses can not achieve engagement that are problem in the teaching activities carried out; in other words, it is an indication that a low quality of teaching activities (Senemoglu, 2009). Failing to ensure engagement of students in school courses are the most important and continuing problems for the students and teachers (Newman, 1992).

Social Studies are examples of the courses which student participation cannot be achieved sufficiently. Social Studies course aims to provide students with social character, but it is usually limited to the transmission of factual information within the boundaries of the classroom. The students in this process appears to be inactive. In contrast, in an effective Social Studies class, students are required to participate actively in the physical and mental learning process (Sönmez, 1997; Karakuş, 2006). Consequently, in order for the students to be successful in the Social Studies course, one of the most important prerequisites for the Social Studies course of the student's course to be successful is to ensure that students the actively participate inion of the student's learning process. Because, students who participating in the learning environment as a whole are easier to learn and a large part of what they learn is permanent (Sönmez, 1997).

* This study is based on the Master's Thesis by Sarıtepeci (2012).

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In studies conducted in the field of social studies as discussed from time to time, that there are limiting factors for actively participating in learning activities in social studies for example the extensive curriculum, crowded classes, limited lesson time, and as thus generally students are generally passive state in courses. Therefore, student academics engagement and academic success are adversely affected (Freeman & Lestik, 1988 cited in Güven 2005; Altınışık, 2001; Heafner, 2004; Arslan 2006; Karakuş, 2006).

As a solution to these limitations experienced in social studies, it can be presented the use of blended learning environments that combines the traditional face to face learning and e-learning was proposed as a solution (Bersin, 2004; Gülümbay, 2005; National Institute of Corrections [NIC], 2009). Ministry of Education's Board of Education of the recommendation for the use of computer assisted instruction in teaching social studies to supports that view. Briefly, according to Social Studies curriculum issued in 2005, this course in teaching social studies should be supported by use utilizing of technological tools such as CD-ROMs, History and Social Studies simulation programs, multimedia, the İnternet and hypermedia is recommended to teachers (Milli Eğitim Bakanlığı [MEB], 2005).

According to Osguthorpe & Graham (2003), blended learning is combining combines beneficial aspects of face to face learning with online learning in a balanced way is to get the maximum benefit of both learning environments beneficial aspects of face to face learning with online learning. Thus, blended learning, is without loss of face to face interaction in learning activities, is to support the teaching-learning process at different any times and different anywhere places offering the some conveniences provided by online learning. In addition, blended learning is reducing reduce the impact of curriculum differences between regions to of teachers and students, it is allowing them to use the same teaching and learning materials. Such learning environments, due to changes in teaching practices and the qualifications of teachers in schools can help reduce the differences in success achievement. As a result, blended learning is potentially more powerful than both traditional face to face learning and completely online learning. In summary, the strength of the blended learning approach is the flexibility of this model and pedagogical activities (Aycock, Garnham & Kaleta, 2002; Osguthorpe & Graham, 2003; Colis & Moonen, 2001 cited in Jordan & Rovai 2004; Çakır, 2006).

It also supported the various researchers in their studies were carried out studies to compare e-learning and face-to-face teaching activities. These study results, e-learning and face-to-face learning environment that the student learning, satisfaction and one is superior to another in terms of academic achievement did not reveal any strong evidence (Dillon & Gabbard, 1998; Bolliger & Martindale, 2001; Neuhauser, 2002; Shapiro & Niederhauser, 2004). In terms of student satisfaction and student learning outcomes, Ecomparing e-learning and face-to-face learning environments in terms of student satisfaction and student learning outcomes has been demonstrated that no significant differences in different topics and in many studies with different sample sizes (Dennis and others, 2007). On the other hand there are lots of studies that blended learning demonstrated more positive outcomes than traditional learning which called face to face learning or e-learning (Acelajado, 2011; Boyle et. al. 2003; Jordan & Rovai, 2004; Santepeci & Yıldız, 2013; Taradi, Taradi, Radic, & Pokrajac, 2005; Ünsal, 2007; Utts, Sommer, Acredolo, Maher, & Matthews, 2003).

There are many studies that the extent and reasons stated in the literature to support the use of the returns of the blended learning teaching-learning process environments. In one of these studies, Usta (2007) has revealed that according compared to online learning, blended learning is a positive impact on academic success and persistence of learning the lesson content. Santepeci and Yıldız (2013) stated that blended learning has had positive effect on active participation of students in courses and development of students' motivation towards the course. Similarly, in another study that examined blended learning have impact on the teach of matematics, blended learning approach were concluded to be more effective than traditional face to face learning approach (Acelajado, 2011). In addition, this study shown that blended learning was brought into interested, enjoyable and an attractive activity for students in matematics learning (Acelajado, 2011).

