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THE EFFECT OF FLIPPED CLASSROOM MODEL APPLICATIONS ON HIGH SCHOOL STUDENTS' CLASSROOM ENGAGEMENT AND CLASSROOM LIFE PERCEPTIONS IN TEACHING ENGLISH[1]

Research article

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Abstract

This study investigated the effect of technology-enhanced flipped classroom model applications on high school students' classroom engagement and classroom life perceptions in teaching English. In the study, pretest and posttest experiment-control group quasi-experimental design was used. The experimental group was taught using the flipped method and the control group was taught using the current conventional method. The study was conducted with 45 students attending 9th grade for 8 weeks. The data were collected from classroom engagement inventory and classroom life perception scale quantitatively. According to the findings, there was a significant difference in terms of classroom engagement levels. When the classroom engagement inventory sub-dimensions were examined, significant differences were found in the experimental group in terms of cognitive engagement and affective engagement sub-dimensions. However, there was not a significant difference between the two groups in terms of behavioral engagement–compliance, behavioral engagement-effortful classroom participation and disengagement sub-dimensions. On the other hand, there was a significant difference in terms of classroom life perception levels. When the classroom life perception scale sub-dimensions were examined, significant differences were found in the experimental group in terms of student feelings related to the classroom environment and student feelings related to the teacher sub-dimensions. However, there was not a significant difference between the two groups in terms of student feelings related to other students sub-dimension.

Keywords: Flipped classroom model, classroom engagement, classroom-life perception, high school students

1. Introduction

An educational institution should educate students to meet comtemporary challenges and remove limitations on learning environments. To avoid such limitations, it is crucial to integrate new technologies into current learning and teaching processes (Ahmad, 2010; Means, Toyama, Murphy & Baki, 2013). Due to the technological developments, it has become necessary for today's classroom learners to engage in active learning processes. Many current educational environments are unable to meet the requirements (Roehl, Reddy & Shannon, 2013) that include acquiring social and affective skills (Birgin, Tutak & Turkdogan, 2009) as well as cognitive skills such as using, interpreting and explaining information (Parlar, 2012). Therefore, it has become indispensable to use new and effective methods and techniques in the educational environment. Recent trends in education have triggered various changes and developments. Thus, it has become important to be able to adapt to the pace of the rapidly

changing world and to be able to use and process information efficiently by means of technology.

Rapid developments in science and especially internet technologies provide teachers with new opportunities to design their lessons to support teaching and students' cognitive competencies. One innovation in teaching-learning approaches is blended learning which is the practice of using face-to-face and distance education together to integrate digital technologies into education (Gecer, 2013). Blended learning is an eclectic approach to minimize the limitations of face-to-face and online learning and to combine the positive features of both (Pesen, 2014; Williams, Bland & Christie, 2008). The literature indicates that there are various blended learning methods, one of which is the flipped classroom model (FCM).

FCM is a relatively new way of teaching that reverses the current applied teaching approach of classroom instruction (Alvarez, 2012; Bergmann & Sams, 2012; Brunsell & Horejsi, 2011). Bergmann and Sams (2012) and Lage, Platt and Treglia (2000) introduce FCM as a technique where tasks traditionally carried out in classrooms are completed at home, and students complete homework in class, rather than at home. Students obtain the content individually outside the classroom by watching videos created by the teacher. In this way, there is more time in the classroom to carry out various practices such as problem solving activities (Seaman & Gaines, 2013). Also, differentiation can be seen in the classroom when different students simultaneously engage in various activities and students have the opportunity to get what they need (Anderson, 2007; Huebner, 2010; Long, 2011). The aspects of FCM transform the classroom into an active learning place, in which students can make use of higher-order thinking skills.

