

The Impact of the Flipped Classroom Model on Developing EFL Students' Four Language Skills: An Experimental Study

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Abstract—This study examined the effects of flipped instruction on the reading, writing, listening, and speaking skills of English as a Foreign Language (EFL) learners. The educational environment continues to evolve and adapt under exceptional and timely situations to enhance language acquisition, with innovative teaching approaches like the flipped classroom development that promote student autonomy and involvement. In recent years, learning outcomes in students have indicated that flipped learning—or the presentation of instructional content outside the classroom so that classroom time can be used for practice, participation, and interaction—has significantly influenced language learning. At Fatima Al-Zahraa Secondary School, a quasi-experimental research design was adopted for this study. The participants were female high school juniors, divided into two groups—an experimental group and a control group. The results indicate that the use of flipped classroom pedagogies in EFL settings increases students' engagement and enables the all-round development of language skills. The study also includes implications for the practice of the flipped instruction model and proposals for further investigation into extended flipped instruction, especially in relation to language proficiency levels and diverse teaching contexts.

Index Terms—flipped classroom, EFL learners, student engagement, language education, instructional innovation

I. INTRODUCTION

English as a Foreign Language (EFL) instruction has become a significant part of their education systems. However, long-standing issues with teaching EFL programs that have significant effects on student learning results, engagement, and overall language skill development continue to plague academic institutions worldwide. Students struggle to develop their integrated language skills and exhibit low levels of active participation, interaction, and self-directed learning in class activities. Moreover, investigations into traditional educational practices, including teacher-centered instruction, passive reception of knowledge, and a lack of authentic language practice, are all contributing factors to students' disengagement and leading them to fail at achieving successful learning outcomes (Chen Hsieh et al., 2017; Öztürk & Çakıroğlu, 2021). On the other hand, the COVID-19 pandemic exacerbated existing challenges with student engagement when educational institutions used remote or mixed learning models that made traditional approaches to instruction in the classroom problematic concerning student motivation and language development (Oraif & Elyas, 2021). As a result, investigations into whether the flipped classroom is a potential solution to this problem have greatly increased.

The flipped classroom approach is defined by the reverse of the usual sequence for teaching and learning. In this pedagogic approach, the learner reads instruction materials, for example, video lecture readings or multimedia resources, before receiving face-to-face class time and then spending time in classes to do active learning (for example, group work/collaborative work, problem-solving, or instructor-led support) (Bergmann & Sams, 2012; Lo & Hew, 2017). Based on that, the current research is seeking to answer the question, "How much does the flipped classroom approach help to develop the four language skills (reading, writing, listening, and speaking) and facilitate student engagement in the EFL classroom?" To answer this question, the study utilized both pre- and posttests and a questionnaire to investigate whether or not the flipped learning approach can really improve the teaching and learning of English as a Foreign Language in secondary schools.

II. LITERATURE REVIEW

A. The Flipped Classroom Model in Education

The underlying pedagogy for flipped learning is embedded within the frameworks of constructivist learning theories that emphasize active construction of knowledge, social interaction, and learner autonomy. Lo and Hew (2017) note that

the flipped model incorporates elements of Bloom's Taxonomy by creating students who are expected to engage with lower-order cognitive tasks of remembering and understanding outside of class and reserving their face-to-face time for learning that engages higher-order thinking skills of applying, analyzing, evaluating, and creating. Furthermore, the nature of this pedagogical approach encourages more meaningful learning and aids cognitive development (Evseeva & Solozhenko, 2015).

Literature on the advantages of flipped instruction has grown in a variety of educational disciplines. Studies show evidence of flipped classrooms resulting in increased engagement, better performance, improved satisfaction with learning, and the development of self-regulated learning skills (Akçayır & Akçayır, 2017). The model provides students with flexibility to learn at their own speed, review content as necessary, and come to class prepared for learning.