Wang, Fong & Choy (2007) did conducted a research that investigated the effects of the use of blended learning environment on the educational process encountered in significant difficulties in teaching programming. The survey results are analyzed, blended learning has been shown to provide greater flexibility in programming courses both in teaching and in learning. In addition, it was concluded that students' academic achievement in programming courses was shown greatly significant development.

Generally, blended learning-related research were investigated that blended learning impact on student learning outcomes or students opinions towards the blended learning. These studies of the overall learning process although exceptions has affected positively. In addition, a majority of these studies are target secondary school students and studies for high school students (Boyle at. al. 2003; Utts at. al. 2003; Taradi, Taradi, Radic & Pokrajac, 2005; Akkoyunlu & Soyulu, 2006; Wang, Fong & Choy, 2007; Ünsal, 2007; Karadeniz & Uluyol, 2009; Chen, Lambert & Guidry, 2010; Acelajado, 2011). However, such studies are limited in the secondary level school level. The positive results of the use of blended learning is expected to be bring positive result of secondary school courses when Computer Assisted Instruction [CAI] is considered to be much more effective in secondary school according to higher education and high school (Bersin, 2004; Senemoğlu, 2009). In addition, learning activities in primary and secondary education will be moved to the online environment, just next to the classroom, as a result of FATİH project and subsequently the tablet distribution to students integrated into this project. For example, students will carry out e-government education system (EBA, <http://www.eba.gov.tr>) training on courses supplied with this Project (MEB, 2012). In a sense, with this project, use of blended learning environment will become a necessity in primary and secondary education institutions. Therefore, studies examining the effects of blended learning environment in primary and secondary level is expected to play a guiding role in achieving the objectives of this project.

Implementation of blended learning is thought to be involved in the solution of such problems which is generally limited to the activities of the students, in courses such as social studies of seen by students as boring and stagnant. The studies showing that the positive outcomes of the use of educational technology in social studies courses are also strengthens this argument (Heafner, 2004; Arslan, 2006; Tankut, 2008). In addition, it can be argued for students at the middle school level to be more open to innovation and transformation will facilitate their adaptation and the adopt to the new teaching environment. In this case, the use of blended learning courses in middle school levels compared to high school and higher education can be achieved much more positive results. From these movements, it has been identified as a problem situation that the whether use of blended learning environment in social studies can whether the have effect on academic achievement and students engagement.

Purpose

The aim of this research is to analyze the effect of blended learning environment on middle school students' engagement and academic achievement. Under the general purpose of this research, the following sub-objectives are to be investigated:

- Is there a significant difference between posttest achievement scores of students in the experimental group and the control group of students?
- Is there a significant difference between pretest and posttest student engagement scores of students in the experimental group and the control group of students?
- Is there a significant difference between the developments of experimental and control group student engagement?

Method

Quasi-experimental design with pretest - posttest control group design was used in this study to examine effect of blended learning environment on middle school students engagement and academic achievement. 7th grade 52 students in the experimental group is given the blended training and 7th grade 55 students in the control group is given the traditional face to face training.

Data Collection Tool

Data collection tool in the study; "Information Technology Proficiency Level Perception Scale, Academic Achievement Tests and Engagement Scale" is used. "Information Technology Proficiency Survey" and "Engagement Survey" used in the study were created by researchers. Academic Achievement Tests are prepared by three field experts. The reliability and validity study of scales were first consulted to experts to carry out the necessary arrangements for the scale. After from expert opinion based on the arrangements made, 73 students attending middle school 6th grade took the pilot survey to determine the reliability of the scales.

"Information Technology Proficiency Level Perception Scale" was developed by the researchers. The scale consists of 15 items. Reliability level of the scale was calculated with cronbach alpha coefficient and it was .86.

"Engagement Scale" alpha coefficients for internal consistency ranged from .74 to .89. Overall reliability coefficient of the Engagement Scale in the results of reliability analysis was calculated as .81. The subscales of Engagement Scale of the reliability coefficients , respectively; it was found active and collaborative learning [ACL] .89, student's forced level [SFL] .74, the feedback level and students-teachers interaction [FLSTI] .80.

In addition, from the pilot implementation group a validity study was conducted focus groups with five students. These efforts have been done to make corrections on the scale items and materials.

The reliability and validity of academic achievement tests have been consulted with three experts. Items in the scale have been re-edited and finalized based on as the experts opinion. In addition, the scope of validity is provided by experts.

Surveys and scales used in the study can be accessed with more detailed information about development and reliability, validity studies from the Santepeci (2012)'s thesis.

