



# EFFECT OF BEHAVIOR MANAGEMENT SYSTEM-AIDED TEACHING

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## ABSTRACT

The purpose of this study is to investigate the effect of the behavior management system Class Dojo aided English teaching on the academic success of the 8th grade students. The sample of the study consists of 53 students (26: experiment group, 27: control group) in Pazarcık Middle School that is located in Pütürge, Malatya, Turkey. As a quantitative one, experimental method with control group of pre-test post-test was used. During the experimental procedure in the experiment group “Behavior Management System-Aided English Language Teaching” was applied, on the other side teaching process of control group was organized according to English curriculum. The 2nd exam was used as the pre-test and the 3rd one was the post test. Furthermore, the 2nd exam was used to determine the groups. The data of the study was collected through Class Dojo and “e-okul (Turkish Ministry of National Education Database)”. At the end of the study it was concluded that behavior management system-aided English teaching was effective in increasing the behaviors that facilitate English teaching. There was no difference in increasing the academic success when compared to the classical behavior tracking. However, Class Dojo is effective in increasing desired behaviors. It might be used to control the behaviors. Thus, it might also be effective in academic success in longer span.

## General Terms

Educational Technology, Classroom Management, Curriculum and Instruction.

## Keywords

Behavior management system, English language teaching, Academic success.

## 1. INTRODUCTION

In Turkey, a student takes 1368 hours English classes (Table 1) during K-12 period. British Council and TEPAV (2013)’s research shows that despite this fact students are insufficient in skills such as listening and speaking. It is because English is considered only as a lesson like Geography or History not as a tool for communication.

**Table 1.** The number of English classes at grades of Primary, Middle and High School

	Primary School		Middle School				High School*				Weekly Total	Yearly Total	
Grade	2	3	4	5	6	7	8	9	10	11	12		
Weekly	2	2	2	3	3	4	4	6	4	4	4	38	1368



To improve learners’ English skills some arrangements might be done such as turning the class into a communicative environment. Learners should interact with both each other and their teachers. This interaction supports language learning. However, it might cause classroom management problems. Monitoring student behavior in classroom is vital for school learning. Teachers have to deal with desired and undesired situations. Reinforcement can be used to manage the whole process to enhance the frequency of facilitative student acts.

Throughout the history how people learn is always wondered. Various approaches explain learning in different ways. According to behaviorism, mind is a black box. Therefore, behaviorists focus on the behaviors that can be measured concretely. Individuals learn in a similar way and learning is a kind of reflex (Watson, 1958). In cognitive approaches, there is a mental process arranging the relationship between the stimulant and the response (Schunk,1996). The learner is active during this process. Furthermore, the personal, behavior-related and environmental processes are in an interaction (Schunk, 2009). Cognitivists think they can optimize learning by examining how individuals organize and process learning which is perception, sensation, attention, encoding and memory (Jordan, Carlile, Stack, 2008). Neurophysiological theory relates learning to building links between the neurons. Certain parts of the brain are responsible for certain functions. In addition, left and right hemispheres are connected with different skills (Gredler, 2009). When humanistic approach is considered, needs and experience of the individual is prioritized. Self-actualization and self-esteem is important (Deniz, 2013). Therefore, a safe classroom environment and a strong teacher-student relationship is essential. Constructivism is similar to cognitivism. However, it is more about how learners build knowledge by synthesizing the new and existing knowledge in an active way (Jordan, Carlile, Stack, 2008).

**Table 2.** Learning approaches

<b>Behaviorism</b>	<b>Cognitivism</b>	<b>Neurophysiological Theory</b>	<b>Humanistic Approach</b>	<b>Constructivism</b>
stimulus- response reinforcement external event	memory encoding internal event	forming links between neurons parts of the brain for certain functions	needs, experiences self-actualization	retuning schemata and mental constructs internal event

After behaviorism, a number of theories about how people learn put emphasis on various dimensions of learning process. Ignoring those dimensions would be a mistake. If a student is given a reinforcement it should be because of success or ability, not because of taking control of the behaviors. The student should be aware that he/she is valued (Deniz, 2013).

Skinner focuses on “Functional Behavior”. Organism is active in this process. He asserts that reaction is formed according to the result of the experience (Driscoll, 2005, 2012). Behavior is formed not by the stimulant, but by its result. If the behavior is desired reinforcement is given. That behavior is expected to be repeated (Senemoğlu, 2005).

