An Investigation of the Flipped Learning Model Regarding 11th Grade Students' Academic Achievement and Self-Efficacy in English Lessons

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Abstract: The purpose of this study was to investigate the academic achievement and self-efficacy beliefs of students regarding the Flipped Learning approach in English courses. The study was modeled using a quasi-experimental design with a pre-test post-test control group. The study group consisted of 42 11th-grade students attending a high school in the Kuşadası District of Aydın. The research was conducted over 8 weeks covering "Future Jobs" and "Hobbies and Interests" units. Data were collected using the "English Achievement Test" and the "Self-Efficacy Scale for English". Data were analyzed using independent and dependent samples t-tests. Findings revealed no significant difference between the academic achievement mean scores of the groups. Similarly, regarding the experimental group's English self-efficacy beliefs, no significant differences were observed in the post-test scores. These results suggest that while the Flipped Learning model is a viable alternative to traditional instruction, the out-of-class instructional phase needs to be structured in a more encouraging and motivating manner to maximize effectiveness

11. Sınıf Öğrencilerinin İngilizce Derslerindeki Akademik Başarıları ve Öz-Yeterlikleri Açısından Ters Yüz Öğrenme Modelinin İncelenmesi

Öz: Bu çalışmanın amacı, İngilizce derslerinde Ters Yüz Öğrenme yaklaşımına ilişkin öğrencilerin akademik başarılarını ve öz-yeterlik inançlarını incelemektir. Çalışma, ön test-son test kontrol gruplu yarı deneysel bir tasarımla modellenmiştir. Çalışma grubu, Aydın ili Kuşadası ilçesindeki bir liseye devam eden 42 11. sınıf öğrencisinden oluşmaktadır. Araştırma, "Gelecekteki Meslekler" ve "Hobiler ve İlgi Alanları" ünitelerini kapsayan 8 haftalık bir süreçte gerçekleştirilmiştir. Veriler, "İngilizce Başarı Testi" ve "İngilizce Öz-Yeterlik Ölçeği" kullanılarak toplanmıştır. Veriler, bağımsız ve bağımlı örneklemler t-testleri kullanılarak analiz edilmiştir. Bulgular, grupların akademik başarı ortalama puanları arasında anlamlı bir fark olmadığını ortaya koymuştur. Benzer şekilde, deney grubunun İngilizce öz-yeterlik inançlarına ilişkin son test puanlarında da anlamlı bir fark gözlemlenmemiştir. Bu sonuçlar, Ters Yüz Öğrenme modelinin geleneksel öğretime uygun bir alternatif olduğunu öne sürse de, dil öğrenimi bağlamında modelden en yüksek verimi alabilmek için sınıf dışı öğretim sürecinin çok daha teşvik edici ve motive edici unsurlarla yapılandırılması gerektiğini ortaya koymaktadır.

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INTRODUCTION

Given that English serves as the global lingua franca in fields such as commerce, art, technology, and science, it is mandated as a compulsory foreign language within the Turkish education system. Students begin taking English lessons starting from the 2nd grade of primary school. However, despite the significant time and effort invested, as well as curricular modifications, Turkey's success in foreign language education remains limited. This lack of success in foreign language instruction is clearly evident in both international and national proficiency examinations (Demirpolat, 2015). Demirel (2003) noted that despite two centuries of effort addressing the foreign language problem in Turkey and various policy innovations over time, students continue to face significant challenges in foreign language courses, from primary education through to higher education (as cited in Haznedar, 2010).

In Turkey, as a continuation of the 1997 educational reform, the Ministry of National Education's Board of Education and Discipline undertook improvement initiatives in foreign language education, culminating in a new curriculum in 2006. In this new curriculum, modern approaches visibly replaced traditional ones. Nevertheless, challenges in foreign language education persist due to factors such as large class sizes, inadequate physical facilities, difficulties in training teachers qualified to implement new approaches, and broader foreign language policies (Haznedar, 2010).

Regarding the four language skills (reading, writing, speaking, and listening), it has been observed that classes focus most on reading and least on speaking and listening. Although the current program aims to enhance students' language use and communication skills, observations indicate that students struggle to form meaningful sentences and lack the proficiency to express themselves sufficiently. It was concluded that the program's effectiveness in meeting student needs varies by objective; while it addresses grammar requirements, it fails to sufficiently support the development of speaking and listening skills (Dinçer & Saracaloğlu, 2013).

Suna and Durmuşçelebi (2013) attributed the root causes of foreign language learning problems to several factors: a lack of a coherent language teaching policy in Turkey; discrepancies between policy and implementation; the prevalence of grammar-focused teaching methods; insufficient language skills stemming from students' lack of practice; large class sizes; limited opportunities for practical language use; low motivation; flawed assessment methods; inefficient teacher training programs; low-quality in-service training; and insufficient instruction time.

While many of the specified reasons are not problems that teachers can remedy, teachers do possess the competency to select and apply approaches and methods suitable for students' needs in foreign language classes. Based on these reasons, this study aimed to investigate the effect of the Flipped Learning model on students' English achievement. This approach was selected to prioritize the application of the four language skills over grammar instruction, allocate more time for practice, and motivate students toward practical language use. This approach was chosen because it contributes to students' learning processes outside the classroom. By allowing lower-order cognitive skills from the revised Bloom's taxonomy, such as remembering and understanding, to be completed before class, it frees up in-class time for application and higher-order cognitive skills.