However, as with any innovative curriculum, there are relevant challenges educators need to consider in implementing the flipped classroom model. Lo and Hew (2017) previously identified challenges that included inconsistent student acceptance of a non-traditional learning experience, a lack of student preparation before class, a lack of technology resources to learn with, an increased preparation workload for teachers in being prepared with content, and the assurance of student accountability for learning before class (Akçayır & Akçayır, 2017). To implement the flipped classroom model, educators must consider pre-service planning, appropriate planning of the communication of classroom expectations, availability of appropriate technology infrastructure, and ongoing support for staff and students. Additionally, learning modules must be responsive to student needs and interests while meeting an acceptable learning and performance outcome. In-class activities should also maximize the effectiveness of students' face-to-face learning experience.

B. The Flipped Classroom in Language Learning

Flipped classroom approaches in language education have received a great deal of attention due to their application to concrete problems experienced in foreign language learning. For example, Öztürk and Çakiroğlu (2021) conducted a study analyzing the design and implementation of flipped learning incorporating self-regulated learning strategies within an English as a Foreign Language (EFL) context. Their research findings reported that the flipped model effectively enhanced students' metacognitive awareness, strategic learning behaviors, and autonomous learning competencies.

Fathi and Rahimi (2022) investigated the influence of flipped classroom teaching on the complexity, accuracy, and fluency of EFL students' writing. Results of the study indicated that flipped instruction had a statistically significant effect on the three domains of writing performance. In most cases, students who learned through flipped classroom teaching produced more syntactically complex and fluent texts with fewer grammatical mistakes compared to students in the control sample. The authors indicated that the flipped model yielded positive opportunities for improving writing proficiency through the out-of-class preparation and the use of the out-of-class work to practice in the classroom.

This is timely, as Qiu and Luo (2022) studied the effects of flipped listening instruction on the listening performance and listening anxiety of Chinese EFL college students. The researchers found that students in the flipped classroom environment had significantly higher scores in listening comprehension and less listening anxiety than their traditional classroom counterparts. The researchers mentioned that the flipped classroom design encouraged the students to preview their listening, develop listening strategies, and receive teachers' support to complete tasks that they would have had difficulty completing on their own, hence increasing performance and decreasing anxiety.

C. The Relationship Between the Flipped Classroom and Academic Achievement

Ample research shows positive relationships between flipped classrooms and academic achievement in a number of educational contexts and subjects (for example, Chen Hsieh et al., 2017). Eltahir and Alsalhi (2025) confirm the positive effect of flipped classroom on students' achievement, motivation, and classroom engagement in higher education. Teng (2018) further reported that EFL students displayed notably enhanced speaking ability following a flipped-classroom experience. Pre-test and post-test comparisons demonstrated significant improvements in speaking skills, specifically pronunciation, grammar, vocabulary, discourse, and interaction. This study showed that increased use of class time for speaking practice and having students' complete lectures and readings led to increased speaking ability.

Qiu and Luo (2022) investigated the listening comprehension outcomes of flipped and non-flipped classrooms. Notably, the students in the flipped class attained significantly higher scores on a standard listening test/scale and made gains in the composites of main ideas, details, inference, and pragmatics. The authors noted that the flipped method addressed the issues of traditional listening teaching by providing sufficient time for preparation and enabling learners to practice in a more focused way during the lesson.

In general, the studies to date indicate positive effects of the flipped classroom model on students' learning performance. Although the positive characteristics of the flipped classroom may be obvious, it has been argued that its effect on academic results could be influenced by other variables, such as quality of assignments before class, design of activities during class, attributes of students, technological infrastructure, and level of teachers' preparedness for the methodology of flipped learning (Akçayır & Akçayır, 2017).

D. The Relationship Between the Flipped Classroom and Student Engagement

Engagement is a key determinant in learning and success. Engagement in learning has three dimensions: behavioral engagement (students' involvement in learning activities), emotional engagement (students' feelings and emotional responses to learning), and cognitive engagement (students' cognitive efforts during learning) (Mok & Flynn, 2019).

Flipped classroom pedagogy is also anticipated to be especially effective in fostering engagement in all three aspects (Khaleel et al., 2020). Also, Mizz et al. (2025) highlights the effectiveness of the flipped classroom in enhancing student engagement while strengthening inclusive learning environments.