Reinforcement is used to sustain desired behavior in education. That reinforcement might be a concrete desired object or an activity (Gerrig, Zimbardo, & Sart, 2012, 180). There are several types of reinforcement. Symbolic reinforcement is one of them. If the stimulant was an object that is a primary need for the individual, it would be more effective. However, it might be difficult to find a stimulant which can be a primary need in any learning environment. That’s why symbolic reinforcement is often preferred by teachers. “Stickers”, “certificates” or “earning points”

Classroom management is defined as “an activity to affect the individuals in a leaning environment” (Erdoğan, 2008). The excessiveness of the undesired behaviors in a classroom requires an effective classroom management. Effective classroom management must increase desired behaviors and decrease undesired ones. The fact that classroom management increases desired behaviors also helps increase academic success (Akt: Başar, 2014, 114). Teachers might use reinforcements for that purpose. Through reinforcements teachers take control of the environment (Keklik, 2008).

For the learners to retain what they have learned the activities they experienced are crucial. The more their senses are appealed the more permanent the learning will be. Technology- aided learning reaches different intelligence types and increases motivation. Learners can experience their learning process in the style they are comfortable in (Şahin, 2016).

The necessity of the use of technology in education is reflected in the educational politics in the world and in Turkey. With the FATİH project the existence of an interactive smart board in many classes in Turkey made the technology accessible (İşman, Odabaşı ve



Akkoyunlu, 2016). The increase of the opportunities causes the increase in the number of educational softwares. The number of the softwares increases day by day (Önal, 2015).

Akdeniz and Tüfekçi (2016) made a research about the evaluation of interactive smart board and tablet aided Biology class. %55 of the teachers have negative views reporting it is difficult for them to control the use of tablets and students deal with out of task activities. The discrepancy might be because of the difference in the type of participants.

Dişli (2012) investigated the effect of computer aided- teaching on English writing skills. An online program was used for treatment group while the comparison group was taught with classical methods. The treatment group improved more at the end of the implementation process. This study was conducted on 42 pre-service English teachers. Furthermore, the online program tested is also directly related to the skill which is observed in the research. Erkir (2010) has a research on 120 preparatory class students about use of internet in teaching English by translation method. Harmancı (2008) found that computer assisted English teaching has an effect on 7th grade students' academic success. Başkan (2007) examined the effect of computer-assisted teaching on students' English speaking skills. The research shows that there is a significant difference in favor of the treatment group. Tanner and London (2009)'s research is about the effect of computer assisted pronunciation teaching on stress, intonation and comprehension of students. The results show that it is quite effective.

There are some educational softwares that are designed for specific purposes. The softwares designed for behavior management are one of them. "Class Dojo", a software designed for behavior management. The software is available on desktops, tablets and smartphones. Classroom interaction might be provided through photos, videos or messages. Classes can be formed on the system. Students are registered in those classes. Each student is given a cartoon avatar automatically. Students get instant feedback for their behaviors on the software. It can be used to keep track of the desired and undesired behaviors and be used as a symbolic reinforcement. Class Dojo makes the process of tracking the learners' behaviors easier. When the learner knows his/her behaviors are tracked, he/she minds showing desired behavior more. Their success might increase accordingly. This study examines the effect of behavior management system-aided English language teaching on students' academic success.

## 2. METHOD

### 2.1 Research Model

A quasi-experimental research design pre-test post-test with control group was used. Experimental studies aim at examining the effect of the difference on the dependent variable. There are two processes that define independent variable. The effect of these processes on dependent variable is examined. The researcher manipulates the dependent variable (Büyüköztürk et al., 2016).

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### 2.2 Participants

The sample of the study consists of 53 students (26: experiment group, 27: control group) in Pazarcık Middle School that is located in Pütürge, Malatya, Turkey. There are three classes in the grade chosen in the school. The pre-test results of the students are compared to decide on the control and experimental groups and to check their equivalence. After the comparison no significant difference was found between the groups. Therefore, the groups were found equivalent. The gender distribution of the groups is given in the table 3.

**Table 3.** Group and gender distribution of the participants

Group	Number	Gender			
		Female		Male	
		n	%	n	%
Treatment	26	11	42,3	15	57,7
Comparison	27	14	51,9	13	48,1
Total	53	25	47,2	28	52,8

As can be seen in table 3, 26 students from experimental and 27 students from control group participated in the study. In the experimental group, while 11 students (% 42,3) in the experimental group are female, 15 students (%57,7) are male. In the control group 14 students (% 51,9) are female while 13 students (%48,1) are male..



