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Research Article

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The Effect of Flipped Classroom on English Preparatory Students' Autonomous Perceptions and Attitudes Towards Learning Grammar

Tolga Cay [1]*, Fazilet Karakus [2]

[1] Cag University, Mersin, TURKEY
[2] Mersin University, Mersin, TURKEY
***Corresponding Author:** tolgacay@cag.edu.tr**

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ABSTRACT

The aim of this study is to investigate the effects of flipped classroom on students' autonomous learning perceptions and students' attitudes towards learning English grammar. In this study, an embedded design, one of the mixed research methods, was employed to determine the effect of the flipped classroom on the English learning process. The study group consisted of 24 preparatory students. Quantitative data of the study was obtained through autonomous learning perception scale and attitude scale towards learning English grammar. Qualitative data was collected by an open-ended questionnaire developed by the researcher in order to describe the students' views on the learning process of the flipped classroom. The quantitative results of the study showed a statistically significant difference between pre- and post-test scores of the experimental group. In addition, quantitative results showed that the opinions of the students mostly focus on the effect of the flipped classroom on efficiency in learning, time management and motivation.

Keywords: flipped class, autonomous learning, grammar learning, foreign language, autonomy

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INTRODUCTION

In today's modern world, learning foreign languages has become a necessity for intercultural communication. This situation has brought along many language learning methods and techniques. Although there are many methods and techniques used in foreign language learning environments, time adequacy for classroom activity and interaction is considered to be a problem. Practices made to solve the time problem were generally limited to make-up lessons. However, in the developing world, new methods and techniques have emerged with the effect of technology in the field of education as in every field. One of them, the flipped classroom model (FCM), saves the teacher time to provide classroom activities and feedback. The flipped class bears this name because it changes the location of operations in this process. Pedagogical definition is a method in which the transfer of knowledge is shifted outside the classroom and social and active learning activities are carried out in the classroom. As we know, each student is an individual and each individual's needs, strengths and weaknesses, and learning speeds are different. FCM personalizes learning and makes the course student-centered at these points.

In this method, remembering and understanding, which are the lowest steps of Bloom's (1956) taxonomy, are the steps that students are responsible for in their time. Based on this, it provides autonomy and personalization of learning. On the other hand, in order to reach the steps of "practice, analyze, evaluate and create "that require more effort and time despite the "remembering and understanding "steps, which are at the top steps in Bloom's (1956) taxonomy, and to internalize their learning, more time can be allocated. In the flipped classroom, students can actively participate in classroom activities, as they have already mastered the subject.

> "This is the effective integration of technology into education without destroying the human element. The teacher is always there to guide, inspire and motivate the students" (Komec, 2018, p. 13).

Moreover, with the increase in popularity of distance and open education and the interest of students in recent years, FCM has also been integrated into the distance education process and has enabled the classroom dimension of the learning to be carried out online. Walsh (2014) suggested in his research that with FCM, both dimensions of the method can be applied online, out-of-class and in-class. Marshall (2014) conducted his classes online with FCM similarly in distance education university classrooms. From this point of view, studies and exercises should be carried out to improve the higher level skills of the students

in the taxonomy of the teacher in the classroom and the digital classroom rather than the in-class and out-of-class effects of the method. It is expected that time will be devoted to low-level skills in the learning process outside the classroom.

In the literature, it is observed that there are a limited number of studies on the effects of flipped classroom on autonomous learning (Al Wahaibi & Hashim, 2018; Cai, 2017; Cibik, 2017; Komec, 2018; Zainuddin & Perera, 2017). Cibik (2017) conducted a study to examine the effect of FCM on students' learning autonomy and their attitudes towards FCM. As a result of the research, the students made positive comments about the method and it was observed that the method increased the learner autonomy and developed the learning process. Zainuddin and Perera (2017) investigated the effect of FCM and traditional classroom method on student autonomy. At the end of the research, the researchers concluded that the students studying with FCM were more competent in coping with online tasks and activities and they were able to control their own learning outcomes. In addition, a better peer interaction was observed between FCM and students and autonomous learning skills developed. At the same time, the method positively affected the intrinsic motivation of the students. It was observed that the students were more motivated thanks to the videos they watched before the lesson, the self-regulated learning environment, classroom activities, and peer interaction. Cai (2017) examined the effects of FCM-based autonomous learning model on visual, auditory and verbal teaching in foreign language teaching. As a result of the research, it was seen that this model facilitates the development of students' listening comprehension and the development of oral and language proficiency. The researcher suggested that this model has more positive effects on listening and speaking skills when compared with the traditional model. Komec (2018) conducted a study with high school students in order to examine students' perceptions of FCM in terms of autonomous learning, development of language skills, motivation and technological approaches. At the end of the study, it was observed that the students displayed a positive attitude towards the method in language learning, and the development of autonomous learning and language skills was also observed. The method also positively affected the students' approach to technology.