Since FCM provides a learning approach based on cooperative learning through technology, especially using online video media, it reduces lecture time and increases the time for in-class activities (DeLozier & Rhodes, 2017) and for active learning, collaboration, learning reinforcement, critical thinking and problem solving (Cunningham, 2016; Yelamanthi & Drake, 2015). The integration of technology into English as a foreign language classroom has led to a shift from a teacher-centered teaching environment to a more learner-centered (Mehring, 2016). In the past few years, various studies have been conducted using FCM in English language learning (Ahmad, 2016; Al-Harbi & Alshumaimeri, 2016; Basal, 2015; Han, 2015; Sam, 2016; Soliman, 2016). The implementation of FCM in English language teaching provides a learning environment where interaction between teachers and students increases; classroom management skills of teachers can be developed (Basal, 2015; Bergmann & Sams, 2015; Sung, 2015); overall English proficiency is improved (Wu, Hsieh & Yang, 2017); students learn to take responsibility for their learning (Han, 2015; Sung, 2015) and various language skills can be developed (Abaeian & Samadi, 2016; Al-Harbi & Alshumaimeri, 2016; Koroglu & Cakır, 2017; Lee, 2017; Li & Suwanthep, 2017; Pudin, 2017). All in all, these studies highlight the critical role of FCM in language instruction.

FCM is gaining popularity in higher education as an innovative instructional model, because it enhances students' learning performance via student-centered activities (Keengwe, Onchwari & Agamba, 2014). FCM was implemented in higher education in the studies conducted by Brewer & Movahedazarhouligh (2018); Lundin et al., (2018) and O'Flaherty & Phillips (2015). University instructors implement FCM to increase student engagement, to improve academic performance and to redesign monotonous courses (O'Flaherty & Phillips, 2015). The adoption of FCM in higher education helps students to perform better in self-regulated learning, thus better learning outcomes can be acquired (Moos & Bonde, 2016). Based on the literature review, the studies on FCM conducted in higher education can be seen, but there was a lack of research in a high school setting.

There are many aspects of FCM that are useful for students. For example, providing video lectures to students who have frequent absences from class helps them to watch instructional content at home (Bergmann & Sams, 2012). Gilboy, Heinerichs and Pazzaglia (2015) state that students' preparation for classes increase their readiness levels. FCM provides students the opportunity to acquire and interpret information themselves outside the classroom. Thus, students can engage more actively in classroom practices (Kim et al., 2014). Flexible learning environment which is independent of time and space, provided by the model, helps students to repeat and to reinforce what they learn via video lectures whenever they want (Fulton, 2012). FCM enables students to take an active role as active learners in the learning process and it creates a more effective educational environment (Talbert, 2012). Thus, FCM helps students to regulate their time of learning at their own pace. Besides these advantages of the model, students' classroom engagement levels increase through the application of FCM (Bergmann & Sams, 2012).

Student engagement is crucial for FCM. Classroom engagement means active involvement of students to the educational processes (Christenson et al., 2012). Studies related to classroom engagement discuss engagement under three dimensions: cognitive engagement, affective engagement and behavioral engagement (Wang, Bergin & Bergin, 2014). If a student participates in classroom practices cognitively, affectively and behaviorally, that student participates in the learning process actively (Kahn, 1990). Cognitive engagement includes learning processes such as meaningful-processing, strategy use, concentration and metacognition. Affective engagement involves the feelings of students such as curiosity, excitement and amusement. Behavioral engagement corresponds to the observable behaviors such as completing assignments on time, asking and answering questions and active participation in teamwork (Skinner, Kindermann & Furrer, 2009).

Most activities in learning and teaching process take place in the classroom. In this respect, the classroom environment directs the learning process (Gulec & Alkıs, 2004). An important concept related to the classroom environment is classroom life. Classroom life refers to a complex structure including the relationship between teachers and students in the classroom, cognitive and social actions taken in the classroom (Shimahara, 1998). Classroom life perception includes the opinions, attitudes and expectations of teachers and students about what is happening in the classroom (Ellison et al., 2000) and the degree of support and interest that students receive from their teachers in the classroom environment (Reynolds & Miller, 2003). Classroom is a learning center where all educational activities are conducted (Cakmak, 2001). In addition, classroom has a great influence on the cognitive and affective development of students and it is the most important social environment that affects students' academic success (Baek & Choi, 2002). In this sense, determining classroom life perceptions of students can be regarded as an important factor for effective implemention of FCM.