Students' success or failure in English classes causes them to feel efficient or inefficient and to develop positive or negative feelings towards language learning (Gömleksiz & Kılınç, 2014). Therefore, one of the most important elements of success in English class is providing conditions that help students develop their own competencies (Tuncer & Akmençe, 2019). Accordingly, investigating the impact of the Flipped Learning approach on students' self-efficacy beliefs regarding English is significant. Therefore, examining the effect of the Flipped Learning Model—and the technology integral to it—on students' achievement and self-efficacy beliefs in English courses will offer a new perspective for educators and contribute to the literature for researchers investigating this approach.

Flipped Learning is a personalized learning environment characterized by increased student interaction with peers and the teacher, wherein students take responsibility for their own learning, and the teacher acts as the "guide on the side, not the sage on the stage." In Flipped Learning, constructivist learning is presented in a blended fashion with traditional instruction. The Flipped Classroom, furthermore, is a setting where students who are absent due to illness or extracurricular activities do not fall behind, as content is continuously archived for review and remediation.

According to Talan (2018) and Topalak (2016), in the traditional learning model, students are expected to reinforce their learning independently through homework, whereas in the flipped learning model, this reinforcement occurs in the classroom environment under teacher guidance. With this approach, students can receive teacher support on topics they struggle with. Furthermore, while the traditional model allocates time for a limited number of activities, the flipped model allows time for more activities in diverse styles. This structure enables the implementation of activities catering to students with various learning styles. Additionally, the time allocated for in-class activities differs between the two models (Bergmann & Sams, 2012). Although both models begin with warm-up activities, in the traditional learning model, this phase is followed by checking homework from the previous lesson. In the flipped learning model, however, this stage involves a Q&A (question-and-answer) session regarding the videos, allowing students the opportunity to ask about points they did not understand. In the traditional learning model, 30-45 minutes of class time are allocated to checking homework and direct instruction on the new topic, leaving only 20-35 minutes for activities that support learning. In the flipped learning model, however, 65 minutes are allocated to supportive activities and applications, providing a much greater opportunity to dedicate time to these reinforcement activities.

As stated by Hayırsever and Orhan (2018), in the traditional learning model, lower-order cognitive skills such as remembering and understanding (Bloom's Taxonomy) are addressed in the classroom, while activities involving higher-order cognitive skills, like analysis and synthesis, are often assigned as homework. In this scenario, the student is unsupported when performing these more difficult tasks. In the flipped learning model, lower-order skills are handled outside the classroom, and higher-order skills are addressed inside the classroom. Thus, students can receive assistance while engaging in more challenging activities. When evaluating this situation from the perspective of English language learning, the Flipped Learning Model can enable students and teachers to use class time effectively and efficiently. This is crucial for acquiring the higher-order productive skills specified in the English Language Curriculum (2018) by the Board of Education and Discipline, such as expressing oneself comfortably on a topic, preparing dialogues, role-playing, and practicing intonation and pronunciation. The flipped learning (FL) model offers several advantages. This model accelerates students' understanding of the subject matter and resolves confusion by increasing interaction. Teachers can monitor student performance to assess their knowledge levels. While this model requires the use of various resources, materials can nowadays be provided free of charge through tools such as the internet and smartboards. In flipped classrooms, students experience information both visually and aurally through group work; thus, they learn by doing and experiencing while increasing their knowledge levels. Furthermore, small group interactions and internet usage, which develop communication skills, increase student participation. The digital learning model facilitates classroom management by reducing distractions while also allowing teachers to know their students and offer differentiated learning. Quality course content enhances student engagement and feelings of success, making learning flexible and personalized. Alongside the advantages of this model, there are also disadvantages. FL applications emphasize the importance of pre-class preparation. Students' lack of prior familiarity with the content can impede their active participation in class and increase their need for assistance at home. This situation creates additional time and workload for both teachers and students, and it can also negatively affect teacher-student relationships. In general, uncertainties exist regarding the applicability of FL; while the generalizability of results obtained in some courses is questioned, it is noted that more research is needed to determine long-term effects. Additionally, technical problems and a lack of digital skills can negatively impact flipped learning. Students' reluctance to take responsibility for their learning can also undermine the success of this model.

The concept of self-efficacy plays a significant role in education, particularly with the rise of student-centered approaches. According to Bandura (1997), self-efficacy is the belief in one's capabilities to organize and execute the courses of action required to attain a specific goal. This belief is grounded in the principle of reciprocal determinism, which posits that an individual's behavior is shaped through an interactive process involving environmental and personal factors. Self-efficacy belief, while influenced by variables such as motivation, anxiety, gender, and age, also guides individuals' beliefs in their potential for success. Individuals with high levels of self-efficacy feel stronger and more confident in coping with challenges. Research reveals that self-efficacy beliefs influence individuals' attitudes and efforts, highlighting the need for teachers to act in ways that support students' capabilities. In this context, the purpose of this study is to investigate the effect of the Flipped Learning approach on students' academic achievement and self-efficacy beliefs in English courses.

