



The Effect of Educational Computer Games on Student Motivation in Learning English

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Abstract

The purpose of study is to determine the effect of using educational computer games on the motivation of students in regard to English language learning. The study was conducted using sixth grade students attending Vali Lütfullah Bilgin Primary School in Elazığ in Turkey. During the application period in which the quantitative research approach was used, an educational computer game related to the unit "Mathematical Problems" and designed by the researcher was presented to the students. The experimental group consisted of 33 students, while the control group consisted of 36 students. The experimental group was exposed to both the sixth grade English Lessons Program of The Ministry of Education (ELPME) and the educational computer game, while the control group was only exposed to the sixth grade ELPME. During the data collection period, a CIS (Course Interest Survey), developed by Keller and adapted to Turkish by Varank, was used to the determine students' motivation in regard to learning English. This tool was used as a pre- and end-test for both groups.

As a result of the analysis, it was determined that the learning environments enriched by the educational computer games had a positive effect on the students' motivation, to a limited extend. Therefore, this study shows that educational computer games can be used to enrich learning environments at the primary education level. This study also revealed the necessity of extending the use of educational computer games in English learning.

Keywords: Educational computer game, Learning English, Motivation

INTRODUCTION

Rapid developments in information and communication technologies have increased effectiveness in the field of education and, as such, have brought about changes not only in the structure, function and scope of education, but also in the roles that individual within this context play.

In the world, numerous educational institutions have begun seeking a new learning model that will fulfill the requirements of students in today's society. In order to make effective learning activities in school, students need to be provided with an environment full of stimulants. In order to maintain such an environment, educational programs must include different applications appropriate to the students' deep and complex learning needs. In terms of the content and presentation of teaching, the students should be provided with opportunities to develop their potential. These opportunities can be offered by qualitatively diversifying the standard programs (Arslan, 2006).





The traditional educational perception, which includes the learning of knowledge by means of a one-way information flow from the teacher to the students, should be changed. In addition, technology should be effectively used in educational activities in order to teach individuals, who may meet the needs of the society; observe the connections between the things that the students have learned; produce new knowledge by way of organizing availables; and present the knowledge the students have produced to serve others.

İşman (2008) stated that the main objectives of educational technology, which combines the concepts of education and technology, are to contribute to the development of mankind, thereby serving as a bridge between students and knowledge. Such a bridge allows students to gain easy access to the knowledge that they would like to learn. Educational technology, together with its hardware and theoretical aspects, approaches problems related to learning-teaching processes in a systematic way, and contributes to the design of quality, lasting and rich learning-teaching environments by making use of the developments in information technology.

Computers are among the chief machines, which may allow for the establishment of such an environment. The use of computers enhances the effectiveness of education, which is why many countries have recently integrated computer technologies into their teaching programs. Such integration makes computer necessary in the field of education (Tandoğan & Akkoyunlu, 1998).

The need to utilize computers in education has arisen from several reasons, including the excessive expansion of the educational system in the world, a rapid increase in the number of students, an increase in the volume of information available, an increase in the complexity of the information, an inadequacy in the number of teachers and the importance of individual skills and differences. However, the purpose of utilizing computers in education is not to automate the learning-teaching process, but to, instead, aid the process in its efficiency.

From this standpoint, teaching via computers may be defined as “a teaching method, based on the educators’ application of the new learning-teaching principles, developed by psychologists, to electronic means in accordance with programmed teaching, and various learning strategies” (Alkan, 2005, p. 181).

Computerized teaching, having originated from the utilization of computers in educational activities, has become ever-increasingly adopted in various forms. Among computerized teaching applications, educational computer games have recently drawn the attention of educators and researchers as they provide a effective environment in which to motivate students toward learning, thanks to their attractive features and entertaining aspect. Considering the time being spent by children today playing games on computers, and the joy they gain from doing it, it is natural to assume that integrated computer games into today’s educational system would resolve current learning difficulties and increase the output. Numerous educational software and educational computer games have been developed to help students become engaged in the classroom (Malta, 2010; Bayırtepe & Tüzün, 2007;





Güngörmüş, 2007; Yağız, 2007;). Due to the prominence of computer games in teaching environments, it is important to understand their effect on education.

The purpose of this study is to determine the effects of utilizing educational computer games on students' motivation while learning English. The following sub-purposes have been determined in connection with the above purpose.

1. Is there any significant difference between the end-test results of the experimental group and control group from motivation scale?

2. Is there any significant difference between the pre-test and end-test results, which constitute the motivation scale of the experimental group and control group?