Participants

Study group consists of 7th grade students in four middle schools located in Ankara's Ayas district. It was not used any criteria in determining the experimental and control groups constituting the research's working group, participants were selected through convenient sampling method (Arıkan, 2011). Purposive sampling refers to the researcher trying to provide the level of care to represent the universe, he/she determinates which is the most suitable in terms of the cost, labor and time of sample for himself/herself (Arıkan, 2011;). To determination of classes located in the experimental and control groups was chosen randomly. Working group of the study was consisted of 115 students including 55 in experimental group and 60 in the control group from 4 middle schools the 7th grade students located in Ankara Ayas district. Three students from the experimental group and the five students from control group was excluded from the study. Six students were excluded from the experiment because two of these students is insufficient reading literacy and six of these students do not always attend the course. After this process, it was consisted of 52 participants in the experimental group and 55 participants in the control group.

Students in experimental and control group were examined to check group resemblances in terms of demographic characteristics of; gender, mother and father education, SBS scores of 2010, and information technology competence perceptions. The distribution by gender of the students in the experimental and control group in the study has been checked with the chi-square test to determine whether there is a difference. The analyzes conducted the significance value of p is found to be $p = 0.39$. Accordingly, it can be said that there was no significant difference between groups in gender distribution. Participants in the two groups were compared in terms of parents' educational levels. According to the t-test results, there was no significant difference levels of mother education between two groups ($t(105) = 1.47, p > 0.05$). Similarly, there was no significant difference for the level of father education between the experimental and control group students ($t(105) = 1.59, p > 0.05$). In other words, the students in the experimental and control groups said to be similar in terms of parents' education level.

Independent samples t-test was used to compare the level of perception about the competences of information technology of experimental and control group students at the beginning of the study. According to the results, the experimental group students information technology efficacy perception average level of score is 4.14; the control group students information technology efficacy perception level mean score is 4.09. Accordingly, the students' information technologies competency levels perceptions were not found significantly different between the experimental and control groups ($t(105) = 0.44, p > 0.05$). Accordingly, the students in the two groups in terms of information technology efficacy perception levels said to be similar to each other at the beginning of the study.

2010 SBS scores and achievements pre-test was used for students in the experimental and control groups in terms of academic achievement demonstrate the similarities and differences prior to the experiment. When analyzed 2010 SBS scores, SBS average score of students in the experimental group is 343.79; SBS is the average score of the students in the control group is 327.90. According to this result, the students in the experimental and control groups were not found significantly different between scores of SBS 2010 ($t(107) = 1.07, p > 0.05$). Accordingly, it can be said that the academic success of the group are similar to the extent that no significant difference in the pre-study.

Implementation Process

Implementation process of the study consisted of a 6-week period conducted in Social Studies course.

Students's Computer and Internet access in the blended learning group when examined; netbooks were distributed to 7th grade students in a school of the experimental group within the scope of European School Network project (24 people). Students are provided with wireless access to the Internet in the school that this project is being carried out. In this way, students gained the opportunity to carry out activities in the course of the web space from any location with internet access. In addition, information technology laboratories were opened for student to use located in schools containing the experimental group for the students who are not able to connect to the internet at home and are not in this project. Laboratories were provided internet access to students kept open during lunch breaks and after school hours.

Moodle (Modular Object Oriented Dynamic Learning Environment) open source course management system was used in the web portion of the blended learning process. Because Moodle is a free, open source, and it is easy to use, it was selected as the platform for blended learning environment.. A four-hour training to students in experimental group directed to the use of course web space constituting teaching management system (Moodle) prior to implementation. Environment records of student and the sample activities within the scope of this training was built. Necessary explanations and demonstrations are made when students experienced problems in parts of the process. Thus, the students were ready to use the blended learning environment during the experimental process.

A total of six hours of training related to the Moodle environment aimed at course teachers were given. After this training is completed, face to face and online activities were determined for each group with course teachers. Reading list (presentation etc.), subject screening test, individual assignments, group work (such as creating the wiki) and blog activities took place in every week in teachers' part of the blended learning environment in the process of six weeks of application. A narrative with projection, to explanations, questions - answers and discussion took place in the part of the face-to-face of blended learning weekly basis. It was included lecture with projection, presentations, explanations, questions - answers and discussion in traditional face-to-face learning environment on a weekly basis. Course teachers carried out the implementation process in both groups. Also, researcher guided the teachers who was carrying out the application in this process.

Analysis of Data

Analysis of data collected after the experimental procedure was performed using the program of SPSS (Statistical Package for Social Sciences). Independent samples t-test was used in the analysis of data collected after the experimental procedure in order to determine the differences between the experimental and control groups. Furthermore, Cohen's d values were calculated to determine the effect size of the differences resulting from the t-test comparisons.