Although Flipped Learning is often associated with positive outcomes in the literature, existing research presents contradictory findings, particularly in language learning contexts. While some studies report

significant improvements in academic achievement (Aydınlıoğlu, 2023; Talan, 2018), others indicate no significant difference compared to traditional methods (Al-Harbi & Alshumaimeri, 2016; Yang & Chen, 2020). This inconsistency suggests that the effectiveness of the FL model may be highly dependent on variables such as student readiness, self-discipline, and educational level. Therefore, there is a need to investigate the effectiveness of this model specifically within the context of high school English classes in Turkey to clarify these contradictory results and contribute to the understanding of FL's contextual boundaries.

Aim

The primary purpose of this study is to examine the Flipped Learning model in terms of 11th-grade students' academic achievement and self-efficacy beliefs in English courses compared to traditional instruction. In accordance with this general purpose, the study seeks to answer the following research questions:

1. Is there a significant difference between the academic achievement post-test scores of the experimental group and the control group?

2. Is there a significant difference between the English self-efficacy post-test scores of the experimental group and the control group?

METHOD

This research is a quasi-experimental study conducted within an English course, involving 11th-grade students at a public high school in the Kuşadası district of Aydın province during the 2024-2025 academic year. Researchers employ quantitative research methods to quantify and analyze unobservable human characteristics (Garip, 2023). The experimental research design, a type of quantitative design, is implemented to examine relationships between variables or to compare cause and effect by studying a phenomenon or factor of interest within a controlled setting established by the researcher (Ekiz, 2003). Randomization (random assignment) has a key characteristic; participants must be assigned to experimental and control groups impartially (Fraenkel & Wallen, 2006). This study does not demonstrate true random assignment (i.e., unbiased assignment of individuals), as the researcher had minimal intervention in the classrooms, which were pre-determined by the school administration. In such cases, the researcher can, however, randomly and impartially designate which of the pre-existing classrooms at the school will serve as the experimental group and which will serve as the control group.

Pre-test and post-test measurements were administered in both groups. While English lessons in the experimental group were conducted in accordance with the Flipped Learning model, traditional methods were used in the control group. Two intact classrooms participated in the study; students in the experimental group had the technological devices and internet access necessary to access the course content. The implementation of the research is shown in Table 1 below.

Table 1

Implementation of the Research

Group	Pre-Test	Implementation	Post-Test
Experimental Group	English Achievement Test and Self-Efficacy Belief Scale	Implementation of the Flipped Learning Model	English Achievement Test and Self-Efficacy Belief Scale
Control Group	English Achievement Test and Self-Efficacy Belief Scale	Implementation of the Traditional Method	English Achievement Test and Self-Efficacy Belief Scale

Data Gathering Tools

The use of high-quality measurement tools, developed by reviewing various resources and existing instruments to cover the learning outcomes of the subject, is crucial for determining students' achievement levels in the course (Gültekin, 2012; as cited in Değirmen, 2023). Therefore, within the scope of this research, the English Achievement Test (EAT), developed by the researcher, was used to determine the academic achievement of the students in the experimental and control groups. While preparing the EAT, the learning outcomes of the relevant units in the current English Language Curriculum were examined, and a table of

specifications was developed. An item pool was established, and expert opinions were sought. After receiving expert opinions, necessary revisions were made, and the test was finalized.

The test items were designed to measure primarily the knowledge, comprehension, and application levels of Bloom's Taxonomy, focusing on the comprehension, vocabulary and grammar structures covered in the units. After receiving expert opinions, necessary revisions were made, and the test was finalized. The EAT was administered to 295 11th-grade students in different schools, and the data were analyzed using a statistical software package. Following the item analysis, the item difficulty and discrimination indices were examined. As a result of the analysis, 2 items with low discrimination indices were removed from the initial 41-item pool, resulting in a final test consisting of 39 items. The Kuder-Richardson 20 (KR-20) reliability coefficient for the final form of the test was calculated as .92, indicating high internal consistency. Additionally, as the second quantitative data collection tool, the "Self-Efficacy Scale for English" developed by Hancı Yanar and Bümen (2012), was administered. The scale consists of 34 items and analyzes dimensions examining students' self-efficacy related to the four language skills. Since the self-efficacy scale is a valid and reliable tool developed for high schools, no additional reliability analysis was conducted before the experimental implementation. For the current study sample, the Cronbach's Alpha reliability coefficient for the pre-test was calculated as .94.

Participants of the Research

The study group was determined using the convenience sampling method and consisted of 11th-grade students attending a public Anatolian High School in the Kuşadası district of Aydın province during the 2024-2025 academic year. In convenience sampling, participants are selected based on accessibility, suitability for the research, and willingness to volunteer (Gravetter & Forzano, 2012). The researcher's own institution was selected to ensure the effective implementation of the experimental process.

Two intact classes were included in the study; Class 11-A was randomly assigned as the experimental group (n=19), and Class 11-B was assigned as the control group (n=23). Although a sample size of at least 30 participants per group is generally recommended for experimental studies (Fraenkel et al., 2012), the study proceeded with the existing class sizes as they were below 30. Regarding the gender distribution, the experimental group consisted of 9 females (47.4%) and 10 males (52.6%), while the control group initially consisted of 13 females (56.5%) and 10 males (43.5%).