When the studies on attitude towards learning English grammar were examined, no research on the effect of FCM was found, and it was observed that there was a limited number of studies on attitude towards skills (Fahady, 2019; Loewen et al., 2009). Loewen et al. (2009) investigated foreign language students' beliefs about grammar teaching and error correction. As a result of the research, it was concluded that the grammar of foreign language students is a foundation that they can use the knowledge they have learned and helps their speaking, writing and reading skills. Fahady (2019) conducted a study to investigate students' attitudes towards learning English grammar. The research consists of two stages. The first step is to investigate different studies on the relationship between attitude and foreign language learning. In the second stage, the researcher examines the students' attitudes towards learning English grammar from various angles. As a result of the research, it was seen that most of the students had a positive feeling, perception and behavior towards grammar lessons. Considering the studies examining FCM's attitudes towards autonomous learning and learning English grammar, the study has been put forward considering that the number of studies is limited and such research is needed.

Considering the current state of education in schools, it is necessary to try new methods in accordance with current educational philosophies. In today's world, we need to adopt a student-centered approach and develop our students' autonomous learning skills. Previous studies show that flipped learning environments provide opportunities for autonomous, personalized and active learning, with the help of technology.

From this point of view, the purpose of this research is to investigate the effects of the flipped classroom on prep students' autonomous learning and students' attitudes towards learning English grammar, and students' views on the flipped classroom. The study is important in terms of being a source for research and applications in education in terms of teaching English with the FCM.

Problem Statement

The problem statement of the study is that "is there a significant difference between the students' perceptions of autonomous learning and their attitudes towards learning English grammar between the experimental group in which English grammar teaching was applied with the FCM and the control group in which the English grammar teaching was applied by the current program? What are the students' views on FCM?" The sub-problems of the study based on this statement can be listed, as follows.

Sub-problems

1. Is there a significant difference between the autonomy perceptions pre- and post-test scores of the students in the FCM and the control group students in the current program?
2. Is there a significant difference between the pre- and post-test scores of the students in the FCM applied to the experimental group and the control group students who were taught by the current program towards learning English grammar?
3. What are the views of the experimental group students on which the FCM was applied regarding the effect of the FCM on their autonomy perceptions and attitudes towards the English grammar lesson?
4. What are the views of the experimental group students on the flipped classroom on learning English grammar of the FCM?

METHOD

Research Model

In this study, one of the mixed research methods, nested design was employed to determine the effect of the FCM on the English learning process. In this design, one of the qualitative or quantitative methods stands out more than the other, but data obtained by alternative methods are also needed to support, generalize or explain the obtained data (Yildirim & Simsek, 2013, p. 356). In order to expand the data obtained within the scope of this research, mixed method was used, quantitative and qualitative data were collected, analyzed and interpreted by combining them separately (Greene et al., 1989). Greene et al. (1989) define extension as

> "the aim of a method outcome to improve other method outcomes that are widely studied to include sampling and application as well as measurement decisions."

Creswell (2003) the basis of this design is that

> "a single data set is not enough, different questions must be answered, and each question type requires different data types."

Researchers use this design when they need to contain qualitative or quantitative data to answer a research question in a largely quantitative or qualitative research. This design is particularly useful when a researcher needs to add a qualitative component to a quantitative design, such as in an experimental or correlational design.

Within the scope of this research, a nested pattern was used for the reasons of organizing the application process, improving the data collection process, testing the application process, and explaining the reactions of the participants to participate in the experiment. In this context, before the experimental process, in order to reveal the existing situation and organize the experimental process, participants were interviewed before the process, after this interview, pre-tests were applied to the participants and in the experimental process, the participants were interviewed again in order to organize the process and measure the reactions. post-tests were applied and a meeting was held to reveal their views on the process.