METHOD

For this study, an experimental model utilizing pre- and end-test control groups was used as the quantitative research model (Karasar, 2009). Due to the pre-establishment of the classes at the school where the research was conducted, it was not possible to randomly select students for the experimental and control groups. However, as much attention as possible was given to creating experimental and control groups with similar attributes, which are explained in Table 1.

Table 1

Distribution of the Experimental and Control Groups in the Application as per the Gender Variance

Groups	Abbreviation	Female		Male		Total
		N	%	N	%	
Experimental	EG	15	45.5	18	54.5	33
Control	CG	16	44.4	20	55.6	36
Total		31	44.9	38	54.1	69

The study group was composed of 31 female students and 38 male students. Of the female students, 15 were in the experimental group, while 16 were in the control group. Of the male students, 18 were in the experimental group, while 20 were in the control group.

The data was collected using a Turkish version (translated by Varank (2003) / Annex-5) of the Motivation scale (CIS Course Interest Survey) developed by Keller (1995) on the basis of the ARCS motivation model (Keller, 1997a, 1997b). Keller (1995) stated that the scale may be utilized to measure student motivation in special classroom environments (cited in Türel, 2009).

While the general Cronbach's Alpha coefficient for this scale was 0.95 in the sub-categories, it was measured as 0.84 for Attention, 0.84 for Relevance, 0.81 for Confidence and 0.88 for Satisfaction. In this respect, it may be said that the scale is a reliable instrument for measuring student motivation in teaching environments (Varank, 2003). Varank (2003) translated this scale from English into Turkish and he then completed the necessary proofreading utilizing two advanced level students who studied the Turkish Language and Literature in the United States. Reliability





analyses were then conducting using a study group of 195 eighth grade students. The Cronbach's Alpha coefficient for the study was found to be 0.83 for all of scale, 0.55 for Attention, 0.59 for Relevance, 0.67 for Confidence and 0.59 for Satisfaction.

For this study, the researcher developed unit-specific educational computer games for the sixth grade English course "Mathematical Problems" unit. Describing the process of the development of the educational computer game until application in detail will be better for development of research.

For the design of the instructional software, firstly, interviews were conducted with a member of the academic staff (Professor in department Curriculum and Instruction) at Firat University, six special field teachers who teach English at secondary schools in Elazığ and 14 students who were taken the course during the previous year. The purpose of these interviews is to determine instructional problems in the course and requirements of 6. grade students and course

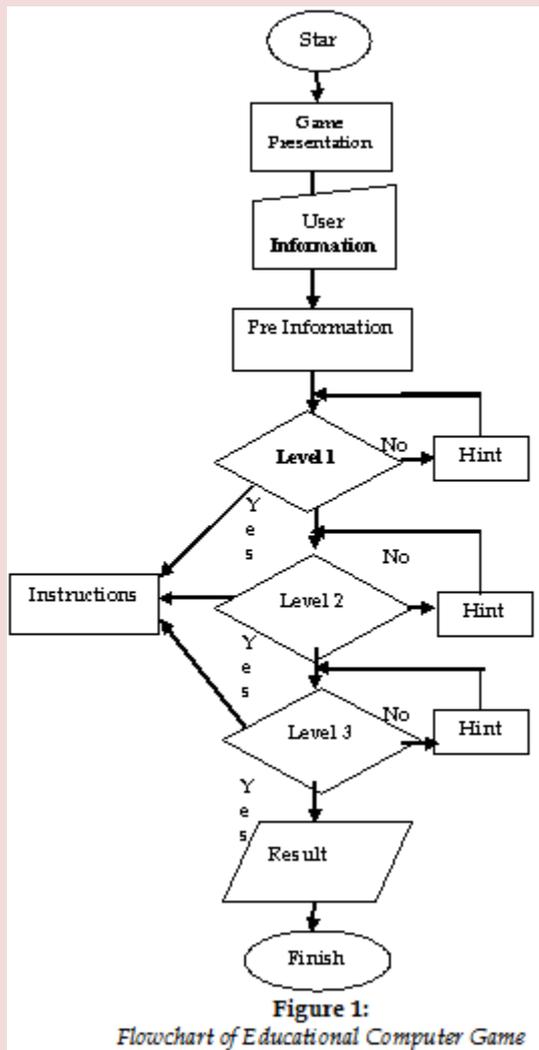
According to the interviews held with special field teachers, these students have difficulties in understanding and solving math problems, especially "if clause" structures in the unit contain mathematical problems. Also, the teachers stated that children of this age often experience errors when solving subtraction, multiplication and division operations. Professor from the Department of Curriculum and Instruction at Firat University who were interviewed specified that children in application period are in transition from concrete operation to abstract operation. As such, any educational games should take into account children in this transitional period even though the target audience is those children who have entered the abstract operation period. As a result of the interviews with the students, common themes emerged, such as a need for enjoyment and a necessity in regard to certain features, including color, sound, animation, ample time and objective and practical scoring.