Results

Findings Related to the First Sub-Objective

- Is there a significant difference between posttest achievement scores of students in the experimental group and the control group of students?

Located in the experimental and control group students' academic achievement post-test scores are presented t-test comparison in Table 1.

Table 1. T-test Comparison of the Experimental and Control Groups' Posttest Academic Achievement Average Scores

Group	N	\bar{X}	S	Sd	T	P
Experiment	52	12.36	4.11	105	2.65	.00*
Control	55	10.25	4.10			

* $p < 0.05$

When Table 1 is analyzed, academic achievement average score of students in the experimental group is 12.36; academic achievement average score of the students in the control group is 10.25. Significant differences between the academic achievement of students in the two different groups were formed ($t(105) = 2.65, p < 0.05$). Accordingly, it can be said two different learning process is caused to significant differences in post-test achievement scores of students. In other words, it can be said that blended learning provides a higher level of academic achievement according to the face-to-face learning. On the other hand, It was examined the effect size of the eta-squared (η^2), and Cohen's d because it was to decide at blended learning what level of impact on academic success. Effect size was calculated as the value of $\eta^2 = .06$ and Cohen d = .51. Accordingly, 6% of the variance in academic achievement scores have emerged depending on the blended learning. Also, the difference between the academic achievement' average scores of the experimental and control groups is up to standard deviation of .51. The calculated values in both effect size ($\eta^2 = .06, d = .51$) shows to be that blended learning has "medium" size effect on academic achievement.

Findings Related to the Second Sub-Objective

- Is there a significant difference between pretest and posttest student engagement scores of students in the experimental group and the control group of students?

The experimental and control group students' pre-test scores on the subscales of engagement are presented t-test comparison in Table 2.

Table 2. T-Test Comparison of The Experimental and Control Groups' Pretest Student Engagement Average Scores

Subscales of Engagement		Group	N	\bar{X}	Ss	Sd	T	P
AYÖ	Experiment	52	3.49	.60	105	-99	.32	
	Control	55	3.61	.71				
ÖZS	Experiment	52	3.22	.55	105	-.53	.59	
	Control	55	3.28	.61				
GDÖÖE	Experiment	52	3.41	.66	105	-1.24	.21	
	Control	55	3.59	.82				
General Total	Experiment	52	3.41	.55	10	-1.09	.27	
	Control	55	3.54	.66				

According to Table 2, average score of students engagement in the experimental group was found 3.41. Also, average score of students engagement in the control group was found 3.54. The average score of subscales of students engagement in the experimental group was found, active and collaborative learning (ACL) 3.49, student's forced level (SFL) 3.22, and the feedback level and students-teachers interaction (FLSTI) 3.41. The average score of subscales of students engagement in the control group was found, ACL 3.61, SFL 3.28, and FLSTI 3.59. Based on these results, there was no significant difference found when compared student engagement scores of between both groups in pretest ($t(105) = -1.09, p > .05$). At the same time, subscales of student engagement scores of between both groups, there was found no significant difference in the pretest ($t_{ACL}(105) = -.99, t_{SFL}(105) = -.53, t_{FLSTI}(105) = -1.24; p > .05$). In other words, it can be said that the students in the experimental and control groups were similar student engagement prior to study.

Located in the experimental and control group students' post-test scores on the subscales of engagement are presented t-test comparison in Table 3.

Table 3. T-Test Comparison of The Experimental and Control Groups' Posttest Student Engagement Average Scores

Katılım Boyutlar	Grup	N	\bar{X}	ss	Sd	T	P
AYÖ	Deney	52	3.82	.59	105	1.40	.16
	Kontrol	55	3.66	.59			
ÖZS	Deney	52	3.51	.66	105	1.15	.25
	Kontrol	55	3.36	.70			
GDÖÖE	Deney	52	3.59	.79	105	.56	.57
	Kontrol	55	3.50	.86			
Genel Ort.	Deney	52	3.69	.60	105	1.20	.23
	Kontrol	55	3.55	.59			

When examining Table 3, average score of students engagement in the experimental group was found 3.69 after the research. Also, average score of students engagement in the control group was found 3.55. The average score of subscales of students engagement in the experimental group was found ACL 3.82, SFL 3.51, and FLSTI 3.59 in the post-test. At the same time, the average score of subscales of students engagement in the control group was found, ACL 3.66, SFL 3.36, and FLSTI 3.50. Accordingly, there was found no significant difference when compared student engagement scores of between both groups after the study ($t(105) = 1.20, p > .05$). In addition, subscales of student engagement scores of between both groups, there was found no significant difference in the post-test ($t_{ACL}(105) = 1.40, t_{SFL}(105) = 1.15, t_{FLSTI}(105) = .56; p > .05$). In other words, it can be said that the control and experimental groups is similar on student engagement and subscale of student engagement after research.