In the quantitative dimension of the research, a quasi-experimental model with experimental-control groups, one of the experimental designs, was applied. In this regard, autonomy perception scale and attitude scale towards learning English grammar were applied to the experimental and control groups as a pre-test. After the application, autonomy perception scale and scale of attitude towards learning English grammar were applied to the experimental and control groups as a post-test. In the qualitative dimension of the study, an open-ended question form was applied before the application, during the application process and at the end of the application in order to describe the students' views on the learning processes of the FCM.

Study Group

This research was carried out with students from different departments who are studying in two different preparatory classes of a private higher education institution in the Mediterranean region in the spring semester of the 2019-2020 academic year. Easily accessible situation sampling was used to determine the sample. Because in this method, the researcher chooses a situation that is close and easy to access (Yildirim & Simsek, 2005). The number of students participating in the study is equally distributed in the experimental and control groups. From this point of view, there were 12 students in experimental group and also in control group, so there were 24 students in this study. In the study, gender, and faculty were not used as variables.

Data Collection Tools

The measurement tools that will be used to collect data from students within the scope of the research are, as follows:

1. Autonomy perception scale (APS) to determine students' perception of autonomy,
2. The attitude scale for learning English grammar (TASLEG) to determine students' attitudes towards learning English grammar, and
3. Open-ended question form will be applied to get the views of the students in the experimental group about the flipped class.

As a result of the application of the APS used in the study in the experimental and control group of 24 people, the Cronbach's alpha values related to these applications; while the pre-test Cronbach's alpha internal consistency coefficient was 0.914, the post-test Cronbach's alpha internal consistency coefficient was determined as 0.922. While the lowest score that can be obtained from the scale is 30, the highest score is 150.

As a result of the application of TASLEG in the experimental and control group of 24 people used within the scope of the study, the Cronbach's alpha values related to these applications; while the internal consistency coefficient of the pre-test first dimension was 0.827, the internal consistency coefficient for the pre-test second dimension was 0.896, and the post-test first dimension Cronbach's alpha internal consistency coefficient was 0.903, while the internal consistency coefficient for the post-test second dimension was 0.893. Although the coefficients obtained in both scales and measurements are small in number of the study group, the fact that the study group is above .70 (Alpar, 2014, p. 439) indicates that the analyses to be made in this research will give reliable results. While the lowest score that can be obtained from the scale is 16, the highest score is 80.

The open-ended question form developed by the researcher was created to get the views of the participants in the experimental group about FCM supported English grammar teaching. While preparing the form, the literature was searched and draft questions were created for FCM. Then, expert opinions were taken from one lecturer in the field of curriculum and instruction and two lecturers in the field of English language education. Final arrangements have been made in line with the feedback they have given and made ready for use in research. Open-ended questions form is one of the data collection tools used to collect qualitative data. It is a technique that is referred to as "open-ended questions" or "open survey ended survey" in the literature and aims to collect written opinions of the participants about the research (Akdag & Coklar, 2009). To learn the views of the participants in the experimental group about FCM-assisted course instruction, the students answered the open-ended questions form created by Google Forms online.

Data Analysis

Data analysis related to quantitative dimension

In this study, the distribution was examined to test whether there was a difference between the experimental group in which FCM was applied and the control group students to which the current teaching was applied, in terms of their autonomy perceptions and attitudes towards learning English grammar. The distribution was found to be normal and two-way ANOVA analysis was applied for mixed measurements from parametric tests.

In the study, two-way analysis of variance was applied for mixed measurements in order to provide the equations of the experimental and control groups in terms of different variables before the experimental procedure. As a result of the analysis, the arithmetic mean (X), standard deviation (s), and significance levels (p) of the groups were examined to see if they were equal or not.

The data collected from the participants in the experimental group through the open-ended question form were analyzed using content analysis technique, one of the analysis techniques included in qualitative research methods.

The normality test results regarding the autonomy perceptions pre-tests of the experimental and control groups are shown in **Table 1**.