In the case of the selected unit, the teachers interviewed stated that the students experienced more conceptual confusion on the mathematical problems than the other units and, as such, learned the knowledge incorrectly about this unit. In addition to concepts related to addition, subtraction, division and multiplication, the unit also included different signs for these concepts. Due to the abstract concepts within this unit, the teachers faced difficulties finding ways to make the students understand the lesson. In addition, as the lesson was complicated with English studies, the students' levels of expression impacted their abilities to learn the information and also caused the teachers to spend extra time teaching the lesson.

One of the main problems faced by the students was their inability to focus for an extended period of time. This difficulty, coupled with a shortage of teachers, caused the students' motivation to drop in this lesson.

Determined subject of mathematics games to educational games is taught for English course of 6. grade covers math course. Therefore, any games used in this course should not only focus on math, but also on English as many math problems become complicated for the students when they are placed in a sentence format. In order to determine the best way to present such sentence structures within the games, a reviewing resources were conducted of six elementary stage teacher and





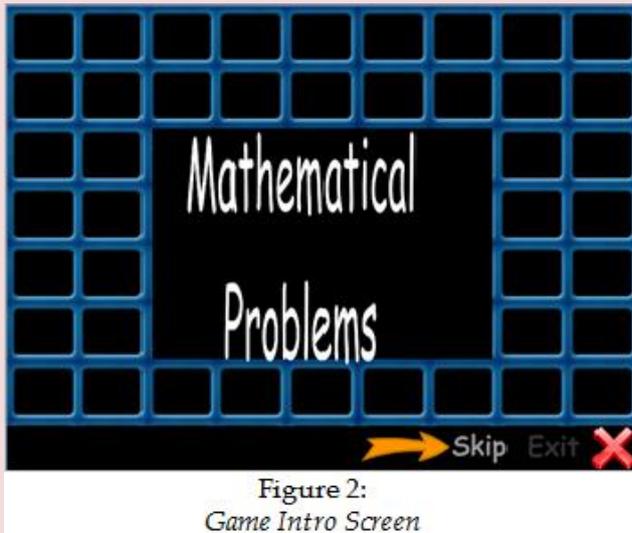
student textbooks as well as various tests and internet resources. Based on these sources, the unit topic was determined. In the chosen unit, the general topic is the problem-solving topic includes the English equivalents of subtraction, multiplication and division, while the subtopics include the English equivalents of geometric shapes and calculations of mathematical operations using the 'if clause.'

After the needs and context analyses for the computer game were conducted, subject teachers in different schools were once again interviewed. As a result of these interviews and the content analysis, three important topics on which the game should focus were determined: the English equivalents of subtraction, multiplication and division; geometric shapes; and mathematical operations using the 'if clause' structure. The interviews also determined that the English equivalents of addition, subtraction, multiplication and division should be located within the first level of the game and matching balloons form has been applied. The geometric shapes should be located within the second level of game and should

be based on the logic of placing the correct name of the shapes with drag and drop the letters logic. In final phase of the game, which is also the most difficult, the students will solve math problems that utilize the 'if clause.' These clauses will be embedded in scenarios and the students will need to use logic to correctly answer the questions.

In the design and development phase of educational computer, flowchart of educational computer game, interface design and evaluation of the pilot implementation of the game in scope of determined activity is located.

According to Figure 1, the primarily step is game presentation which is during the introduction of the game and determination of gains is found. Immediately after first step, the user information is gathered. In this phase, prior knowledge about the level of play is determined. While playing the game, if the student fails a level, he is asked to repeat it. If he completes a level, then he proceeds to the next level until level three is completed. At that point, the game has been completed.



Educational computer game's design of interface is as follows:

Playing a single-user, game's first page is as shown in Figure 2. If the user wants "Skip" button on this page, the user can pass the intro. The user can exit the game with "exit" button.

Then intro screen, screen in Figure 3 is come opposite the user. This step consists of 6 different parts. There are composed of Nickname section which the user has chosen for character section which the user has selected the

itself before the start of the game, character character that will be used in the game, the guidelines button, help button and the exit button. When user doesn't make the selection user nickname or character, a warning window comes up about performing these operations against. Guidelines are informed about how the game is played. The confirmation window opens when the user clicks the exit button whether want to quit or not.