The role of flipped learning for teachers is to facilitate the process of learning a language in a classroom setting. As Marshall & DeCapua (2013) indicate that a major benefit for teachers is to provide time and to increase student engagement outside the classroom by moving delivery of content to the out-of-class portion of the course, thus they can devote their time to observation, assessment and feedback. As a result of an extensive international literature survey, there are almost no studies investigating the effect of FCM applications on classroom life perceptions. In national literature, there are almost no studies investigating the effect of FCM applications on classroom engagement and classroom life perceptions in English courses at the high school level. It is thought that great contribution can be made to the literature by the obtained data, and the findings can shed light to the future researchers. The purpose of the present study is to investigate the effect of FCM applications on high school students'

classroom engagement and classroom life perceptions in teaching English. To this end, answers to the following questions were sought:

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

2. Is there a significant difference between pretest-posttest classroom life perception scores of students in the control and experimental group?

2. Method

2.1. Research Design

In the present study, quasi-experimental design with pretest-posttest control group was employed. Designs where subjects are not randomly allocated to groups, but experimental and control groups are randomly chosen are called quasi-experimental design (Fraenkel & Wallen, 2012). Since study groups are chosen from ready classes, one existing class is chosen as the experimental class, and other class is determined as the control group.

2.2. Study Groups

The sample of the study consists of ninth grade students attending a high school in Turkey. The classes were randomly assigned to the control and experimental groups. A total of 45 students participated in the study. The experimental group consisted of 25 students, while the control group consisted of 20 students.

2.3. Data Collection Tools

"Classroom Life Perception Scale" and "Classroom Engagement Inventory" were used to collect data.

2.3.1. Classroom Life Perception Scale

As a data collection instrument, "Classroom Life Perception Scale" was used in the study with the aim of determining the classroom life perception levels of students towards English lesson. The scale developed by Aycicek and Yanpar Yelken (2019) consists of 28 items as a five-point Likert-type instrument, ranging from strongly disagree (1) through strongly agree (5). The scale consists of three dimensions, namely "Student Feelings Related to the Classroom Environment", "Student Feelings Related to the Teacher" and "Student Feelings Related to Other Students". The Cronbach alpha reliability coefficient of the scale was found to be .93. In the current study, reliability coefficients related to the dimensions of the scale were found as follows: "Student Feelings Related to the Classroom Environment" =.89, "Student Feelings Related to the Teacher"= .81, and "Student Feelings Related to Other Students" =.78. The Cronbach alpha is used to determine the reliability of the research instrument. According to Hair et al. (2010), a Cronbach alpha value of more than .70 is acceptable and sufficient. The value of reliability coefficient in this study is .93, suggesting that the research instrument is reliable.

2.3.2. Classroom Engagement Inventory

In the study, "Classroom Engagement Inventory" was used to collect data to determine the classroom engagement levels of students in the control and experimental groups. The inventory developed by Wang, Bergin and Bergin (2014) and adapted to Turkish by Sever (2014), consisted of 23 items and five sub-factors; "Cognitive Engagement", "Affective Engagement", "Behavioural Engagement-Compliance, "Behavioral Engagement-Effortful Classroom Participation", and "Disengagement". According to validity and reliability test results, the

Cronbach Alpha coefficients are as follows; "Affective Engagement"=.87, "Behavioral Engagement-Compliance"=.82, "Behavioural Engagement-Effortful Classroom Participation"= .74, "Cognitive Engagement"= .89, and "Disengagement"=. 69. The reliability of the scale has been recalculated for this study and the Cronbach alpha coefficient of reliability has been found as follows; "Affective Engagement" .88, "Behavioral Engagement-Compliance" .84, "Behavioural Engagement-Effortful Classroom Participation" .79, "Cognitive Engagement" .89, and "Disengagement". 73.