Table 1. Normality test results regarding the autonomy perceptions pre-tests of the experimental and control groups

Group	Shapiro-Wilk			Skewness & kurtosis descriptive statistics			
	Sta.	df	p	Skewness	S.E.	Kurtosis	S.E.
Experimental	.896	12	.140	-.659	.637	-.894	1.232
Control	.965	12	.847	-.204	.637	.558	1.232

Table 2. Normality test results of the autonomy perception post-tests of the experimental and control groups

Group	Shapiro-Wilk			Skewness & kurtosis descriptive statistics			
	Sta.	df	p	Skewness	S.E.	Kurtosis	S.E.
Experimental	.926	12	.340	-.304	.637	-1.321	1.232
Control	.971	12	.918	.549	.637	1.319	1.232

Table 3. Normality results of the pre-tests of the TASLEG of the experimental and control groups

Group	Shapiro-Wilk			Skewness & kurtosis descriptive statistics			
	Sta.	df	p	Skewness	S.E.	Kurtosis	S.E.
Experimental	.949	12	.628	.386	.637	-.793	1.232
Control	.967	12	.873	.407	.637	-.473	1.232

Table 4. Normality results of the post-tests of the TASLEG of the experimental and control groups

Group	Shapiro-Wilk			Skewness & kurtosis descriptive statistics			
	Sta.	df	p	Skewness	S.E.	Kurtosis	S.E.
Experimental	.951	12	.649	-.398	.637	-.361	1.232
Control	.960	12	.781	.403	.637	.831	1.232

When **Table 1** is examined, it is observed that there is no significant difference in the pre-test scores from the APS of the students in the experimental group (autonomy perception pre-test=.140, p>.05).

When **Table 1** is examined, it is observed that there is no significant difference in the pre-test scores from the APS of the students in the control group (autonomy perception pre-test=.847, p>.05).

As seen from **Table 2**, it is observed that there is no significant difference in the post-test scores from the APS of the students in the experimental group (autonomy perception post-test=.340, p>.05).

When **Table 2** is examined, it is observed that there is no significant difference in the post-test scores from the APS of the students in the control group (autonomy perception post-test=.918, p>.05).

In the normality analysis, skewness (Z_skewness) and kurtosis (Z_kurtosis) values were also taken into account at these independent variable levels. Kalayci (2005, p. 212) criteria

> "with a 95% probability of being between -1.96 and +1.96; based on a 99% probability, it ranges from -2.58 and +2.58, indicating that the normality prerequisite is met in these measurements."

In this context, the experimental group showed that the skewness (Z_skewness=-.659) and kurtosis (Z_kurtosis=-.894) values of the experimental group the APS pre-test showed normal distribution, while the post-test showed standard skewness (Z_skewness=-.304) and standard kurtosis (Z_kurtosis=-.1321) values show a normal distribution.

The control group showed that the skewness (Z_skewness=-.204) and kurtosis (Z_kurtosis=.558) values of the control group the APS pre-test showed normal distribution, while the post-test showed standard skewness (Z_skewness=.549) and standard kurtosis (Z_kurtosis=-.1319) values reveal that it shows a normal distribution.

When **Table 3** is examined, it is seen that there is no significant difference in the pre-test scores obtained from the TASLEG of the participants in the experimental group (attitude towards learning English grammar pre-test=.628, p>.05).

When **Table 3** is examined, it is seen that there is no significant difference in the pre-test scores of the participants in the control group obtained from the TASLEG (attitude towards learning English grammar pre-test=.873, p>.05).

When **Table 4** is examined, it is seen that there was no significant difference in the post-test scores of the participants in the experimental group at the TASLEG (attitude towards learning English grammar post-test=.649, p>.05).

When **Table 4** is examined, it is seen that there is no significant difference in the post-test scores of the participants in the control group at the TASLEG (attitude towards learning English grammar post-test=.781, p>.05).

The experimental group showed that the skewness (Z_skewness=.386) and kurtosis (Z_kurtosis=-.793) values of the pre-test of the TASLEG showed normal distribution, while the post-test showed that the standard skewness (Z_skewness=-.398) and the standard kurtosis (Z_ kurtosis=-.361) reveals that the values show a normal distribution.

The control group showed that the skewness (Z_skewness=.407) and kurtosis (Z_kurtosis=-.473) values of the TASLEG pre-test showed normal distribution, while the post-test showed that the standard skewness (Z_skewness=.403) and standard kurtosis (Z_kurtosis=.831) values were normal reveals that it shows distribution.

After the normality analysis, whether the variances of the data obtained for the 1st and 2nd sub-problems are homogenous or not was tested with the Levene's statistics. The levene statistics results are given in **Table 5**.