After the user add the user Information, the screen shown in Figure 4 comes to the user who come the first level in the game when the user click enter key. This screen on the "start" button,

the user enters the first level of the game.

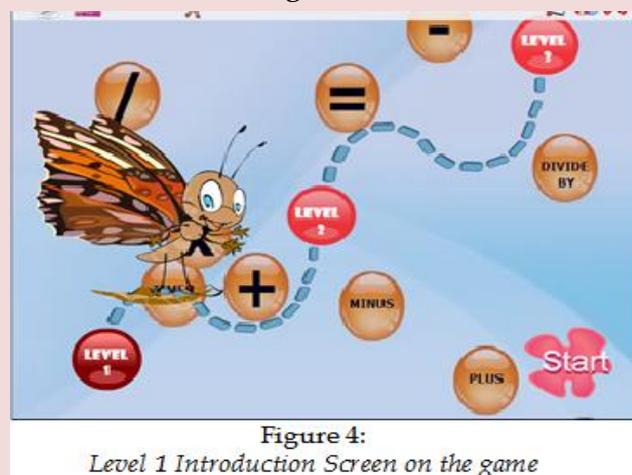


Figure 3:
The Game User Information Screen

how should click to the "start" button for starting the game, as shown in Figure 4. When user clicks this button, operations in mathematics revenue terms are seen to the screen (figure 5) with in moving balloon. For example, (+) is paired with (Plus). First the user clicks (+) or (Plus) after clicking (Plus) or (+). As a result of a correct pairing clicks is both on the green balloon and is determined by the disappearance. As a result of a wrong pairing clicks is both on the red balloon and continue to move on the screen.



Figure 5:

Level 1 Screen on the game

In addition, the buttons at each stage of the game are shown on this screen. About math in the game most of the users will need one of the scrapbook. For this reason, "Notepad" button (📝) is added when they need to be able to take notes. The buttons are added which one is "Calculator" (🧮) if believed to account at their point of need, the others are help (👤), guideliens (📖) and exit (🚫).

After the user completed level 1 successful, the screen shown figure 6 is seen. This screen on the "start" button, the user continues level 2 on the game.

2nd level of the game has been developed about geometric shapes in math. As pictures of different geometrical shapes and below where the word logic puzzles is formed as drag and drop. For example in figure 7 is located circle image and letters which are introduced into the bottom of the box. The user drags circle's letters to relevant boxes. After the user finishes placing letters, the user clicks the enter button.

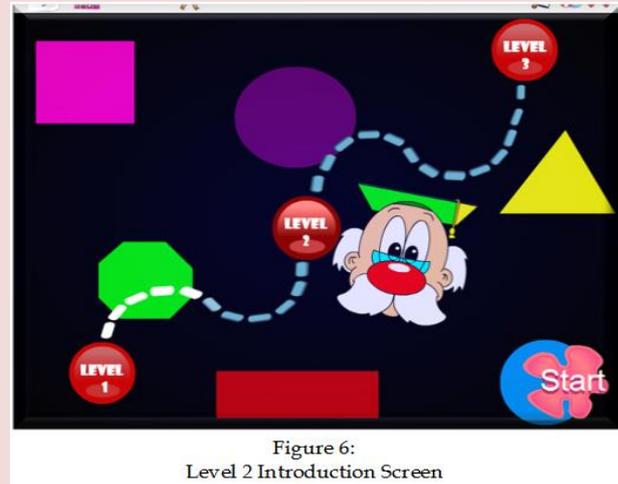


Figure 6:

Level 2 Introduction Screen

If the user drags letters the wrong boxes, hint is displayed in Figure 8. Then, the user return previous page with Again button. This process continues until the correct answer.

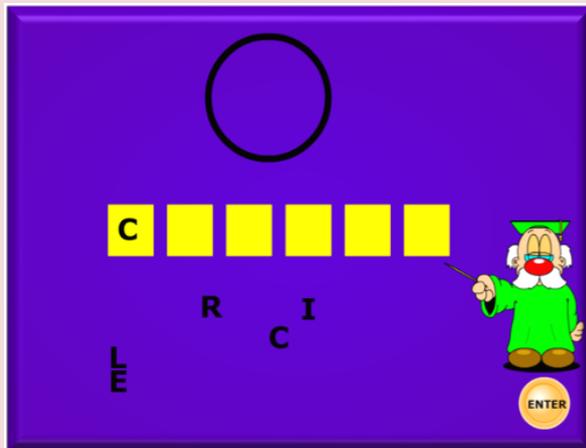


Figure 7:

Level 2 Screen on the game



Figure 8:

Level 2 wrong answer Screen on the game

If the user drags letters the correct boxes, congratulations screen is displayed in figure 9. Then, the screen where the next geometric shape is come via button. If the user know all of geometric shapes, the 2nd level is completed successfully and the user passes 3rd level.