Chen Hsieh et al. (2017) analyzed the motivation and engagement of learners in both EFL inverted classrooms and in traditional classrooms. The surveys and qualitative interview results demonstrated that the level of motivation, interest in learning, and satisfaction with classroom experiences in flipped classes were much higher. The participants liked the fact that they received the opportunity to practice interactively during the session, which helped them continue to stay involved and have a positive attitude towards learning (Ardi & Rianita, 2022). Moreover, the flipped classroom method promotes active involvement, student independence, interaction, and reflection on learning (Alsalamy, 2025).

E. Related Previous Studies

Numerous studies have investigated the utilization of flipped classroom methodologies in EFL contexts, building on what has been learned about implementation, learning outcomes, and contextual factors that influence efficacy.

Öztürk and Çakiroğlu (2021) examined the correlation between flipped learning and self-regulated learning in an EFL class. They observed that learners who took part in flipped learning, together with the self-regulated learning method, achieved better language skill results and were more active in learning. The experimental group participants showed greater use of their metacognitive thinking and study strategies than the control group and possessed more self-control over their learning. They concluded that flipped learning and SLL are two effective teaching strategies that can be integrated to enhance and deepen language learning.

In their study, Fathi and Rahimi (2022) concentrated entirely on the applicability of the flipped class method in augmenting writing proficiency. Based on a quasi-experimental pretest/posttest control group design, they adopted a stringent approach to investigating the impact of flipped teaching on writing complexity, accuracy, and fluency. They also examined core linguistic areas such as syntactic complexity, error distribution, and fluency measures to offer strong evidence of developing writing within the flipped classroom model. The authors highlighted that both in-class and out-of-class, flip-based instruction with teacher feedback facilitated students' writing development by providing more opportunities to engage in extended practice and sustained written performance.

Similarly, Qiu and Luo (2022) examined the effects of the flipped classroom on listening anxiety and listening comprehension. Results demonstrated that the flipped pedagogy could enhance the listening task performance and decrease task-based listening anxiety in an EFL environment. The results were explained by the instructional design of flipped lessons, as they alleviated the cognitive load involved in acquiring new content and language use, enabled learners to plan and practice outside of the class, and provided learner support within the classroom. To date, the research evidence pooled from these earlier studies serves as a compelling rationale for offering flipped classroom approaches to EFL.

III. METHODOLOGY

A. Research Design

This study used a quasi-experimental research design employing both pre-test and post-test data collection involving two groups. This method is appropriate for measuring the effectiveness of a pedagogical intervention (i.e., the flipped classroom model) on dependent variables for the four language skills (reading, writing, listening, and speaking) and student engagement in EFL contexts.

The experimental and control groups both received instruction in the four language skills; however, the difference was in the teaching approach.

The study's participants were female students in their third year at Fatima Al-Zahraa Secondary School, a public educational institution in Alexandria, Egypt, during the academic year 2024-2025. The study included 60 participants, who were divided equally into two groups: an experimental group and a control group, each with 30 participants.

Furthermore, the female participants were aged 16 to 17 years; however, three students were 13 years old and represented typical demographic characteristics of third-year secondary school students in Egyptian school settings. Questionnaire data obtained at the pre-study administration provided evidence that 78.3% of the participants (47 students) indicated that they make regular use of educational technology platforms, while 21.7% of the participants (13 students) reported very limited experience with technology in the learning environment. However, all students had basic levels of technological literacy skills necessary for engagement with digital learning materials as required.

Purposive sampling procedures were used to identify participants who had similar academic performance levels and backgrounds for English language proficiency.

Additionally, an independent samples t-test statistical analysis confirmed there were no statistically significant differences ($p > 0.05$) between experimental and control groups. Both groups are homogeneous. This study involved the use of three main instruments:

(a). Language Skills Assessment (Pre-Test and Post-Test)

The research team developed a test to measure the English language skills (reading, writing, listening, and speaking) of the participants, with each of the four sections worth 25 points. Ten multiple-choice questions assessed reading comprehension, with five multiple-choice questions assessing inferential comprehension and five short-answer questions

assessing some level of analysis of text.