When **Table 5** is examined, it was concluded that the variances were homogeneously distributed for all measurements made. The significance level of Levene's test results of all is p>.05 (Levene: 1.017:.324; Levene:.955:.339; Levene:2.623:.120; Levene:3.781:.065).

Table 5. Variance homogeneity test results

Levene statistics		df1	df2	Sig.
Autonomy perception pre-test	1.017	1	22	.324
Autonomy perception post-test	.955	1	22	.339
Pre-test attitude towards learning English grammar	2.623	1	22	.120
Post-test attitude towards learning English grammar	3.781	1	22	.065

Table 6. Reliability coefficient between encoders

Question number	Reliability coefficient between encoders
1	0.85
2	0.91
3	0.89
4	0.92
5	0.87
6	0.85
7	0.90
Student diary	0.89

Data analysis related to qualitative dimension

The data obtained from open-ended question form in which the participants in the experimental group described their views about FCM. Co-coder in the research is a lecturer who has previously done qualitative studies. The coding reliability of the data collected in the research was applied employing the Miles and Huberman (1994) formula (Reliability=Consensus/(Consensus+Disagreement)*100).

> "The fact that coding between coders is at least 80% indicates that the research results are reliable" (Miles & Huberman, 1994; Patton, 2002).

As reliability coefficient between coders for the questions in Miles and Huberman's (1994) open-ended question form was above .80 (80%), it was concluded that consensus between coders was reliable (**Table 6**).

FINDINGS

In the first sub-problem, two-way ANOVA was performed for mixed measurements in order to reveal whether there is a significant difference between the students who are taught with the FCM and the students who are taught according to the current program. The pre-and post-test average scores and standard deviation values of the students in the experimental and control groups are presented in **Table 7**.

When **Table 7** is analyzed, while the average scores of the experimental group students using FCM in the English grammar course were X_a=93.50 before the application, this value was X_a=114.66 after the application. The control group students who did not use FCM in the English grammar course had X_a=87.50 before the application, while this value was X_a=89.83 after the application. According to this, an increase was observed in the mean scores of the experimental group students in which the FCM application was applied. In the same way, a rise was seen in the average scores of the control group students who did not apply the FCM application.

When **Table 7** is examined, while the average score of the experimental group students using FCM in the English grammar course was X_a=93.50 before the application, this value was X_a=114.66 after the application. The control group students who did not use FCM in the English grammar course had X_a=87.50 before the application, while this value was X_a=89.83 after the experimental process. Accordingly, a rise was seen in the average scores of the experimental group students in which the FCM application was applied, and a rise was seen in the average scores of the control group students who did not apply the FCM application.

Two-way ANOVA results for mixed measurements, which explains whether the changes in APS scores of the experimental group students who use FCM in the English grammar course and the control group students who do not use FCM show a significant difference from each other before and after the application are presented in **Table 8**.

When **Table 8** is examined, the changes between the students using FCM and those who do not use this method before and after the application differ significantly from each other [F(1, 22)=13,143, p<.05].

It has been determined that the change in APS scores of the experimental group students using FCM before and after application (X_change=21.16) was significantly higher than control group students who did not use FCM (X_change=2.33) in grammar lesson.

In the second sub-problem, two-way ANOVA was conducted for mixed measurements in order to reveal whether there is a significant difference between the students who are taught with FCM and the students who are taught according to the current program, attitudes towards English grammar learning. The pre- and post-test mean scores and standard deviation values of the experimental and control group students in the TASLEG are presented in **Table 9**.

Table 7. Groups (experimental & control) APS pre- & post-test means & standard deviation values

	Autonomy perception pre-test			Autonomy perception post-test		
Group	N	Mean	Standard deviation	N	Mean	Standard deviation
Experimental	12	93.50	16.05	12	114.66	13.21
Control	12	87.50	22.94	12	89.83	21.01

Table 8. Two-way ANOVA results for the changes in the group's (experimental & control) APS scores

Source		Sum of squares	SD	Squares mean	F	p
Inter-groups	Group (experimental & control)	2,852.083	1	2,852.083	4.606	.043
Within groups	Measurement (pre- & post-test)	1,656.750	1	1,656.750	20.463	.000
	Group*measurement	1,064.083	1	1,064.083	13.143	.001
	Error	1,782.167	22	80.962		