After the user completes 2nd level successfully, the screen is shown in Figure 10. The user continues 3rd level with start button on the screen.



Figure 9:
Level 2 correct answer Screen on the game



Figure 10:
Level 3 Introduction Screen on the game



Figure 11:
Shopping List Screen in Level 3



Figure 12:
Doing Shopping place in level 3



Figure 13:
Level 3 Questions Screen

3rd level on the game has been developed about mathematical operations with using if clause. This level is continued a story. The character which is selected by user

does shopping. It's mother wants to do the shopping. The character must complete doing shopping with a shopping list that appears at the top right. The shopping is started when the user clicks the door as shown in figure 11.

According to the shopping list, as shown in Figure 12, the user starts doing shopping one of the stores, stationery and food markets. Then, the questions comes whichever place the user selects. For example, on clothes store, the question is shown in figure 13.

If the user answers wrong to the questions, hint is displayed in Figure 14 and comes back the questions with again button until the user answers correct.

If the user answers correct, congratulations screen is displayed. Then, the user passes the other stage with continue button.

Get shopping in whatever object as shown in figure 15 is placed on the shopping list is marked. in this way, the user don't click this store again. After completed shopping list, the final stage is completed successfully and the game is finished.

After completing the game application, the researcher makes interviews with science experts and a group of students which is similar characteristics to the research groups. As a result of the interviews, missing or incorrect things are improved by the designers and the game design is finalized.

FINDINGS

1-Is there any significant difference between the end-test results of the experimental group and control group from motivation scale?

In order to test this research question, the researcher attempted to measure whether the end-test average points for the CIS for both groups significantly varied from each other using t-tests with the independent groups.



Figure 14:
Level 3 wrong answer Screen



Figure 15:
The object marked Shopping List Screen in Level 3



Table 2

Independent groups' t-test results regarding CIS scale end-test score averages of experimental and control groups

Groups	N	\bar{x}	S	Sd	Levene Test		t	p
					F	p		
EG	33	123,69	10,51	66	,272	0,604	0,653	0,516
CG	36	121,83	13,15					
Total	69							

As shown in Table 2, no significant difference at the $p>0.05$ level was found as a result of the independent groups' t-tests, regarding the CIS scale scores of the experimental and control groups [$t(67)=0.653$; $p>0.05$]. Despite that the independent groups' t-test results showed that the average ($=121.83$) CIS scale score for the control group was lower than the experimental group ($=123,69$), no statistically significant difference was found between the groups' end-test scores for the CIS scale.

2- Is there any significant difference between the pre-test and end-test results, which constitute the motivation scale of the experimental group and control group?

A two-factor ANOVA (i.e., two-way ANOVA for mixed measures) test was used in order to test this question. It is discernable by means of this test whether the change, having been observed in the repetitive measurements among the students, regarding this dependent variable, generated a significant difference between the groups.

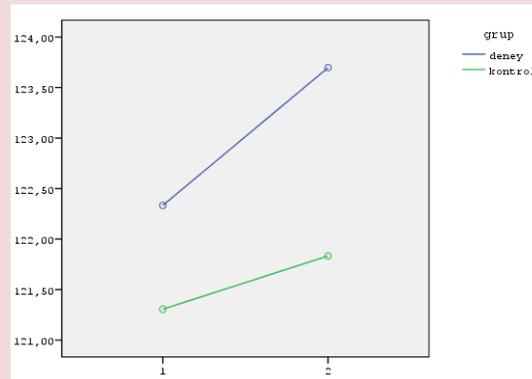
Table 3

CIS Scale Pre-test – End-test Average and Standard Deviation Values of Experimental and Control Groups

Groups	PRETEST			ENDTEST		
	N	\bar{x}	S	N	\bar{x}	S
EG	33	122,33	10,309	33	123,69	10,519
CG	36	121,30	12,901	36	121,83	13,150

According to the averages in the table 3, no significant change was observed between the CG's (control group) CIS scale pre- and end-test scores, while an increase was seen in the end-test score of EG (experimental group) when compared to the group's pre-test score. The graph 1. below displays the pre- and end-test scores of both groups.