- Is there a significant difference between the developments of experimental and control group student engagement?

Development scores of students located in the control and experimental groups were calculated as the difference between posttest scores and pretest scores. Pre-test, post-test and development average scores of students located in the control and experimental groups were presented in Figure 1 and Figure 2.

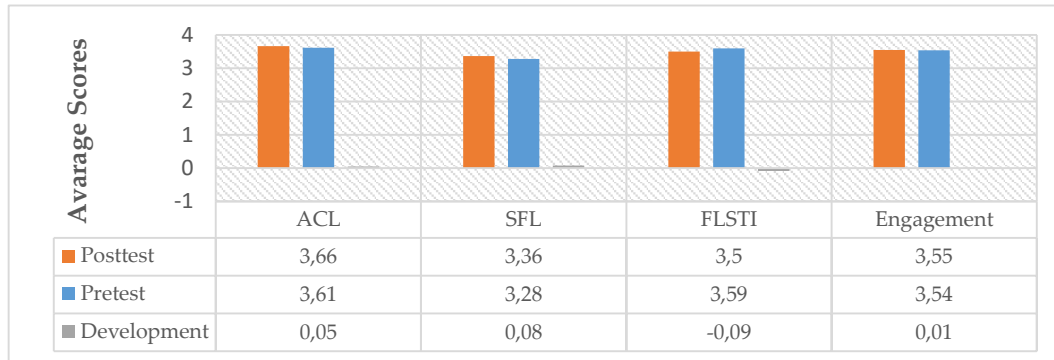


Figure 1. Posttest, Pretest and Development Avarage Scores of Students Engagement Sub Dimensions in Control Group Students

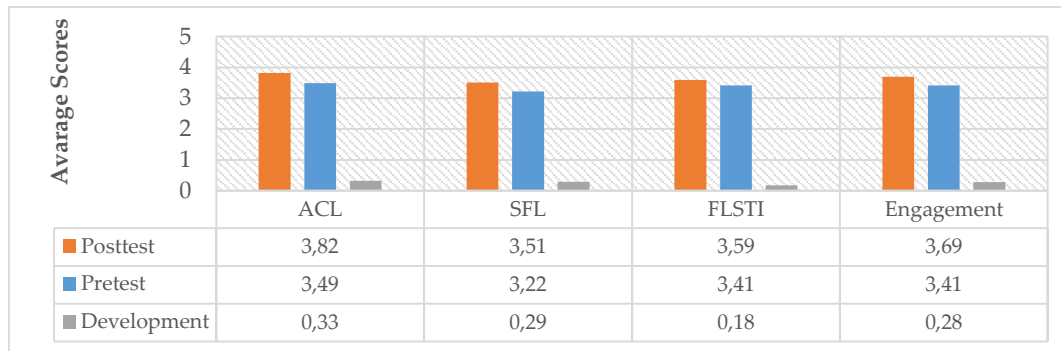


Figure 2. Posttest, Pretest and Development Avarage Scores of Students Engagement Sub Dimensions in Experimental Group Students

The students in the experimental and control group comparison regarding the student engagement average development scores were presented in Table 4.

Table 4. T-Test Comparison of the Experimental and Control Groups' Student Engagement Sub Dimensions Development Scores

Katılım Boyutlar	Grup	N	\bar{X}	ss	Sd	T	P
AYÖ	Deney	52	.33	.59	105	2.54	.01*
	Kontrol	55	.05	.58			
ÖZS	Deney	52	.29	.75	105	1.68	.09
	Kontrol	55	.08	.54			
GDÖÖE	Deney	52	.18	.82	105	1.70	.09
	Kontrol	55	-.09	.82			
Genel Katılım	Deney	52	.28	.59	105	2.42	.01*
	Kontrol	55	.01	.54			

When analyzed the results in Table 4, average development score of student engagement in the experimental group was found .28; the control group was .01. In a nutshell, development of students engagement the experimental group and the control group is composed a significant difference between both groups ($t(105) = 2.42, p < .05$). Accordingly, the development of student engagement level in blended learning can be said to affect more positive than face to face learning. In other words, It can be said that blended learning on the development of student engagement has been more effective than face to face learning. On the other hand, It was examined the effect size of the eta-squared (η^2), and Cohen's d because it was to decide at what level of blended learning impact on development of engagement. Cohen's effect size values were calculated as $\eta^2 = .05$ and Cohen $d = .47$. Accordingly, 7% of the variance in academic achievement scores have emerged depending on the blended learning. Accordingly, it can be said that the distance between the averages the standard deviation is .47, and the variance of their student engagement development scores have emerged due to the 5% of blended learning. In this case, it seems that blended learning has a "medium" level effect size ($d = .47, \eta^2 = .05$) on development levels of student engagement.