Table 9. Groups (experimental & control) TASLEG pre- & post-test means & sstandard deviation values

	Pre-test			Post-test		
Group	**N**	**Mean**	**Standard deviation**	**N**	**Mean**	**Standard deviation**
Experimental	12	45.50	6.27	12	59.41	2.74
Control	12	44.25	6.27	12	45.66	6.90

Table 10. Two-way ANOVA results for the changes in the groups (experimental & control) TASLEG scores

Source		**Sum of squares**	**SD**	**Squares mean**	**F**	**p**
Inter-groups	Group (experimental & control)	675.000	1	675.000	23.389	.000
Within groups	Measurement (pre- & post-test)	705.333	1	705.333	25.866	.000
	Group*measurement	468.750	1	468.750	17.190	.000
	Error	599.917	22	27.269		

Table 11. Distribution of experimental group students' themes & answers regarding the effect of flipped classroom on autonomous learning

Category: The effect of FCM on autonomous learning (N=12)			
Sub-theme	**Codes**	**f**	**%**
Time management	Replay	17	42
	Time limitlessness	13	32
	Saving time	4	10
	Time scheduling	3	8
	Use of time	3	8
	Sum	40	100
Sub-theme	Codes	f	%
Student-centered	Easy access	6	44
	Active participation	3	21
	Out-of-class learning	3	21
	Individuality	1	7
	Research willingness	1	7
	Sum	14	100
Sub-theme	Codes	f	%
Responsibility awareness	Preparedness	19	79
	Course checking	5	21
	Sum	24	100

When **Table 9** is examined, while the pre-application TASLEG average score of the experimental group students using FCM in the English grammar course was X_a=45.50, this value was X_a=59.41 after the application. While the average score of the control group students who did not use FCM in the English grammar course was X_a=44.25 before the application, this value was X_a=45.66 after the experimental process. Accordingly, a rise was seen in the average scores of the experimental group students in which the FCM application was applied, and a rise was seen in the average scores of the control group students who did not apply the FCM application.

Two-way ANOVA results for mixed measurements, which explains whether the changes in TASLEG scores of the experimental group students who use FCM in the English grammar course and the control group students who do not use FCM show a significant difference from each other before and after the application are presented in **Table 10**.

When **Table 10** is examined, the changes between the students using FCM and those who do not use this method before and after the application differ significantly from each other [F(1, 22)=17,190, p<.05].

It was determined that the change in the experimental group students using FCM before and after the application (X_change=13.91) in the grammar lesson was significantly higher than the control group students (X_change=1.41).

In the third sub-problem of the research, the sub-themes formed based on the answers they gave to the question "what are the effects of the flipped classroom on autonomous learning?" The views of the participants in the experimental group about FCM-assisted lesson are shown in **Table 11**.

When **Table 11** is examined, it is seen that the experimental group students' views on the effect of FCM-supported education on autonomous learning are gathered around four sub-themes.

According to the table, the sub-theme with the highest density was time management (f=40). This is followed by the awareness of responsibility (f=24) sub-theme. Other sub-themes were found to be student centrism (f=8) and reaching the material (f=6).

The sub-themes created on the basis of the answers given to the students in the open-ended question form to the question "what are your efforts to learn in English grammar course supported by the FCM?" are shown in **Table 12**.

The sub-themes created based on the answers they gave to the question "what are the effects of the flipped classroom on your attitude towards the English grammar course?" asked to the students in the open-ended question form are shown in **Table 13**.

When **Table 13** is examined, it is seen that the experimental group students' opinions about the effect of FCM-supported education on autonomous attitude are gathered around one theme. It was observed

Table 12. Distribution of themes & answers regarding the efforts of the experimental group students to learn with the FCM

Theme: Efforts to learn (N=12)		
Codes	**f**	**%**
Watching videos	9	29
Replay	9	29
Question solving	6	19
Making notes	4	13
Asking teacher	1	3
Translate	1	3
Online evaluation	1	3
Sum	31	100

Table 13. Distribution of the experimental group students' themes & answers regarding the effect of the fipped classroom on students' attitudes towards English grammar lesson

Theme: Motivation (N=12)		
Codes	**f**	**%**
Drawing attraction	7	25
Entertainment	6	21
Self-confidence	5	18
Focusing	3	10
Anxiety reduction	2	7
Prejudice	1	3
Wonder	1	3
Critical thinking	1	3
Changing perspective towards lesson	1	3
No change	1	3
Sum	28	100

Table 14. Distribution of the experimental group students' themes & answers regarding distance & face-to-face teaching

Theme: Views on distance education (N=12)		
Codes	**f**	**%**
Distance learning is supportive	6	55
Face-to-face training is effective	4	36
No change	1	9
Sum	11	100

that the most intense codes in the expressions of the students regarding motivation were interesting (f=7), fun (f=6), and self-confidence (f=5).