### 2.3 Data Gathering Tools

For the implementation of the quasi-experimental study pre-test post-test with a control group the software “Class Dojo” and the personal information form were used. Class Dojo was used to determine the behaviors that facilitate English teaching and to record those behaviors in the system. Second and third exam results that were used as pre-and post-test respectively were collected through the system: “e-okul” (Turkish Ministry of National Education Database).

Class Dojo

Class Dojo is an online behavior management system where student behavior and absenteeism can be tracked. The system is available on the computers and mobile devices. Teachers, students and parents can interact through the software. The communication is provided via pictures, videos and messages. A class is formed in the system. Each student is given a representative avatar like a cartoon character.

Teacher gives points for the student behaviors. Students get feedback for their behaviors in this way. These behaviors may be determined by teachers and students. Teacher may give more points for the behaviors that need to be promoted more. Students can see what is expected and what is not expected from them clearly. Tracking behaviors with an interesting online system may motivate students. In the control group, student behaviors were tracked by a list on a paper giving their behaviors “+” or “-”.

### 2.4 Implementation Process

The experimental process was carried out by the researcher. The process was implemented for four weeks, as four lesson each week (One lesson is 40 minutes). The software “Class Dojo” was used in the experimental group while they were studying the unit “Adventures” at the end of the lesson to record in-class observations. Students are aware of the observation and records. The behaviors facilitating English teaching are: “On Task”, “Working Hard”, “Participating” and “Teamwork” while the behaviors non-facilitating English teaching are: “Talking out of turn”, “No homework” and “Being late”.

### 2.5 Data Analysis

The data collected in 2016-17 educational year was analyzed through statistical package program. First of all, descriptive statistics (mean, standard deviation, skewness and kurtosis) were used. Graphics, skewness and kurtosis were checked to determine the distribution of normality. Because the distribution of the results of 3rd exam which was taken as post-test is normal, the results were compared through independent samples t-test. Because the distribution of the number of times behaviors shown is not normal, a non-parametric test Mann Whitney U was used. Paired samples t-test was used to calculate the pre-test post-test point of the experimental and control groups because the distribution is normal.

## 3. RESULTS AND DISCUSSION

### 3.1 Data Analysis

The findings for the research question “Is there a significant difference between the number of behaviors facilitating the English teaching in the experimental and control group?” is given in table 4.

**Table 4.** Mann Whitney U test results for the behaviors facilitating English teaching

	Group	N	Mean ranks	Sum of ranks	U	Z	p
The sum of the desired behaviors frequency	Treatment	26	31,65	823,00	230	-2,176	,030*
	Comparison	27	22,52	608,00			
	Total	53					

\*p<,05

When the data given in Table 4 is examined, it is seen that there is a significant difference between the number of the behaviors facilitating English teaching of the experimental and control groups. The difference is in favor of the experimental group (U=230, p<,05). According to the results the use of Class Dojo is effective in increasing the behaviors facilitating English teaching.

MacLean-Blevins’s (2013) research in which he examines Class Dojo and self-regulation supports this research question’s result. MacLean-Blevins also found out that there was an increase in the desired behaviors of the students. The findings for the second research question which is “ Is there a significant difference between the number of behaviors obstructing English teaching in the experimental and control group” can be seen in table 5...



**Table 5.** Mann Whitney U test results for the behaviors obstructing English teaching

		N	Mean ranks	Sum of ranks	U	Z	p
The sum of the undesired behavior frequency	Treatment	26	29,19	759,00	294	-1,085	,278
	Comparison	27	24,89	672,00			
	Total	53					

p<,05

Table 5 shows that there is no significant difference between the number behaviors obstructing English teaching of experimental and control group (U=310, p>.05). Therefore, it can be said that Class Dojo didn't have an effect on reducing the behaviors obstructing English teaching. The results of Dadakhodjaeva (2017), MacLean-Blevins's (2013) studies show an effect on reducing undesired behaviors.

Third research question is "Is there a significant difference between the post-test results of the treatment and comparison group. The findings are given in the table 6.

**Table 6.** The post-test results of the treatment and comparison group

		F	p	Group	n	Mean	t	df	p
Levene Test	Treatment	.31	.581	Treatment	26	73,08	-,269	51	.789
	Comparison			27	74,48				

p>.05

To check if there is a difference between the test results independent samples t-test is applied. Levene's test for equality of variance is conducted and showed variance is equal (F=.31, p>.05). According to the result of independent samples t-test there is no significant difference between the post-test results of the treatment and comparison group (F=.31, p>.05). Class Dojo isn't different from existing methods in respect for effect on academic success. On the other side the pre-test post-test results of the treatment group can be seen in table 7.