In total, the study began with 42 participants (22 females, 20 males). However, one student in the control group was excluded from the final analysis due to continuous absenteeism. Consequently, the data analysis was conducted with a total of 41 students (Experimental n=19; Control n=22).

Data Gathering and Analysis

The experiment's implementation lasted 8 weeks, from September 9 to October 28, 2024, beginning with pre-tests, platform orientation, and language exercises in the initial week. The following weeks were organized into distinct units; Weeks 2–4 addressed "Unit 1: Future Jobs," concentrating on CV research, job advertisements, and future tense constructions, whereas Weeks 5–7 focused on "Unit 2: Hobbies and Interests," highlighting preferences and past capabilities. During the last week, students participated in the study of texts concerning past abilities using group methodologies prior to the administration of post-tests. The asynchronous phase of the Flipped Learning model was administered through Google Classroom, where the researcher shared educational materials 2–3 days before each lesson to enhance student understanding. The contents comprised video lectures lasting from 3 to 26 minutes (e.g., Future Tense about 16 minutes, Vocabulary 13 minutes, Preferences 26 minutes, Future Plans 3 minutes), vocabulary lists, CV samples, and interactive exercises. Students were required to view these videos and complete online tests (e.g., through Kahoot) to assess their comprehension prior to attending the class. To ensure successful implementation and compliance with the Flipped Learning model, the researcher assessed student preparation via designated phases corresponding to the course schedule. The procedure commenced in Week 1 with the implementation of a comprehensive Pre-test; hence, to alleviate assessment fatigue, a gamified activity was utilized for orientation in place of a graded quiz, resulting in full participation from 19 students. In the following teaching units (Weeks 3, 5, and 7), student readiness was assessed using quizzes. The majority actively interacted with the contents; however, non-participation rates of 21% (n=4), 11% (n=2), and 26% (n=5) were observed, with class average scores of 45, 42, and 60, respectively. During the alternating weeks (Weeks 2, 4, 6, 8), preparation was monitored via task completion assessments instead of formal evaluations. This data functioned as a diagnostic assessment; students who did not engage or obtained low scores were recognized as inadequately prepared and were personally directed to re-view the content or retake the quizzes, which remained available

throughout the process. This thorough pre-class preparation allowed an important shift in the classroom dynamic. In contrast to the control group, which mostly engaged in teacher-directed instruction and textbook exercises sticking to the normal curriculum, the experimental group commenced in-class sessions with a review of wrong quiz responses to correct misconceptions. As a result, much of the classroom time was allocated to active learning and reinforcement exercises. The activity techniques encompassed Game-Based Learning, Station Technique, Philips 66, Cooperative Learning, Brainstorming, Think-Pair-Share, Jigsaw, Scenario-Based Learning, Case Studies, Role-Playing, Brainwriting, Gallery Walk, Discussion, Circle Technique, Socratic Seminar, Speaking Circle, Inside-Outside Circle (Rolling), Guessing Game, Snowball Technique, Marketplace, Creative Drama, and the Aquarium Technique. After the eight-week intervention, the English Academic Achievement Test was conducted for both groups, subsequently followed by the English Self-Efficacy Belief Scale. Upon gathering, the scales and tests from both groups were stored securely and confidentially. The data analysis step commenced subsequently.

The English Achievement Test and the English Self-Efficacy Belief Scale related to Unit 1, "Future Jobs," and Unit 2, "Hobbies and Interests," were administered to the students in the experimental and control groups. The data obtained in the study were analyzed using a statistical software package; frequency and percentage analyses were used to determine the distribution of participants by group (experimental/control) and gender.

The Shapiro-Wilk test, the most powerful test for checking the assumption of normality, was used. A significant result (p < .05) on this test indicates that the data are not normally distributed (Ocak, 2019). Based on this test result, if the scores are parametric, the dependent (paired) samples t-test should be used. If the scores are non-parametric, the Wilcoxon signed-rank test should be used (Can, 2016). The Shapiro-Wilk Test was used to determine whether the score distributions of the self-efficacy belief scale and the achievement test were normal. Since the data showed normal distribution, Independent Samples t-test and Paired Samples t-test were used to determine the differences between and within the experimental and control groups.

Although ANCOVA is often recommended for pre-test/post-test designs to control for pre-existing differences, independent samples t-test was preferred in this study because the statistical analysis revealed no significant difference between the pre-test scores of the experimental and control groups (p = .40; p> .05). This lack of significant difference at the baseline indicates that the groups were equivalent at the beginning of the study, thereby satisfying the condition for comparing post-test scores directly.

Ethical Committee Approval Information

Ethical approval for this study was obtained from the Aydın Adnan Menderes University Educational Research Ethics Committee. In the session held on September 3, 2024, with decision number 6, it was unanimously decided that the research titled is ethically appropriate.

FINDINGS AND INTERPRETATIONS

This section includes the findings obtained to determine the effect of the Flipped Learning model on students' academic achievement and self-efficacy beliefs. The statistical analysis results regarding the differences between the experimental and control groups are detailed in the tables below.