**Graph 1:**

Motivation Scale Pre-test and End-test Variance of Experimental and Control Groups

It is discernible from Table 4 that the differences in the scores are statistically significant.

It is discernible from the table above that the applied common effect of the repetitive measurement factors, which displays the difference between the motivation scale pre- and end-test scores of the EG and CG, was not statistically significant ($F(1,67)= 1,610, p>,05$). This finding indicates that, when compared to the learning process performed solely by means of the current educational application, the learning environment in which the educational computer game and current education application were utilized did not have a statistically significant effect on the groups in terms of the CIS scale scores.

Table 4

ANOVA Results of CIS Scale Pre-Test End-test Scores belonging to Experimental and Control Groups

Variance Source	Sum of Squares	S	Mean of Squares	F	p
Inter-subject Group (Group/Individual)	18642,609	68			
Error	71,971	1	71,971	,260	,612
Intra-subject Measurement (pretest-endtest)	18570,638	67	277,174		
Group*measurement	287,206	69			
Error	30,797	1	30,797	8,244	,005
Group*measurement	6,015	1	6,015	1,610	,209
Error	250,304	67	3,736		
Total	18929,815				

The CIS scale is generally utilized in order to determine the students' motivation. A Wilcoxon ranked sign test was used in order to determine whether the items of this scale exhibited any difference in terms of the pre- and end-test scores. The values for each item are given in Table 5.



Table 5

Comparison of CIS Motivation Scale Pre-Test and End-test Scores

Question Items	N= 33	\bar{X}	S	Z	p
11. The Subject of this lesson is really difficult for me		<u>2,85</u> 1,79	<u>1,326</u> ,696	-3,319	,001*
13. I am trying to set higher goals, and to achieve these goals in this lesson		<u>4,42</u> 4,55	<u>,751</u> ,564	-2,000	,046*
15. Students in the classroom are seen to be interested in the subject of this lesson		<u>4,03</u> 4,39	<u>,770</u> ,556	-2,377	,017*
20.The content of this lesson are of relevance with my expectations and goals		<u>4,27</u> 4,03	<u>,674</u> 1,015	-2,070	,038*
21. The teacher of the lesson performs something interesting, unexpected, and surprising in the class		<u>2,73</u> 3,70	<u>1,420</u> ,637	-3,573	,000*
22. Students in the classroom actively participate in this lesson		<u>3,97</u> 3,82	<u>,809</u> ,917	-2,236	,025*
24. The teacher of this lesson makes use of interesting and different teaching techniques		<u>3,33</u> 3,85	<u>1,451</u> 1,176	-2,333	,020*

Table 5 shows that seven items (i.e., 11, 13, 15, 20, 21, 22 and 24) exhibited statistically significant differences between pre-test and end-test. For Item 11 "Subject of this lesson is really difficult for me" it appears that the main difference came about because many students changed their answers from partly agreed (pre-test= 2.85) to not agreed at all (end-test= 1.79) after the application. This change may have occurred due to the new method (i.e., the game) being used by the teacher.

Item 13 "I am trying to set higher goals, and to achieve these goals in this lesson" was mainly responded to a totally agreed before the application (pre-test= 4.42) and after the application (end-test=4.55). This situation may be interpreted as, at the end of the lesson, the students had achieved their previously set goals for the English lesson.

For Item 15 "The students in the classroom seem interested in the subject of this course" the many students responded with "agree" (pre-test= 4,03) before the application, but after the application they responded with "strongly agree" (end-test=4,39). This situation can be interpreted as the students' interest increased during the period in which they utilized the application.

Item 20 "Contents of this lesson are of relevance with my expectations and goals" received also complete agreement from the students on the pre-test. However, the majority of the students only chose "agreement" on the end-test.

Item 21, on the pre-test, most of the students chose "partly agreed" for "The teacher of the lesson performs something interesting, unexpected, and surprising in





the class" (pre-test=2.73), but chose "agreed" on the end-test (end-test=3.70). This situation may be interpreted as the teacher, who introduced the computer game to his/her students, is seen by the students as being willing to do new things to keep the students interested in the material.

Item 22 "The students in the classroom actively participate in this lesson" was responded to by the students as "agreed" both before (pre-test=3.97) and after the application (end-test=3.82). The difference, resulted in this item, was for before the application. This situation may be interpreted as that in an educational environment supported by educational computer games, no reason existed for the students to be active in the lesson.