The listening comprehension section was designed to test how students comprehend audio material. It included 10 multiple-choice questions assessing listening comprehension with audio recordings—five true/false questions identifying details and five short answer questions requiring participants to draw inferences from the listening passage.

In the speaking part of the test, students were asked to describe a picture, participate in a role-play conversation, and express an opinion. Each task was assessed via a set of rubrics that evaluated fluency, accuracy, pronunciation, vocabulary range, and communication.

The tests were administered both before and after the instruction intervention to evaluate any change in language proficiency. Content validity was established by experienced EFL instructors who served as experts. A reliability analysis yielded a Cronbach's alpha coefficient of 0.87, indicating strong internal consistency.

(b). *Student Engagement Questionnaire*

The research utilized a modified version of the student engagement scale created by Oraif and Elyas (2021) with 25 items.

The first component was Behavior Engagement, which included nine questions about how often or how much the students participated in class, how often they finished their assignments, and how actively they participated in learning activities. The second component was Emotional Engagement, which contained eight items that measured students' interest in learning English, their enjoyment of learning activities, and their attitudes toward studying English. Finally, the third component was Cognitive Engagement, using eight items that measured students' use of deep strategies, their metacognition, and their hard work on difficult tasks.

Participant responses were rated on a five-point Likert scale, beginning at 1 (Strongly Disagree) and ending at 5 (Strongly Agree). The total score could range from 25 to 125 points for all 25 items. The questionnaire was given to both groups after the instructional intervention was completed. The instrument had a previous reliability coefficient of $\alpha = 0.92$. Pilot testing with the current sample produced a reliability coefficient of $\alpha = 0.90$.

Additionally, to explore students' perceptions and attitudes towards their learning experiences, a 10-item adjunct satisfaction instrument (with items measuring aspects of instructional effectiveness, quality of learning materials, opportunities for practice, teacher support, and satisfaction with the general learning experience) supplemented qualitative perspectives on the students' subjective experiences.

B. *Procedures*

The implementation of the research study took place over a period of seven weeks during the second semester of the 2024-2025 academic year and followed a thoughtfully planned sequence:

Week 1: Training Stage for Flipped Classroom Implementation

Before the intervention, the experimental group went through a one-week training period to help students become acquainted with the flipped classroom approach. As part of this training stage, students attended an orientation meeting about the flipped classroom model, which described the approach's structure and expectations. Students were also introduced to the LMS (learning management system) that will be used to access the pre-class content, which includes a video lecture, digital reading passages, and interactive tasks. This hands-on training session instructed the student on how to use the LMS, download resources, and perform pre-class activities. In addition, students engaged in and practiced a sample of the pre-class content, as well as a mock task in class, to learn how applying that knowledge would be assisted in real-world collaborative efforts. Teacher support was offered during the training session, and participants were also permitted to ask questions and express any concerns they had in the days leading up to the training week to help them feel more at ease with the flipped approach. The primary purpose of the training step was to ensure that the students were comfortable with and capable of using the technology for the flipped classroom intervention.

Week 2: Pre-Intervention Assessment

A full language skills pretest was administered to both the experimental and control groups. Furthermore, the demographic information and baseline data on technology use and orientation sessions were collected, and the study protocols and what students could expect were also explained.

Weeks 3-6: Instructional Intervention (Four Weeks)

(a). *Experimental Group (Flipped Classroom Model)*

The experimental group engaged in instruction using the flipped classroom model across four instructional units. Each unit focused on the integrated development of the four language skills:

Unit 1: Reading Skill Focus

In this unit, pre-class activities included viewing video lectures explaining reading strategies and vocabulary and engaging with digital reading passages with comprehension questions, while in-class activities included small group discussions analyzing texts, corresponding comprehension tasks, applying strategies with teacher assistance (for example, modeling practices), and peer teaching, among other activities. Additionally, students also received individualized feedback on readings.

Unit 2: Writing Skill Focus

Pre-class activities included students reviewing video tutorials on how a paragraph is organized and writing conventions. They also looked at model essays and writing samples, and they engaged in pre-writing organizational tasks.