The sub-themes created based on the answers given to the students in the open-ended question form to the question "what are your opinions about the lessons taught face to face and remotely with the FCM?" are shown in **Table 14**.

According to **Table 14**, the code in which student views were most concentrated was distance education supportive (f=6). Other codes were found to be face-to-face training effective (f=4) and no change (f=1).

The sub-themes created on the basis of the answers given to the students in the open-ended question form to the question "what are the effects of the FCM on your English learning?" are shown in **Table 15**.

When **Table 15** is investigated, it is observed that the views of the experimental group students about the effect of FCM-supported lesson on English learning are gathered around one theme.

According to the table, the efficiency of the code method with the highest density was (f=21). This is followed by the learning reinforcement (f=15) code. It was observed that the code with the lowest density was permanence in learning (f=2).

Table 15. Distribution of the experimental group students' themes & answers regarding the effect of the FCM on English grammar learning

Theme: Views on learning English grammar (N=12)		
Codes	**f**	**%**
The effectiveness of the method	21	34
Reinforcing learning	15	24
Accelerating learning	8	13
Seeing their deficiencies in learning	8	13
Supporting learning	7	11
Retention in learning	2	3
Sum	61	100

Table 16. Distribution of themes & responses regarding experimental group students' negative views regarding the FCM

Theme: Negative views on the method (N=12)		
Codes	**f**	**%**
Convenience in accessing information	2	40
Responsibility	1	20
Infrastructure problem	1	20
Getting used to it	1	20
Sum	5	100

The sub-themes created based on the answers given to the students in the open-ended question form to the question "what are the negative aspects of the FCM?" are shown in **Table 16**.

When **Table 16** is investigated, it is observed that the negative opinions of the experimental group students about the FCM are gathered around one theme.

According to **Table 16**, the code in which student views were most concentrated was the convenience of accessing information (f=2). Other codes were found to be responsibility (f=1), infrastructural problem (f=1), and adaptation process (f=1).

DISCUSSION, CONCLUSION AND IMPLICATIONS

This section focuses on the discussion of the findings obtained from the quantitative and qualitative data by addressing the research questions of the study, related studies and findings prominent in the literature.

Within the scope of the first sub-problem, the APS was applied to the experimental and control group students before and after the FCM. With the applied scale, it was aimed to determine students' perception of autonomy. Based on the findings obtained, it was seen that there was a significant difference between the pre- and post-test scores of the experimental group students. In line with the findings, it can be said that students 'perceptions of autonomy increased after the experimental group English grammar teaching supported by FCM, and in this context, English grammar teaching supported by FCM had a positive effect on students' perceptions of autonomy. Within the scope of the research, in the increase of the autonomy perception of the students after the FCM supported English grammar teaching; it can be said that the development of reading, listening and speaking skills in grammar-related issues and the fact that they are active participants in the lessons in the learning process and take responsibility of their own learning outside the lesson and do individual studies have an effect. Nowadays, students spend most of their out-of-school time with technology and study in an artificial classroom that is free of technology when they

come to school, forcing students to study in an artificial environment by detaching them from their realities. However, the blending of developing technologies and teaching methods with these technologies is both interesting for students and creates opportunities for them to use the knowledge they have learned in their own lives. With this understanding, there should be a transition from existing traditional methods to learner-centered methods. In the FCM, while the teacher is generally responsible for the lesson planning stage, it is the students who manage the actual process. This situation increases students' self-confidence. Studies show that trust is a key feature of autonomous language learners. As it enables students to learn and communicate more independently, teachers are advised to help students develop confidence in language learning (Cakici, 2015). According to the research, it can be said that it is necessary to develop student autonomy in order to ensure successful foreign language education. Numerous studies also show that autonomous language learners are more likely to be successful (Dickinson, 1987; Holec, 1981; Littlewood, 1999). However, many studies show that Turkish students lack autonomy and there is an obstacle in developing English language skills (Buyukyavuz & Inal, 2008; Karabiyik, 2008; Kocak, 2003). Hayirsever and Orhan (2018) stated that "autonomous learning" skill, which is an important requirement of FCM, is extremely important not only in the implementation process of this model, but also in the foundation of "lifelong learning", which has been accepted as one of the most important skills in recent years. This study suggests that the FCM can be used as a teaching method to improve learner autonomy, as seen by teachers and other researchers.