The development score of subscales of students engagement in the experimental group was found, active and collaborative learning (ACL) .33, student's forced level (SFL) .29, and the feedback level and students-teachers interaction (FLSTI) .18. Also, development score of subscales of students engagement in the control group was found, ACL .05, SFL .08, and FLSTI -.09. Accordingly, The development score of subscales of students engagement was found significant difference between both groups only active and collaborative learning subscale ($t(105) = 2.54, p < .05$). In other words, It can be said that blended learning on the development of active and collaborative learning has been more effective than face to face learning. On the other hand, It was examined the effect size of the eta-squared (η^2), and Cohen d because it was to decide at what level of blended learning impact on development of collaborative learning subscale. Effect size was calculated as the value of $\eta^2 = .06$ and Cohen $d = .49$. According to, it can be said that the difference of active and collaborative learning average scores of between the experimental and control groups were up to standard deviation of .49. Accordingly, it can be said that 6% of the variance in ACL scores have emerged depending on the blended learning. Both effect size calculated was shown that blended learning was had on a "medium" size effect on the levels of development of ACL.

Discussion, Conclusion and Suggestions

According to the research results, experimental group students' test scores were seen as more significant and higher than the score of the control group students' in achievement post-test which applied after the experimental procedure. According to this results, blended learning has provided a higher level of student achievement more effective than face-to-face learning. In addition, blended learning has a medium level effect size on students' levels of academic achievement ($\eta^2 = .06$, $d = .51$). This situation show that blended learning has a significant impact on academic achievement. Similarly, studies examining the effects of the use of blended learning, in general, the use of blended learning environment in course were found to be positive effects in terms of academic achievement (Christoph, 1999; Boyle at. al. 2003; Taradi, Taradi, Radic & Pokrajac, 2005; Eşgi, 2006; Usta, 2007; Wang, Fonk & Choy, 2007; Mahiroğlu & Usta, 2008; Uluyol & Şirin, 2009; Tankut, 2008; Ekici & Karaman, 2011; Acelajado, 2011). Also, there were conflicting studies on this outcome in the literature (Ünsal, 2007). One of these studies, Acelajado (2011), examined the effects of blended learning on student achievement in mathematics teaching. Research results on all matters dealt with a blended learning approach is more effective than traditional face-to-face learning approach was concluded.

Students engagement and subscales of student engagement did not occur significant differences between the experimental group and control group in before and after the experiment. This result contradicts the way, Holley & Dobson (2008), Holley & Oliver (2010), Chen, Lambert & Guidry (2010) and Saritepeci & Yıldız (2014) have reached the conclusion that blended learning have positive impact on students' attendance from various angles in their studies performed. One of the aspects that differ from this study of Holley & Dobson (2008), and Chen, Lambert & Guidry (2010)' studies can be shown keeping the sample size large. However, It can be viewed as an important difference that the studies' participants (Holley & Dobson, 2008; Chen, Lambert & Guidry, 2010; Saritepeci & Yıldız, 2014) is the forming from the high school students or university students. Another reason for this differences between the results of this study with the results of the mentioned studies can be explained by the limitations of this study. In this study, Course instructors were needed a second teacher (Information Technologies Teacher) for in the conduct of activities in the on-line part of blended learning. One of the main reasons for this situation can be shown as that Inadequate Information Technology Literacy [ITL] levels of Social Studies teachers. Yıldız, Saritepeci and Seferoğlu (2013) emphasized the necessity to develop teachers' ITL level in their study that examined granted under Fatih project in-service training activities. The stated limitations, it can be said that especially affect the implementation process of the study dramatically. The IT teacher was present in only one of the four schools involved in the study. In this case, teachers have failed to reach IT teacher's help most of the time when they need it.

There were found significant differences between the experimental and control groups in student engagement average improvement scores. Development of student engagement in the experimental group was realized at a higher level of from the control group. In addition, the blended learning has a medium level effect size ($d = .47$, $\eta^2 = .05$) on the development of student engagement in the course. According to this, it can be said that blended learning is a significant impact on the development of student engagement level. In summary, blended learning has been affected positively development of student engagement in the course. Saritepeci and Yıldız (2014) were stated that blended learning has a large effect size on the student engagement in their study which examined blended learning environments effect on students engagement in the course and motivations towards the course.