Table 2

Normality Test Results for Academic Achievement Pre-Test and Post-Test Scores by Experimental and Control Groups

Variable	Group	Kolmogorov-Smirnov	Shapiro-Wilk
Achievement Pre-test	Experimental	.20	.35
Achievement Pre-test	Control	.20	.14
Achievement Post-test	Experimental	.20	.40
Achievement Post-test	Control	.20	.25

As shown in Table 2, the normality test results indicate that the academic achievement scores for both the experimental and control groups are normally distributed (p > .05). As the number of participants in each group was less than 30, the p-value of the Shapiro-Wilk test was used for interpretation. These results confirm that the data follows a normal distribution, validating the suitability of parametric tests for subsequent group comparisons.

Due to the normal distribution of the data, an independent samples t-test was conducted to determine the differences between the experimental and control groups' academic achievement scores. The results of this test are presented in the table below.

Table 3

Independent Samples t-Test Results for the Achievement Scores of the Experimental and Control Groups

Variable	Group	N	M	SD	Levene's Test (F)	p (Levene's)	t	p (t-Test)
Pre-test	Experimental	19	0.43	0.19	0.87	.35	0.84	.40
	Control	22	0.38	0.16				
Post-test	Experimental	19	0.47	0.20	0.10	.75	0.21	.83
	Control	22	0.46	0.19				

As shown in Table 3, based on the independent samples t-test results, no statistically significant difference was found between the pre-test achievement means of the experimental group (M = 0.43) and the control group (M = 0.38) (p = .401). This indicates that the experimental and control groups were similar at the baseline level. Furthermore, with reference to the Cohen's d value (d = 0.263), the effect size for this difference is small.

Regarding the post-test achievement means, although the experimental group's post-test mean (M = 0.47) was slightly higher than the control group's (M = 0.46), this difference was not statistically significant (t = 0.213; p = .832 > .05). Based on the Cohen's d value (d = 0.066), the effect size for this difference is negligible. These results show that the post-test achievement levels of the experimental and control groups were highly similar. For effect sizes to be reliable, the confidence interval values should not include 0 (Tan & Tan, 2010). Since the confidence intervals for all effect sizes observed in this analysis included 0, the reliability of these effect sizes is uncertain. The analysis reveals that although the experimental group achieved slightly higher scores, the Flipped Learning model did not result in a statistically significant difference in academic achievement compared to the traditional method.

Table 4

Normality Test Results for Self-Efficacy Pre-Test Scores

Sub-dimension	Group	Kolmogorov-Smirnov	Shapiro-Wilk
General (Self-Efficacy)	Experimental	.20	.63
General (Self-Efficacy)	Control	.20	.96
Reading	Experimental	.20	.86
Reading	Control	.20	.91
Writing	Experimental	.20	.33
Writing	Control	.15	.04
Listening	Experimental	.20	.34
Listening	Control	.20	.79
Speaking	Experimental	.20	.27
Speaking	Control	.20	.12

Upon examination of the table, it is observed that the assumption of normality was not met for the writing sub-dimension of the Control group in the self-efficacy pre-test, as the Shapiro-Wilk value was significant (p = .042). For all other sub-dimensions and groups, the assumption of normality was satisfied (p > .05).

Table 5

Normality Test Results for Self-Efficacy Post-Test Scores

Sub-dimension	Group	Kolmogorov-Smirnov	Shapiro-Wilk
General (Self-Efficacy)	Experimental	.20	.30
General (Self-Efficacy)	Control	.20	.92
Reading	Experimental	.20	.40
Reading	Control	.20	.92

Writing	Experimental	.20	.54
Writing	Control	.20	.76
Listening	Experimental	.20	.36
Listening	Control	.19	.72
Speaking	Experimental	.20	.13
Speaking	Control	.20	.13

In the self-efficacy post-test, $p > .05$ for all sub-dimensions and groups; thus, the assumption of normality was satisfied. Based on the findings obtained from the analyses conducted to verify normality assumptions, $p > .05$ was found for all variables and groups in general, and the assumption of normality was satisfied. Subsequently, analyses were conducted to test whether the instructional intervention created a significant difference between the experimental and control groups. Due to the normal distribution of the data, an independent samples t-test was used to examine the differences between the pre-test and post-test English self-efficacy belief scores of the students in the experimental and control groups. The normality assumptions were generally met across sub-dimensions, allowing for the use of independent samples t-tests to analyze the effects of the intervention.

The findings regarding the test results are presented in Table 6.

Table 6

Independent Samples t-Test Results for the Differences Between Experimental and Control Groups' English Self-Efficacy Belief Pre-Test and Post-Test Scores

Variable	Group	N	M	SD	Levene's Test (F)	p (Levene's)	t	p (t-Test)
Pre-test	Experimental	19	2.61	0.56	1.59	.20	-0.47	.63
	Control	22	2.72	0.79				
Post-test	Experimental	19	2.70	0.82	1.04	.38	-0.47	.63
	Control	22	2.82	0.84				

In line with the table 6, no significant difference was found between the mean self-efficacy belief scores of the experimental and control groups in the pre-test and post-test. For the pre-test, although the experimental group's mean ($M = 2.6125$) was lower than the control group's mean ($M = 2.7212$), this difference was not statistically significant ($p = .635$). Similarly, for the post-test, the experimental group's mean ($M = 2.7043$) was found to be lower than the control group's mean ($M = 2.8274$), but this difference was also not statistically significant ($p = .637$).