Meanwhile, in-class activities included teacher-directed collaborative brainstorming, a peer review workshop, teacher-guided writing with instant feedback, revising activities, and individual conferences to address writing issues.

Unit 3: Listening Skill Focus

Unit 3 included a pre-class activity where students listened to audio recordings with a guide, a listening task via a video lecture on listening strategies, and a prepared vocabulary list for listening. The in-class activity focused on listening practice with an authentic task strategy, applying task discussion about the listening challenge, collaborative note-taking practice, and target skill development tasks.

Unit 4: Speaking Skill Focus

Pre-class activities included viewing video examples of effective oral communication, listening to sample conversations and presentations, and preparing a strategy for speaking by making outlines, while in-class activities included teacher-directed speaking practice activities, role-playing activities, group discussions and debates, presentation tasks with feedback from peers and the instructor, pronunciation clinics, and fluency practice activities.

During the intervention period, students in the experimental group completed assignments via a learning management system. Class sessions were designed to maximize time for interaction and student learning, with the teacher facilitating, giving feedback, and helping students address difficulties while working with each other.

(b). Control Group (Traditional Instruction)

Participants in the control group received instruction using traditional methodologies. These included teachers conveying instructional content during class time through teacher demonstrations and explanations. Students also listened to the teacher's presentations, took notes, and participated in teacher-led activities. Moreover, practice activities were assigned as independent homework; class time included very little interactive practice with the target forms; and feedback was primarily through homework grading and periodic tests.

The main distinction between the control and experimental groups was in the instructional approach and the organization of activities, while learning objectives and curricular content, which addressed the four language skills, were all equivalent in both groups.

Week 7: Post-Intervention Assessment

In Week 7, teachers administered the post-test of language skills to the two groups, administered the questionnaire on student engagement to both groups, and administered the satisfaction assessment to participants in the experimental group. Teacher observations and notes on implementation were also collected.

C. Data Collection and Analysis

Data gathering took place in the second term of the 2024-2025 academic year at Fatima Al Zahraa Secondary School in Alexandria, Egypt. The data collection phase included the three main instruments used in both the experimental and control groups in this study. Additionally, a pretest and posttest measured the overall proficiency in the English language by assessing the four language skills of reading, writing, listening, and speaking. A questionnaire to assess student engagement in the behavioral, emotional, and cognitive aspects was also provided after the intervention, and a satisfaction survey was provided only for the experimental group to get their perceptions on their learning experience.

These instruments were administered in controlled environments in the same manner for both groups. Students completed the measurement tools independently (i.e., without help), and participation was voluntary, as an appropriate informed consent protocol was observed. Students were not graded based on the research assessments to reduce anxiety towards performance pressure, encouraging honest responses.

TABLE 1
DATA COLLECTION TIMELINE

Week	Activity	Instrument Used	Groups
0	Training Stage for the Flipped Classroom Model	Orientation and LMS training	Experimental Only
1	Pre-Test Administration	Comprehensive Language Skills Test (100 points total)	Both
2-5	Instructional Intervention	Flipped vs. Traditional Instruction	Both
6	Post-Test Administration	Comprehensive Language Skills Test (same structure)	Both
6	Engagement Assessment	Student Engagement Questionnaire (25 items)	Both
6	Satisfaction Survey	Student Satisfaction Survey (10 items)	Experimental Only

The research team employed the Statistical Package for the Social Sciences (SPSS) version 28 for thorough data analysis. The variables were coded as follows:

The pretest total score was based on a scale of 0 to 100 points.

- Reading subscale (0-25)
- Writing subscale (0-25)
- Listening subscale (0-25)
- Speaking subscale (0-25)

Post-test total scores also ranged from 0 to 100 points with the same subscale structure. Engagement Scores (Scale: 25-125 Points):

- Behavioral Engagement Subscale

- Emotional Engagement Subscale
- Cognitive Engagement Subscale

After completing data entry and verifying its completeness and accuracy, statistical analyses continued using multiple analytic approaches:

(a). *Paired Sample T-Test*

A paired sample t-test was performed to estimate the differences in pretest and posttest scores between the control and experiment groups to identify any significant learning improvements for both groups after the intervention period.