Item 24 "The teacher of this lesson makes use of interesting and different teaching techniques" was "partly agreed" to by most of the students before the application (pre-test=3.33) and "agreed" to after the application (end-test=3.85). The change may come from the different method used by the teacher as the students may have found the game to be interesting and different

DISCUSSION

The results above have shown that no statistically significant effect occurred on the student's motivation due to the use of computer games. However, despite no significant difference occurred in the control group's score after the application, the difference between the pre-test and end-test scores in the school, where the application was performed, points to the increase in the score of the experimental group. According to the students' responses on the end-test, they are most willing to participate in the lesson and more interested in the subject matter after the lesson when it involves a game.

Several past studies support these findings. Lim, Nonis and Hedberg (2006) observed that students are more motivated when allowed to use multi-user cyber games during their lessons. Abrams' (2008) study showed that the motivation test statistically supports playing computer games to increase student motivation as well as increasing their interest in math. Kebritchi, Hirumi and Bai (2008) studied the effect of mathematics games on the students' success and motivation in mathematics and found that no significant difference could be found between the experimental and control groups in terms of motivation. According to the results of a study conducted by the Relevant Institution (2011) on students' motivation to learn English, it found that no significant relationship exists between learning a foreign language and motivation. .

Motivation plays a significant role in the learning and teaching process as well as an equally significant role in learning a foreign language. From a general point-of-view, when they are to learn a foreign language, students seem to be raising barriers to the language to be learned. Motivation is effective in eliminating such barriers. One of the methods used by foreign language teachers to increase motivation is to make the process entertaining. As such, the utilization of educational computer





games is appropriate in such a context. Despite the fact that there is not any significant difference between the groups used the educational computer games and not used them, the increase of motivation scores of the first group which realize additional learning can be presented as an evidence to this view.

Future research should focus on whether the use of computer games at particular points in a course is effective in increasing motivation when it starts to lag.

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İngilizce Öğrenmede Eğitsel Bilgisayar Oyunu Kullanmanın Motivasyona Etkisi

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Genişletilmiş Özet

Problem: Gelişen ve değişen teknolojiden eğitim sistemi de nasibini almaktadır. Ancak her ne kadar mevcut durumu olumlu etkilese de teknoloji de eğitim sistemindeki sıkıntıları çözmeye yeterli gelmemektedir. Eğitimde yaşanan sıkıntılardan biri de yabancı dil öğretimi ve ilköğretim programlarında yer alan İngilizce dersinden alınan verimdir. İngilizce öğretimiyle ilgili yapılan çeşitli çalışmalar eğitimde kullanılan yöntemlerin klasik olması ve farklı araç- gereçlerin kullanılmaması, kullanılsa da genel olarak çalışma yapraklarıyla sınırlı kalması, teknolojinin sınıflara yansıtılmaması ve derslerin ezbere dayalı olması gibi sonuçları ortaya çıkarmıştır. Eğitimciler, İngilizce öğrenmeye karşı isteksiz olan ya da İngilizcenin o kadar da önemli olmadığını düşünen ve öğrenmeye yönelik herhangi bir çaba sarf etmeyen öğrencilere İngilizceyi sevdirebilmek için alternatifler aramaktadırlar Eğitsel bilgisayar oyunları da bu noktada öğrencileri öğrenmeye karşı motive edebilecek, ilgi çekici ve eğlenceli ortamlar olarak karşımıza çıkmaktadır. Bu bağlamda;

Araştırmanın genel amacı, İngilizce öğrenmede eğitsel bilgisayar oyunu kullanmanın motivasyona etkisini belirlemektir. Bu genel amaca bağlı olarak alt amaçlar belirlenmiştir:

1. Deney ve kontrol gruplarının motivasyon ölçeğinden aldıkları son-test puanları arasında anlamlı bir fark var mıdır?
2. Deney ve kontrol gruplarının motivasyon ölçeği ön-test ve son-test puanları arasında anlamlı bir fark var mıdır?

Yöntem: Bu araştırmada nicel araştırma yöntemi olarak deneysel desenlerden ön-test son-test kontrol grubu deney modeli kullanılmıştır. Çalışma Elazığ ili Merkez Vali Lütfullah Bilgin İlköğretim Okulu'nda altıncı sınıf öğrencileri üzerinde yürütülmüştür. Nicel araştırma yaklaşımının kullanıldığı uygulama süreci boyunca, araştırmacı tarafından tasarlanan "Mathematical Problems" ünitesi ile ilgili eğitsel bilgisayar oyunu öğrencilere sunulmuştur. Araştırmada 33 öğrenci araştırmanın deney grubunu oluştururken, 36 öğrenci ise araştırmanın kontrol grubunu oluşturmuştur. Araştırma süreci içerisinde dersler, deney grubu öğrencileriyle Milli Eğitim Bakanlığı İlköğretim 6. sınıf İngilizce dersi programının yanı sıra eğitsel bilgisayar oyunu ile işlenirken, kontrol grubu öğrencileriyle Milli Eğitim Bakanlığı İlköğretim 6. sınıf İngilizce dersi programıyla işlenmiştir. Çalışmanın veri toplama boyutunda öğrenci motivasyonu için Keller tarafından oluşturulan CIS Motivasyon