Recommendations for implementation and research are presented below:

Not enough use of properly structured online application to the blended learning environments in the middle school level leads to students being not familiar to such practices. In this research, it was given four hours of training for online course material prior to application. However, longer training time is recommended. Longer training process will help to students about recognize better the online course materials and live less of a problem in the application process.

Another important limitation of this study is not providing timely support for teachers when teachers need support during the implementation phase of the research. In order to solve this problem, it can be presented to use of online support elements in the studies that will be carried out. In addition, a total of six hours of training related to the online portion of the course aimed at course teachers were given prior to the application of this study. This period can be increased in order to conduct the process on their own, and it will be useful to include more applications in this training process.

References

- Acelajado J. M. (2011). Blended learning: a strategy for improving the mathematics achievement of students in a bridging program. *The Electronic Journal of Mathematics and Technology*, 5(3).
- Akkoyunlu, B., & Soylu, M. Y. (2006). A study on students' views on blended learning environment. *Turkish Online Journal of Distance Education-TOJDE* 7(3).
- Altınışık, S. (2001). *Sosyal bilgiler dersinde çoklu ortamın öğrencilerin akademik başarıları ve derse karşı tutumları üzerindeki etkisi*. Unpublished MA thesis, Yıldız Technical University, Istanbul.
- Arkan, R. (2011). *Araştırma yöntem ve teknikleri*. Ankara: Nobel Yayınevi.
- Arslan, O. (2006). *Sosyal bilgiler dersinde bilgisayar destekli öğretim*. Unpublished MA thesis, Selçuk University, Konya.
- Aycock, A., Garnham, C., & Kaleta, R. (2002). Lessons learned from the hybrid course project. *Teaching with Technology Today*, 8(6). Retrieved 20 February 2012, <http://www.uwsa.edu/ttt/articles/garnham2.htm>.
- Bolliger, D., & Martindale, T. (2001). *Student satisfaction in an online master's degree program in instructional technology*. Papers Presented at the National Convention of the Association for Educational Communications and Technology, Atlanta. Retrieved 12 July 2014, <http://files.eric.ed.gov/fulltext/ED470070.pdf>.
- Bersin, J. (2004). *The blended learning book: Best practices, Proven Methodologies, and Lessons Learned*. John Wiley ve Sons.
- Boyle, T., Bradley, C., Chalk, P., Jones, R., & Rickard, P. (2003). Using blended learning to improve student success rates in learning to program. *Journal of Educational Media*. 28(2-3), 165-178.
- Chen, D. P., Lambert, D. A., & Guidry, R. K. (2010). Engaging online learners: The impact of web-based learning technology on college student engagement. *Computers ve Education*. 54(4), 1222-1232.
- Çakır, H. (2008). İnternet temelli öğretim tasarımı ve teknolojiye yeni yönelimler, *İnternet Temelli Öğrenme*. Editör Yalın, H. Ankara: Nobel Yayın Dağıtım.
- Dennis, A., Bichelmeyer, B., Henry, D., Cakir, H., Korkmaz, A., Watson, C., & Bunnage, J. (2006). The Cisco networking academy: A model for the study of student success in a blended learning environment. *The Handbook of Blended Learning: Global Perspectives, Local Designs*. Pfeiffer San Francisco, 120-35.
- Dillon, A., & Gabbard, R. (1998). Hypermedia as an educational technology: A review of the quantitative research literature on learner comprehension, control, and style. *Review of educational research*, 68(3), 322-349.
- Gülumbay, A. A. (2005). *Yükseköğretimde web'e dayalı ve yüz yüze ders alan öğrencilerin öğrenme stratejilerinin, bilgisayar kaygılarının ve başarı durumlarının karşılaştırılması*. Eskişehir: Anadolu Üniversitesi Yayınları.
- Güven, İ. (2005). Sosyal bilgiler öğretmenlerinin meslekî gelişim ve yeterlikleri. *Bilim ve Aklın Aydınlığında Eğitim Dergisi*. Retrieved 17 September 2011, <http://yayim.meb.gov.tr/dergiler/sayi60/guven.htm>.
- Holley, D., & Dobson, C. (2008). Encouraging student engagement in a blended learning environment: The use of contemporary learning spaces. *Learning, Media and technology*, 33(2), 139-150.
- Holley, D., & Oliver, M. (2010). Student engagement and blended learning: Portraits of risk. *Computers ve Education*, 54(3), 693-700.
- Jordan, M. H., & Rovai, P. A. (2004). Blended learning and sense of community: A comparative analysis with traditional and fully online graduate courses. *International Review of Research in Open and Distance Learning*, 5(2).