Cohen's d values were low for both the pre-test ($d = -0.153$) and post-test ($d = -0.147$). These results indicate that there is no significant difference in self-efficacy belief levels between the experimental and control groups depending on the time of measurement, and the effect of the observed differences is small. For effect sizes to be reliable, the confidence interval values should not include 0 (Tan & Tan, 2010). Since the confidence intervals of all effect sizes observed in this analysis include 0, the reliability of these differences is uncertain. Consistent with the academic achievement results, these data suggest that the teaching technique did not produce a significant difference in students' English self-efficacy beliefs between the two groups.

Table 7

Comparison of Pre-test and Post-test Self-Efficacy Sub-dimension Scores

Sub-dimension	Measurement	Group	N	Mean ($\bar{X}$) / Mean Rank	SD	t / U	p
Reading	Pre-test	Experimental	19	2.78	0.68	0.46	.64
		Control	22	2.90	0.90		
	Post-test	Experimental	19	2.97	0.97	0.08	.93
		Control	22	2.94	1.07		
Listening	Pre-test	Experimental	19	2.85	0.68	0.24	.81
		Control	22	2.92	0.89		
	Post-test	Experimental	19	2.72	0.87	-0.98	.33
		Control	22	2.97	0.82		
Speaking	Pre-test	Experimental	19	2.41	0.84	0.44	.65

		Control	22	2.28	0.93	
	Post-test	Experimental	19	2.51	1.12	0.07	.94
		Control	22	2.49	1.16	
Writing*	Pre-test	Experimental	19	17.26 (Rank)	-	140.50	.13
		Control	22	22.89 (Rank)	-	
	Post-test	Experimental	19	19.53 (Rank)	-	181.00	.34
		Control	22	23.13 (Rank)	-	

*Note: Since the pre-test data for the writing sub-dimension in the control group did not show normal distribution (Shapiro-Wilk, p = .042), the non-parametric Mann-Whitney U test was performed for the analysis of this dimension. For consistency, Mean Rank and U values are presented.

Table 7 shows the comparison of pre-test and post-test scores for the self-efficacy sub-dimensions (Reading, Listening, Speaking, and Writing) between the experimental and control groups. The pre-test data was examined first to assess initial equivalence. Independent samples t-tests were performed for the Reading, Listening, and Speaking dimensions, however the Mann-Whitney U test was applied for the Writing dimension considering to the non-normal distribution in the control group. The analysis revealed no statistically significant differences among the groups in the pre-test scores of any sub-dimension (p > .05). The p-values were determined to be .64 for Reading, .81 for Listening, .65 for Speaking, and .13 for Writing. The findings show that both groups have comparable levels of self-efficacy beliefs in all linguistic skills before the intervention. The examination of the post-test findings aimed to find out whether the Flipped Learning approach showed significant variations in comparison to traditional education. The results demonstrated no statistically significant differences between the experimental and control groups in the post-test scores of the sub-dimensions (p > .05). The calculated significance values were .93 for Reading, .33 for Listening, .94 for Speaking, and .34 for Writing. In conclusion, although mean scores exhibited minor variations, the statistical analysis indicates that the Flipped Learning model and the traditional technique had similar effects on students' self-efficacy attitudes concerning specific language skills (Reading, Listening, Speaking, and Writing).

RESULTS, DISCUSSION and RECOMMENDATIONS

Upon examining the comparisons of pre-test and post-test scores obtained from the English Achievement Test for the experimental and control groups, an increase in achievement was observed in both the experimental group, where the Flipped Classroom model was utilized, and the control group, where English instruction was conducted using the traditional method. Therefore, it can be stated that the interventions implemented in both groups contributed to English language instruction. However, when the post-test scores of the experimental and control groups were compared, no statistical differentiation was determined between the groups' scores. Considering the achievement test results, it was concluded that the group treated with the Flipped Learning model and the group treated with the traditional model yielded similar results, and both implementations had similar effects on the students. This finding demonstrates that just flipped classroom instruction may not ensure increased achievement. It emphasizes that the success of the FL model is determined not just by the delivery method, but also by how successfully in-class activities are arranged and how well students are prepared for the change.

In the literature, there are studies demonstrating that Flipped Learning (FL) is an effective model in various courses and fields (Aydınlıoğlu, 2023; Can, 2023; Değirmen, 2023; Dizbay, 2022; Eken, 2023; Hayırsever & Orhan, 2018; Ogün, 2022; Ökmen, 2020; Pamuk, 2023; Tulay, 2019). Conversely, there are also studies indicating that FL does not have a significant effect in various courses and fields (Alhamami & Khan, 2019; Al-Harbi & Alshumaimeri, 2016; Anjomshoaa et al., 2022; Buhl et al., 2023; Camcı, 2022; Cashin, 2016; Çınar, 2023; Güven Demir, 2018; Ercan, 2021; Erişmiş, 2023; Findlay Thompson & Mombourquette, 2014; Han, 2022; Karakoç, 2023; Long, 2016; Marlowe, 2012; Tekin, 2020; Topal & Akhisar, 2018; Şengün, 2021; Lee & Wallace, 2018; Yong et al., 2015). In this case, it can be said that the effectiveness of FL varies depending on the course type, the study group, or other factors.