2.4. Data Analysis

After obtaining the pretest-posttest scores of the experimental and control groups, the data were evaluated and comparisons were made between the two groups. The normality of the distribution was tested by employing the Shapiro-Wilk test. This test is applied for study groups involving a sample size of 50 and less (Buyukozturk, 2018). The data related to the variables were found not to differ significantly from the normal distribution ($p>.05$). Therefore, paired sample t tests were run to examine the effect of FCM on the students' classroom engagement and classroom life perceptions within group (Kalaycı, 2014).

2.5. Implementation Process

In the current study, students were informed about FCM in detail. A detailed application plan and video lectures based on current regular curriculum were prepared. These videos were shared with students in the experimental group via the Edpuzzle educational platform. This particular application was chosen, because it is free and easy to use on electronic devices for both teachers and students. In addition, the platform facilitating student-teacher interaction provided a report on which students watched the video, how many times they watched it, when they watched it and how they performed on any of the quiz questions for which the teacher required an answer. The duration of the video lectures was determined based on the recommendations given in the literature. Wan (2014) and Sarawagi (2014) stated that short videos (not more than 15 minutes) are beneficial to provide students' understanding. In the current study, the videos lasted for a maximum of 13 minutes. A total of 12 videos were sent to the students in the experimental group through the Edpuzzle platform, and a 15-day period was given to watch the videos. A screenshot of the videos is presented in Figure 1.

Figure 1. A screenshot related to videos

Both groups in the study followed the same curriculum, but the experimental group was taught using the flipped method and the control group was taught using the current conventional method. During the eight week session, students in the experimental group watched the teacher-made videos prepared by the instructor and actively engaged in common meaningful activities outside the classroom by means of online learning community. In class, they were divided into different groups (6-8 people) to perform activities related to the subject they watched at home. Groups were determined in a heterogeneous way so as to have students with different capacities within the same group. Students worked either in small groups or individually at an appropriate pace in some sessions. The control group was instructed using the current regular curriculum, based on face-to-face instruction and constructivist approach. The two groups were taught by the same instructor and the content was basically identical for both groups. A class session took 40 minutes.

In out-of-class activities for the experimental group, students watched videos prepared on Edpuzzle platform. In-class activities were as follows; question-answer activities, discussion activities, subject-based activities, group studies, kahoot application activities, video-based activities, individual activities, activities based on mind mapping method, task-based activities and drama activities. In the sessions of control group, the course started with checking homework, then the instructor lectured by using conventional teaching methods. Students participated in activities individually or in groups. Basic activities in the sessions were whole class discussion, story completion activity, reading and drama activities. In both groups, interactive and collaborative learning activities were focused to encourage students to show more efforts and involvement in learning process. Both groups were evaluated by the same written and oral exams over the semester.

Figure 2. Activities in control and experimental group

3. Results

3.1. Results Related to the First Sub-Problem

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

Descriptive statistics results for the pretest-posttest scores obtained by the control group were examined. The results are given below in Table 1.

Table 1. Results for the pretest and posttest classroom engagement scores of students in the control group

Sub-dimensions		Pretest		Posttest	
	N	$\bar{X}$	S	$\bar{X}$	S
Affective Engagement	20	15.20	2.95	15.00	3.01
Behavioral Engagement - Compliance	20	11.75	3.08	12.10	3.01
Behavioral Engagement - Effortful Classroom Participation	20	7.05	1.73	8.25	2.77
Cognitive Engagement	20	14.95	3.02	15.70	2.64
Disengagement	20	7.10	1.77	8.30	2.75

When Table 1 is analyzed, it is seen that there are differences in arithmetic mean scores of students in the control group regarding the sub-dimensions. The posttest scores are higher than pretest scores in *cognitive engagement*, *behavioral engagement–compliance*, *behavioral engagement-effortful classroom participation* and *disengagement* sub-dimensions except *affective engagement* sub-dimension. Based on these results, the obtained data were analyzed using paired samples t-test in order to determine whether there is a significant difference. The results are given below in Table 2.