The TASLEG was applied to the experimental and control group students before and after the FCM application. It was aimed to determine the students' attitudes towards learning English grammar with the applied scale. Based on the findings obtained, it was seen that there was a significant difference between the pre- and post-test scores of the experimental group students. In line with the findings obtained, it can be said that students 'attitudes increased after FCM-supported English grammar instruction in the experimental group, and in this context, English grammar teaching supported by FCM had a positive effect on students' attitudes towards learning English grammar. In this context, it was concluded that FCM had a positive effect on students' attitudes towards English grammar course. Factors such as students' coming to the lesson ready, being able to act independently and individually in terms of place and time, being able to easily access the materials, getting help from their friends and teachers in places where they had difficulties, helped the students to reduce their excitement and anxiety and to participate actively in the lesson, which may have changed their attitudes.

Within the scope of the research, students were able to look at the lesson with a more critical eye with the students being prepared for the lesson, and from this point of view, they asked their grammar questions and actively participated. The students stated that this participation also increased their commitment to the lesson. Stating that they wished to use the same method in other lessons, except grammar, the students demanded that grammar lessons continue with this method after the experimental process, and it can be said that this situation created a positive attitude towards both grammar lesson and the method. Stating that the students had fun in the videos they shot while evaluating their own learning and that using the information they learned created a sense of enthusiasm, the students stated that they evaluated and made comments on the learning of themselves and their friends while watching the videos of themselves and their friends from the platform where the videos were uploaded.

1. It was concluded that there was a significant difference in favor of the post-test scores of the experimental group between the total scores obtained from the APS between the experimental group in which the FCM was applied, and the control group, where the current method was applied.
2. It was concluded that there was a significant difference between the total scores of the experimental group in which FCM was applied and the control group, who was applied teaching based on the current method, in favor of the post-test scores of the experimental group, from the TASLEG.
3. FCM had a positive effect on the autonomy perceptions according to the experimental group students' opinions.
4. According to the opinions of the experimental group students, FCM had a positive effect on their attitudes towards learning English grammar.
5. FCM had a positive effect on foreign language learning according to the opinions of the experimental group students.
6. The students in the experimental group stated that English grammar teaching supported by FCM had a positive effect on their academic achievement; the lessons were more fluent, enjoyable and educational; their interest in English grammar lesson increased; they stated that the applied method is a very good method and contributes to their autonomous learning outside the classroom.

From this point of view, the following can be highlighted for future studies:

1. FCM can be developed and used by instructors and instructional designers in order to develop students' autonomous learning perceptions during the teaching of a foreign language course.
2. In foreign language lessons, teachers can do various activities through online platforms in order to improve their speaking, writing and reading skills in the classroom environment by ensuring that students are prepared for the lesson.
3. During the application, it was observed that some students liked FCM, the way the lesson was taught, and students who had low levels of interest and prejudices towards the English lesson started working more intensely and eagerly, and they participated more actively in the lessons. It will be useful to use the method to draw attention to individual differences, to attract students' interest, to ensure their active participation, and to make up for these lessons when there are lessons missed.
4. Before the application, the students should be informed in detail about the method and the application process should be planned carefully in order not to have any technical problems such as internet and computers.
5. Particular attention should be paid to the sound quality of the videos to be prepared in the application to be good and clear.
6. Problems that students will experience during the application should be considered in advance and alternative solutions should be developed for students to access videos.
7. The organization of the course materials should be determined. Based on Bloom's (1956) taxonomy, activities at low cognitive

level (comprehension and comprehension) for pre-lesson activities and at higher levels (application and analysis) for in-class activities should be prepared.

8. An evaluation form should be provided to students after watching video lectures for students to assess their own learning.

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