ölçeğinin Varank tarafından Türkçeye uyarlanmış hali kullanılmıştır. Belirtilen araç, deney ve kontrol gruplarına ön-test ve son-test olarak uygulanmıştır.

Bulgular: Motivasyon ölçeği ile ilgili olarak elde edilen bulgular, araştırma sorularına göre aşağıda incelenmiştir.

1- Deney ve kontrol gruplarının (DG, KG) CIS (motivasyon) ölçeğinden aldıkları son-test puanları arasında anlamlı bir farklılık var mıdır?

Deney ve kontrol gruplarının CIS ölçeği puanlarına ilişkin bağımsız gruplar t testi sonucunda $p > 0,05$ düzeyinde anlamlı farklılık görülmemiştir [$t_{(67)} = 0,653$; $p > 0,05$]. Yapılan bağımsız gruplar t testi sonucunda, kontrol grubunun CIS ölçeği puanları ortalamasının ($\bar{X} = 121,83$), deney grubunun CIS ölçeği puanları ortalamasından ($\bar{X} = 123,69$) daha düşük olduğu görülse de gruplar arasında CIS ölçeği son-test puanları açısından istatistiksel olarak anlamlı bir fark bulunmamaktadır.

2- DG ve KG gruplarının CIS ölçeği öntest ve sontest puanları arasında anlamlı bir farklılık var mıdır?

DG ve KG gruplarının motivasyon ölçeği ön-test ve son-test puanları arasındaki farkı gösteren tekrarlı ölçümler faktörlerinin uygulamaya ilişkin ortak etkisinin, anlamlı olmadığı görülmektedir ($F(1,67) = 1,610$, $p > 0,05$). Bu bulgular, mevcut eğitim uygulamasına ek olarak eğitsel bilgisayar oyununun kullanıldığı öğrenme ortamının, yalnızca mevcut eğitim uygulamasıyla devam eden öğrenme sürecine göre CIS ölçeği puanları açısından gruplar üzerinde istatistiksel olarak farklı bir etki ortaya koymadığını göstermektedir.

Sonuç ve tartışma: Elde edilen verilerin analizi sonucunda, eğitsel bilgisayar oyunu ile zenginleştirilen öğrenme ortamlarının, sınırlı da olsa öğrencilerin motivasyonları üzerinde olumlu bir etkisinin olduğu belirlenmiştir. Gerçekleştirilen uygulama, ilköğretim düzeyinde eğitsel bilgisayar oyunlarının öğrenmeyi zenginleştiren bir unsur olarak kullanılabileceğini göstermek açısından da önemlidir. Bu araştırma, İngilizce öğrenme de eğitsel bilgisayar oyunlarının kullanımının yaygınlaştırılması gerekliliğini de ortaya çıkarmıştır.

Motivasyonun öğrenme- öğretim sürecinde çok önemli bir rolü vardır ve yabancı dil öğrenmede de aynı şekilde çok büyük bir yere sahiptir. Genel olarak bakıldığında, öğrencilerin yabancı dil öğrenme söz konusu olduğunda öğrenilecek dile karşı bariyerler oluşturduğu görülmektedir. İşte bu bariyerlerin yıkılmasında motivasyon oldukça etkilidir. Yabancı dil öğrenmede motivasyonu arttırmada ilk olarak başvurulan yöntemlerden biri sürecin eğlenceli hale getirilmesi ve öğretmenin bunu öğrencileri güdülemek için yapmasıdır. Eğlenceli bir ortam sunan eğitsel bilgisayar oyunlarının bu bağlamda kullanılması oldukça yerinde olmaktadır. Yapılan çalışmada her ne kadar eğitsel bilgisayar oyununun kullanıldığı grupla kullanılmadığı grup arasında anlamlı bir farklılık çıkmasa da, eğitsel bilgisayar oyunu kullanarak ek öğrenme gerçekleştirilen grubun motivasyon puanındaki artış bu görüşe kanıt olarak sunulabilir.

Anahtar Kelimeler: Eğitsel bilgisayar oyunları, İngilizce öğrenimi, Motivasyon