Table 2. Paired Samples t-test results for the pretest and posttest classroom engagement scores of students in the control group

Sub-dimensions	t	df	p
Pretest Affective Engagement - Posttest Affective Engagement	0.228	19	0.822
Pretest Behavioral Engagement - Compliance – Posttest Behavioral Engagement-Compliance	-0.344	19	0.734
Pretest Behavioral Engagement - Effortful Classroom Participation – Posttest Behavioral Engagement - Effortful Classroom Participation	-1.777	19	0.092
Pretest Cognitive Engagement - Posttest Cognitive Engagement	-1.009	19	0.325
Pretest Disengagement - Posttest Disengagement	-1.842	19	0.081

As seen in Table 2, it is revealed that there was no significant difference between the pretest and posttest scores of the control group in all sub-dimensions ($p>.05$).

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

Descriptive statistics results for the pretest and posttest scores obtained by the experimental group were examined. The results are given below in Table 3.

Table 3. Results for the pretest and posttest classroom engagement scores of students in the experimental group

Sub-dimensions		Pretest		Posttest	
	N	$\bar{X}$	S	$\bar{X}$	S
Affective Engagement	25	15.32	3.17	21.16	3.39
Behavioral Engagement - Compliance	25	11.24	2.29	10.88	2.59
Behavioral Engagement - Effortful Classroom Participation	25	7.40	1.44	8.12	1.81
Cognitive Engagement	25	15.72	2.75	22.52	2.20
Disengagement	25	7.36	1.44	8.08	1.82

As can be seen in Table 3, there are differences in arithmetic mean scores of students in the experimental group regarding the sub-dimensions. The posttest scores are higher than pretest scores in *cognitive engagement, behavioral engagement-effortful classroom participation, disengagement and affective engagement* sub-dimensions except *behavioral engagement-compliance* sub-dimension. Based on these results, the obtained data were analyzed using paired samples t-test in order to determine whether there is a significant difference. The results are given below in Table 4.

Table 4. Paired Samples t-test results for the pretest and posttest classroom engagement scores of students in the experimental group

Sub-dimensions	**t**	**df**	**p**
Pretest Affective Engagement - Posttest Affective Engagement	-8.107	24	0.000
Pretest Behavioral Engagement - Compliance – Posttest Behavioral Engagement-Compliance	0.489	24	0.630
Pretest Behavioral Engagement - Effortful Classroom Participation – Posttest Behavioral Engagement - Effortful Classroom Participation	-1.464	24	0.156
Pretest Cognitive Engagement – Posttest Cognitive Engagement	-10.577	24	0.000
Pretest Disengagement – Posttest Disengagement	-1.445	24	0.161

According to Table 4, while there was no significant difference in *behavioral engagement–compliance, behavioral engagement-effortful classroom participation* and *disengagement* sub-dimensions ($p>.05$), significant differences were found in *affective engagement* ($t_{(24)}=-8.107$, $p<.05$) and *cognitive engagement* ($t_{(24)}=-10.577$, $p<.05$) sub-dimensions. When the descriptive statistics results in Table 3 were examined in order to determine whether significant differences occur in favor of pretest or posttest scores, significant differences were found in *cognitive and affective engagement* sub-dimensions in favor of posttest scores.

3.2. Results Related to the Second Sub-Problem

Is there a significant difference between pretest and posttest classroom life perception scores of students in the control group?

Descriptive statistics results for the pretest and posttest scores obtained by the control group were examined. The results are given below in Table 5.