Yang and Chen (2020) found that the flipped classroom model did not affect student achievement at the primary school level in China. Similarly, Leis and Brown (2016) stated that the FL model did not create a change in university students' English composition achievement in Japan. In their meta-analysis, Anjomshoaa et al. (2022) reported that the effect of FL on learning is slight, and its effects on student satisfaction are small. Al-Harbi and Alshumaimeri (2016) emphasized that while the FL strategy played a role in improving grammar performance, this difference was not statistically significant. Havwini and Wu (2019) stated that FL did not

create a difference in achievement levels compared to the traditional method, associating this with the students' lack of familiarity with the new model. While Seçilmişoğlu (2019) and Çarpıcı and Alıcı (2019) also showed that FL did not affect student achievement in high school-level studies, Wallace and Lee (2017) noted that there is very little empirical evidence regarding the positive effects of this method. Topal and Akhisar (2018), on the other hand, emphasized that flipped learning did not have a significant effect on academic achievement and that this could stem from the inexperience of educators and students. It was observed that while students generally found flipped learning positive, those unable to study independently evaluated the situation negatively. These results demonstrate that experience and time are required for students and teachers to adopt a new model.

Şengün's (2021) study demonstrated that the Gamified FL model did not create a significant effect on reading comprehension skills and motivation. Çakır and Yaman (2018), meanwhile, noted that the flipped learning model carries disadvantages (such as the inability to receive immediate feedback and its time-consuming nature) alongside its advantages (such as the ability to re-watch lessons and coming to class prepared). Kocabatmaz (2016) also emphasized the time-consuming nature of the process and the necessity of technology use among the disadvantages of the FL model. In his study, Ercan (2021) stated that although students acknowledged that flipped learning was beneficial, it did not increase motivation and comprehension. Ünsal et al. (2023) highlighted the advantages of regular and flexible systems, but also revealed problems such as indiscipline and lack of feedback. Parallel to these deficiencies, the flexible study arrangement in the current study might have created indiscipline among the students.

Self-discipline is a highly significant factor in students' academic achievement (Duckworth & Seligman, 2005; Durrant, 2010; Gong et al., 2009; Hagger & Hamilton, 2019; Mbaluka, 2017; Zhao & Kuo, 2015; Zimmerman & Kitsantas, 2014). Mbaluka (2017) emphasizes that students with high self-discipline are more successful academically compared to those with low self-discipline. While the success of any educational course does not depend solely on students' abilities, self-discipline is the most important component helping students achieve their goals (Gorbunovs et al., 2016; Rogus, 1985). Although students' self-discipline levels were not directly measured in this study, the lack of significant difference observed might be associated with the high demand for learner autonomy required by the FL model. Students who are not accustomed to taking responsibility for their out-of-class learning may have struggled to adapt to this new pedagogical approach, potentially affecting their academic outcomes.

In the current study, some of the questions in the English Achievement Test were prepared to measure higher-order skills. According to research conducted by Aydın and Demirer (2017), sufficient evidence regarding how the model affects higher-order skills could not be found. This result draws attention to the characteristics of the test and the effect of FL on higher-order skills regarding the lack of a significant difference in the current study. Since the Flipped Classroom model changes roles in the out-of-class process, it involves parents as well. Although parental opinions are rarely included in the literature, there are studies showing that parents are also among the stakeholders of the model (Howell, 2013; Pearson, 2012). As the students in the current study were high school students, it was assumed that they could fulfill their homework and responsibilities without the need for parental guidance, and no communication was established with the parents. This situation might have created a gap regarding the control of the students' out-of-class processes.

Song et al. (as cited in Varışlı, 2021) emphasized that teachers cannot express themselves in online platforms and lessons as effectively as they do in face-to-face education. Distance education may not be as efficient as face-to-face education because rapport cannot be established as easily and quickly between teachers and students on online platforms as in a face-to-face environment. Students may lack motivation when they do not physically see their teacher (Varışlı, 2021). Yong et al. (2015) stated that some students dislike change, and it is possible that students who do not like changes in teaching styles exhibit less positive attitudes towards lessons taught with Flipped Learning (FL). Students in the current study may have exerted less effort and, therefore, performed at a lower level.

In the control group, the textbook used during the lessons was prepared based on the constructivist approach. The activities in the book may have facilitated students in structuring knowledge according to their own internal processes and supported effective learning. This situation may have enabled the seamless completion of homework assignments given to students and the reinforcement of learning. All the reasons explained above may account for the lack of a significant difference between the groups in this study.

When comparing the pre-test and post-test scores obtained from the "Self-Efficacy Belief Scale Regarding English" for the experimental and control groups, an increase in scores was observed in both groups. Therefore, it can be stated that the interventions implemented in both groups contributed to the students' English self-efficacy beliefs. However, when the post-test scores of the experimental and control groups were compared, no statistical differentiation was determined between the groups' scores. Considering the Self-Efficacy Belief Scale Regarding English, it was concluded that the group treated with the flipped learning model and the group treated with the traditional model yielded similar results, and both implementations had similar effects on the students.