- Karadeniz, Ş., & Uluyol, Ç. (2009). Harmanlanmış öğrenme ortamlarında proje temelli öğrenmeye ilişkin öğrenci görüşleri. *Gazi Eğitim Fakültesi Dergisi*, 29(1), 19-36. Retrieved 20 May 2011, <http://ietc2008.home.anadolu.edu.tr/ietc2008/42.doc>.
- Karakuş, F. (2006). *Sosyal bilgiler öğretiminde yapıcı öğrenme ve otantik değerlendirme yaklaşımlarının öğrencilerin akademik başarı, kalıcılık ve sosyal bilgiler dersine yönelik tutumlarına etkisi*. Unpublished PhD thesis, Çukurova Üniversitesi, Adana.
- MEB (2005). Sınıflar öğretim programı ve kılavuzu. *İlköğretim Sosyal Bilgiler Dersi 6-7*. Ankara: Talim Terbiye Kurulu Başkanlığı.
- MEB (2012). *Proje Hakkında*. Retrieved 12 Jun 2012, <http://fatihprojesi.meb.gov.tr/tr/index.php>.
- National Institute of Corrections. (2009). Distance learning reference guide version 1.0: *Corrections Learning Environment (CLE) Program*. 2009. Washington, D.C.: National Institute of Corrections. Retrieved 17 March 2012, <http://nicic.gov/Library/024098>.
- Neuhauser, C. (2002). Learning style and effectiveness of online and face-to-face instruction. *American Journal of Distance Education*, 16(2).
- Newman, F. (1992) *Student engagement and achievement in american secondary schools*. New York: Teachers College Press.
- Osguthorpe, R. T., & Graham, C. R. (2003). Blended learning systems: definitions and directions. *Quarterly Review of Distance Education*, 4(3), 227-234.
- Santepeci, M. (2012). *İlköğretim 7. Sınıf ilköğretim sosyal bilgiler dersinde harmanlanmış öğrenme ortamlarının öğrencilerin derse katılımına, başarısına, tutumuna ve motivasyonuna etkisi*. Unpublished MA thesis, Gazi Üniversitesi, Ankara.
- Santepeci, M., & Yıldız, H. (2014). Harmanlanmış öğrenme ortamlarının öğrencilerin derse katılım ve derse karşı motivasyonları üzerine etkisinin incelenmesi. *Kırşehir Eğitim Fakültesi Dergisi (KEFAD)*, 35(1), 115-129.
- Senemoğlu, N. (2009). *Gelişim öğrenme ve öğretim kuramdan uygulamaya*. Ankara: Nobel Yayınevi.
- Shapiro, A., & Niederhauser, D. (2004). Learning from hypertext: Research issues and findings. *Handbook of research on educational communications and technology*, 2, 605-620.
- Sönmez, V. (1997). *Sosyal bilgiler öğretimi ve öğretmen kılavuzu*. Ankara: Anı Yayıncılık.
- Taradi, S. K., Taradi, M., Radic, K., & Pokrajac, N. (2005). Blending problem-based learning with web technology positively impacts student learning outcomes in acid-base physiology. *Advances in Physiology Education*, 29, 35-39.
- Usta, E. (2007). *Harmanlanmış öğrenme ve çevrimiçi öğrenme ortamlarının akademik başarı ve doyuma Etkisi*. Unpublished PhD thesis, Gazi Üniversitesi, Ankara.
- Utts, J., Sommer, B., Acredolo, C., Maher, M., & Matthews, H. (2003). A study comparing traditional and hybrid internet-based instruction in introductory statistics classes. *Journal of Statistics Education*, 11(3). Retrieved 12 December 2011, <http://www.amstat.org/publications/jse/v11n3/utts.html>.
- Ünsal, H. (2007). *Harmanlanmış öğrenme etkinliğinin çoklu düzeyde değerlendirilmesi*. Unpublished PhD thesis, Gazi Üniversitesi, Ankara.
- Wang L. F., Fong J., & Choy, M. (2007) Blended learning for programming courses: A case study of outcome based teaching and learning. (eds. L. F. Wang ve J. Fong). *Blended Learning: Workshop on Blended Learning Conference*. Edinburgh: 2007.
- Yıldız, H., Saritepeci, M., & Seferoğlu, S. S. (2013). FATİH projesi kapsamında düzenlenen hizmet-içi eğitim etkinliklerinin öğretmenlerin mesleki gelişimine katkılarının İSTE öğretmen standartları açısından incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi [Hacettepe University Journal of Education]*, Özel sayı(1), 375-392.