**Table 7.** The pre-test post-test results of the treatment group

		n	Mean	Sd	df	t	p
Treatment Group	Post-test	26	73,08	19,777	25	3,469	,002
	Pre-test	26	61,15	22,195			

p<,05

There is a significant difference between the pre-post-test of the treatment group in favor of post-test (t (25) =3,469, p<.05). The mean of post-test is 73,08 while the mean of pre-test is 61,15.

Table 8 shows the findings of the fifth research question: "Is there a significant difference between the pre-and post-test results of the comparison group

**Table 8.** The pre-test post-test results of the comparison group

		n	Mean	Sd	df	t	p
Comparison Group	Pre-test	27	74,48	18,165	26	3,727	,001
	Post-test	27	64,63	21,967			

p<,05

There is a significant difference between the results of the pre- and post-test of the comparison group in favor of the post-test (t (26) =3,727, p<.05). According to the result, classical behavior tracking has a positive effect on academic success.



#### 4. CONCLUSION

The aim of this study is to examine the effect of the behavior management system (Class dojo) on academic success of the students. When the findings are considered, Class Dojo effects the academic success but not more than existing methods. It also has an effect on increasing the behaviors facilitating English teaching. Both treatment and comparison groups have significant difference between pre- and post-tests. It might be concluded that both Class Dojo and classical behavior tracking have an effect on academic success.

Akdeniz and Tüfekçi (2016) made a research about the evaluation of interactive smart board and tablet aided Biology class. %55 of the teachers have negative views reporting it is difficult for them to control the use of tablets and students deal with out of task activities. The discrepancy might be because of the difference in the type of participants. Traditional teachers mostly think that technology is not required for classroom teaching process. But according to students it is the funny way to learn new concepts. Also, Akdeniz and Tüfekçi (2016)'s study is different from this study in respect for methodology. While our study struggles to investigate the effect, they tried to lighten the views of teachers. So it can be concluded that different perspectives matter on using educational technologies in classroom to manage behaviours.

Just as using class-dojos increases academic success all of the studies that tries to investigate the effect of computer aided teaching show the same result. Dişli (2012), Erkir (2010), Tanner & London (2009), Harmancı (2008) and Başkan (2007) announce that computer aiding has positive meaning for learning. Dişli (2012) investigated that computer aided- teaching is effective on English writing skills. Erkir (2010) has a research on 120 preparatory class students about use of internet in teaching English by translation method. According to Harmancı (2008) computer-assisted English teaching has an effect on 7th grade students' academic success. While all of these studies supporting there is not any research that decline this statement.

On the other hand different from this study, other studies show that computer aided teaching is better than the comparison group activities. Dişli (2012) used an online program for treatment group while the comparison group was taught with classical methods. The treatment group improved more at the end of the implementation process. This study was conducted on 42 pre-service English teachers. A significant difference may be observed because of longer implementation process which is a whole term. Furthermore, the online program tested is also directly related to the skill which is observed in the research. Comparing with traditional methods is not usefull for this educational environment because of not to be proposed in curriculum. Using traditional teaching methods in comparison group is a kind of stating the obvious. This situation can be seen in not only Dişli (2012) but also Erkir (2010), Harmancı (2008), Başkan (2007) Tanner and London (2009). In this study, the difference between computer-aided classroom management and existed methods that are identified as constructivism in curriculum was tried to enlighten. Also, the comparison group was not only taught but also tracked by teacher in traditional ways. This might cause students to organize themselves learning process. So it can be argued that using class dojo is not different from traditional behavior-tracking in respect for enhancing academic success while using constructivism in learning process.

#### 4.1 Recommendations

This research has revealed that Class Dojo has an effect on increasing behaviors facilitating English teaching. The simultaneous use of teacher, student and parent interface of Class Dojo might increase the interaction and collaboration between student, teacher and parent. Therefore, students might get motivated in and out of class. Behaviors accelerating teaching decided by teachers and students might be added to Class Dojo to attract students' attention to those behaviors which may lead an increase in those behaviors.

For future research, Class Dojo's effect on different subjects might be searched. A longer treatment process might be needed. Different participant groups may be chosen. Furthermore, a retention test can be implemented. Teacher and student opinions on Class Dojo might be examined.

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