There are studies in the literature indicating that self-efficacy increases academic achievement (Chun, 2014; Ebrahimi Orang et al., 2024; Fan, 2022; Talan, 2018; 2024; Uysal & Ocak, 2023). Chun (2014) conducted a flipped learning study for an "exercise physiology" course over 4 weeks with 39 sophomore students studying in the physical education department at a university in Korea. The findings demonstrated that the Flipped Learning intervention was effective in improving self-efficacy for learning. Similarly, Talan (2018) concluded that the flipped classroom model created a significant difference in students' academic engagement scores compared to the control group. Fan's (2022) study revealed higher self-efficacy levels among foreign language learners in flipped classrooms compared to traditional education environments. In their study aimed at determining the effectiveness of Flipped Learning on the self-efficacy and academic achievement of sixth-grade female students in a science course, Ebrahimi Orang et al. (2024) showed that Flipped Learning had a significantly positive effect on students' self-efficacy and academic achievement. Within the scope of Uysal and Ocak's (2023) research, it was concluded that Arduino programming instruction carried out with the Flipped Classroom model supported positive development in terms of students' engagement and programming self-efficacy perceptions.

However, there are also studies indicating that self-efficacy does not influence academic achievement (Ahmed & Aşıksoy, 2021; Aydın, 2016; Cha & Kim, 2020; Kim, 2020; Yazar & Tutal, 2023). In Aydın's (2016) study examining the effect of conducting a course via the flipped classroom model on university students' attitudes towards programming, self-efficacy beliefs, and achievement, no significant difference was found among the students' academic achievement, attitudes towards programming, and self-efficacy beliefs regarding programming. Parallel to the findings of the current study, Ahmed and Aşıksoy's (2021) study determined that the gamified flipped learning model did not yield a significant improvement in students' self-efficacy. In their study, the researchers emphasized that Bandura (1995) identified physiological and emotional states as one of the four essential sources for the development of self-efficacy, and they viewed these states as the greatest obstacle to the development of students' self-efficacy. Similarly, the physiological and emotional states of the students in the current study group might be the reason for the lack of differentiation in their self-efficacy beliefs. In Cha and Kim's (2020) study conducted with nursing students, no significant difference was found between the experimental and control groups. Kim (2020) found no significant difference in academic self-efficacy between the two groups after implementing Flipped Learning using media tools in basic nursing practice courses.

There are studies in the literature indicating a positive relationship between motivation and self-efficacy (Akbay, 2009; Akbay & Gizir, 2010; Aydın, 2010; Ünal, 2013; Yıldız & Kardaş, 2021). Considering the relationship of motivation with learning and self-efficacy belief, it can be acknowledged that uncertainties exist regarding the effectiveness of Flipped Learning. In the current study, a differentiation in self-efficacy levels might not have occurred because the motivation of the students in the experimental group toward the English course was low. The meta-analysis study conducted by Yazar and Tutal (2023) supports this result by demonstrating that the Flipped Learning approach has only a small positive effect on student motivation compared to traditional educational processes.

To clarify the specific position of the current study within the literature, the aforementioned findings have been synthesized contextually to evaluate the reasons behind the lack of significant difference. The lack of a significant difference between the groups in terms of academic achievement and self-efficacy in the current study aligns with research highlighting the limitations of the Flipped Learning (FL) model. As emphasized by Havwini and Wu (2019) and Topal and Akhisar (2018), the root cause of this result may lie in the students' and educators' lack of familiarity and experience with the new model. The 8-week implementation period might not have been sufficient for students to overcome the resistance to change noted by Yong et al. (2015) or to tolerate disadvantages such as the lack of immediate feedback pointed out by Çakır and Yaman (2018). More importantly, although not directly measured in this study, the high level of autonomy required by the FL model appears to have challenged students with low readiness in terms of self-discipline. In parallel with the findings

of Song et al. (cited in Varışlı, 2021) and Yong et al. (2015), in this process where the teacher's physical presence is reduced and responsibility shifts to the student, learners may have failed to sustain sufficient motivation. This situation likely prevented academic outcomes from diverging significantly from the traditional method. Consequently, this study positions itself within the literature by confirming that the success of the FL model depends not merely on its implementation, but strictly on student readiness and the pedagogical adaptation process.

Finally, due to the limited sample size and reliance on convenience sampling, the findings of this study demand cautious interpretation regarding their generalizability to wider contexts.

Recommendations

When all the findings of this research are evaluated generally, it becomes evident that the success of the Flipped Learning model depends not merely on students' existing self-discipline, but remarkably on the quality and motivational design of the pre-class materials. The challenges observed in student preparation highlight that for learners who are not yet accustomed to autonomous study, the instructional content must be designed to be more engaging, interactive, and structured. Rather than attributing low participation solely to a lack of self-discipline, these findings suggest that the implementation process requires a stronger scaffolding mechanism, where the teacher provides more guidance and utilizes motivating digital tools to actively engage students in the learning process. This study was limited to an 8-week implementation period. Studies spanning a longer period (e.g., a full academic term or year) could be conducted to observe the long-term effects of the Flipped Learning model on academic achievement and self-efficacy. Besides, given the significance of learner autonomy, a 'transition period' of 2-3 weeks may be incorporated prior to the full implementation of the FL model to equip students with self-regulated learning strategies.

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