Table 5. Results for the pretest and posttest classroom life perception scores of students in the control group

Sub-dimensions	**Pretest**			**Posttest**	
	N	$\bar{X}$	**S**	$\bar{X}$	**S**
Student Feelings Related to the Classroom Environment	20	23.95	5.18	23.55	3.50
Student Feelings Related to Other Students	20	17.00	3.71	18.55	3.17
Student Feelings Related to the Teacher	20	20.90	5.94	23.00	4.75

According to Table 5, there are differences in arithmetic mean scores of students in the control group regarding the sub-dimensions. The posttest scores are higher than pretest scores in *student feelings related to the teacher and student feelings related to other students* sub-dimensions except *student feelings related to the classroom environment* sub-dimension. Based

on these results, the obtained data were analyzed using paired samples t-test in order to determine whether there is a significant difference. The results are given below in Table 6.

Table 6. Paired Samples t-test results for the pretest and posttest classroom life perception scores of students in the control group

Sub-dimensions	t	df	p
Pretest Student Feelings Related to the Classroom Environment – Posttest Student Feelings Related to the Classroom Environment	0.346	19	0.733
Pretest Student Feelings Related to Other Students – Posttest Student Feelings Related to Other Students	-1.292	19	0.212
Pretest Student Feelings Related to the Teacher – Posttest Student Feelings Related to the Teacher	-1.203	19	0.244

According to Table 6, it is seen that there was no significant difference between the pretest and posttest scores of the control group in all sub-dimensions (p>.05).

Is there a significant difference between pretest and posttest classroom life perception scores of students in the experimental group?

Descriptive statistics results for the pretest and posttest scores obtained by the experimental group were examined. The results are given below in Table 7.

Table 7. Results for the pretest and posttest classroom life perception scores of students in the experimental group

Sub-dimensions		Pretest		Posttest	
	N	$\bar{X}$	S	$\bar{X}$	S
Student Feelings Related to the Classroom Environment	25	23.48	4.90	32.16	5.29
Student Feelings Related to Other Students	25	17.16	3.12	18.52	2.65
Student Feelings Related to the Teacher	25	20.16	4.33	31.88	5.29

The data given in Table 7 show that there are differences in arithmetic mean scores of students in the experimental group regarding the sub-dimensions. The posttest scores are higher than pretest scores in all sub-dimensions. Based on these results, the obtained data were analyzed using paired samples t-test in order to determine whether there is a significant difference. The results are given below in Table 8.

Table 8. Paired Samples t-test results for the pretest and posttest classroom life perception scores of students in the experimental group

Sub-dimensions	t	df	p
Pretest Student Feelings Related to the Classroom Environment – Posttest Student Feelings Related to the Classroom Environment	-5.716	24	0.000
Pretest Student Feelings Related to Other Students – Posttest Student Feelings Related to Other Students	-1.675	24	0.107
Pretest Student Feelings Related to the Teacher – Posttest Student Feelings Related to the Teacher	-8.008	24	0.000

On the basis of the data presented in Table 8, it is seen that while there was no significant difference in *student feelings related to other students* sub-dimension (p>.05), significant

differences were found in *student feelings related to the classroom environment* ($t_{(24)}$=-5.716, p<.05) and *student feelings related to the teacher* ($t_{(24)}$=-8.008, p<.05) sub-dimensions. When the descriptive statistics results in Table 7 were examined in order to determine whether significant differences occur in favor of pretest or posttest scores, significant differences were found *in student feelings related to classroom environment* and *student feelings related to the teacher* sub-dimensions in favor of posttest scores.

4. Discussion, Conclusion and Recommendations

This study investigated whether there is a significant difference in the scores of students in the experimental and control groups in terms of classroom engagement levels. According to the results, significant differences were found in favor of the experimental group in terms of *cognitive engagement* and *affective engagement* sub-dimensions. On the contrary, there was not a significant difference in both groups in terms of *behavioral engagement-compliance*, *behavioral engagement-effortful classroom participation* and *disengagement* sub-dimensions.

There have been many studies investigating the effect of flipped classroom applications on classroom engagement. These studies (Avery et al., 2018; Bormann, 2014; Chen et al., 2014; Cronhjort, Filipsson & Weurlander, 2018; Donovan & Lee, 2015; Eichler & Peeples, 2016; Enfield, 2013; Gilboy et al., 2015; Gross et al., 2015; Hung, 2015; McLaughlin et al., 2014; Mok, 2014; Rotellar & Cain, 2016; Smallhorn, 2017; Vaughan, 2014; Wihnan, 2015) reveal that classroom engagement levels increase when students are instructed with FCM. Based on the studies conducted by Clark (2013) and Lee and Wallace (2018), the classroom engagement levels of students instructed with FCM was higher than the students instructed with the current regular curriculum. Similarly, the results of a study conducted by Jamaludin and Osman (2014) showed that cognitive, affective and behavioral engagement levels of students instructed with FCM increased. According to the study conducted by Steen-Utheim and Foldnes (2018), at the university level, the classroom engagement levels of students instructed with FCM was higher than the students instructed with the current regular curriculum in a mathematics course. In the study conducted by Subramaniam and Muniandy (2017), at the high school level, a Computer Science course curriculum was designed in accordance with FCM, and the effect of the model on classroom engagement was investigated. The results showed that the classroom engagement levels of students in the experimental group were higher than those of the control group. In the study by Danker (2015), it was concluded that FCM increased students' classroom engagement level, helped students to get the opportunity to learn individually as a result of peer to peer communication between teachers and students and to develop their curiosity and high-level thinking skills through an effective learning environment. Another study conducted by Deslauriers et al. (2011), at the university level, reported that flipped courses enhanced students' classroom engagement levels. Based on the findings of these studies, it can be concluded that students' cognitive, affective and behavioral engagements in learning process contributes to their academic advancement and creates a supportive learning environment (Reeve, 2013). Thus, FCM enhances classroom engagement levels of learners in classroom practices.

The current study investigated whether there is a significant difference in the scores of students in the experimental and control groups in terms of classroom life perception levels. According to the results, significant differences were found in favor of the experimental group in terms of *student feelings related to the classroom environment* and *student feelings related to the teacher* sub-dimensions. On the contrary, there was not a significant difference in both groups in terms of *student feelings related to other students.*

In the present study, a significant difference was found in the scores of students in the experimental group in terms of *student feelings related to the classroom environment*. This finding indicates that the feelings of students in the experimental group based on the classroom environment are more positive than those in the control group. Students learn better if they consider the learning environment as positive and supportive. Such an educational environment encourages students. In addition, students are provided with learning opportunities in a positive classroom environment, which contributes to the development of their social skills (Young, 2014).

In the sub-dimension of *student feelings related to the teacher*, there was a significant difference in the scores of students in the experimental group. In this regard, it can be said that there has been a positive change in students' opinions about their teacher through the application of FCM. It is noteworthy to note that this teaching model affects the feelings of the students related to their teacher positively.

In the study, it was concluded that there was no significant difference in the scores of students in the experimental and control groups in terms of *student feelings related to other students* sub-dimension. This finding points out that students in the experimental and control groups have similar feelings related to their classmates. In this respect, when the items in the sub-dimension of *student feelings related to other students* are examined, it is seen that there is no difference between the two groups in terms of cooperation, exchanging ideas, establishing effective communication and respectful relations. Based on these results, it can be concluded that combining current instructional methods with online learning can be crucial in providing high quality education to learners.

Based on the results and discussion of this study, the following recommendations can be offered for practitioners.

- Workshops and conferences should be held to encourage the widespread adoption of FCM.
- An introductory session about FCM needs to be held for students instructed with the model for the first time. Thus, students should be informed about its advantages.
- If instructors who use FCM in teaching process are not proficient in the use of technology, they should be supported by in-service trainings to get better outcomes.

As for future studies, a similar study can be conducted on a different sample with different characteristics. There is a need for more flipped classroom studies focusing on English course implementations. Future research should evaluate high school students' perceptions of adopting the flipped classroom qualitatively.

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