(b). *Independent Sample T-Test*

An independent sample t-test was performed to examine posttest scores and compare performance between the two groups to see if flipped classroom learning produced substantially different results than traditional learning.

(c). *Analysis of Covariance (ANCOVA)*

An Analysis of Covariance (ANCOVA) was used to provide statistical analyses, with pretest scores serving as covariates to compensate for existing variations and provide a more accurate estimate of the intervention's impact on posttest performance.

(d). *Descriptive Statistics*

Descriptive statistics, such as averages, standard deviations, and percentages, were used to summarize patterns in overall performance, levels of involvement, and responses to closed-ended questionnaire items.

(e). *Effect Size Calculation*

Cohen's d effect sizes were calculated to highlight the practical significance of observed differences and to shed light on the effect size in terms of the practical relevance of intervention effects when differences are accounted for beyond statistical significance. Statistical significance was evaluated for all inferential analyses at a level of 0.05. When determining and interpreting outcomes from the deployment of the flipped classroom intervention, practical importance, as shown by the effect size, was considered alongside statistical significance.

(f). *One-Way ANOVA Analysis*

A one-way analysis of variance (ANOVA) was used to investigate the relationship between language skill development and engagement, specifically whether the engagement score (behavioral, emotional, and cognitive) reliably predicted the posttest language proficiency score (reading, writing, listening, and speaking level) in the experimental flipped classroom and control group. The engagement score was categorized as high, medium, and low based on the tertile split of the overall engagement score (25-125). The Tukey HSD post hoc analysis was used to find the source of the differences between groups. The analysis also considers pretest scores to control differences in the baseline language proficiency.

IV. RESULTS AND DISCUSSION

A. *Results of Overall Language Proficiency Achievement*

To evaluate the total effect of flipped classroom instruction on overall student English language proficiency, comprehensive pre- and posttest English language proficiency achievement scores yielded from both the experimental and control groups were analyzed. Before and after the instructional intervention, within-group paired sample t-tests compared the total language proficiency scores, and the outcomes of the t-test analyses are presented in Table 2.

TABLE 2
 PAIRED SAMPLES T-TEST OVERALL LANGUAGE PROFICIENCY RESULTS

Group	Test	Mean Score (out of 100)	Standard Deviation	t-value	p-value
Experimental	Pre-Test	56.23	8.45		
	Post-Test	78.67	7.12	14.832	0.000*
Control	Pre-Test	55.87	8.72		
	Post-Test	62.43	8.29	4.561	0.000*

Note: *indicates significance at $p < 0.01$ level.

The pre-test results show that both the control and the experimental group had similar levels of English language proficiency before the instructional intervention. The experimental group had a mean score of 56.23 (SD = 8.45), and the control group had a mean score of 55.87 (SD = 8.72). An independent samples t-test confirmed that there was no significant difference between the groups at pretest ($t = 0.168$, $p = 0.867$), confirming that at pretest the two groups were equal and enabling meaningful comparison of the groups after the intervention.

After the six-week instructional intervention was over, both groups showed statistically significant growth in overall language proficiency levels. The experimental group, who received instruction in a flipped classroom model, experienced greater gains with a mean overall language proficiency post-test score of 78.67, SD 7.12, which was a 22.44-point increase from the pre-test and a 39.9 percent increase from the pre-test. The paired sample t-test demonstrated a statistically

significant difference ($t=14.832$, $p=0.001$), suggesting that the observed change was not due to insignificant variabilities. The effect size of the intervention (Cohen's $d=2.87$) indicated that the finding had a large practical importance.

The control groups, who were taught using traditional instruction only, also demonstrated improvement that was statistically significant, as indicated by a posttest mean of 62.43 and an SD of 8.29, which translated to an increase of 6.56 points, an 11.7 percent increase from the baseline test ($t=4.561$, $p=0.001$). This improvement serves as evidence that students were, indeed, learning as indicated by the standard instruction. However, the increases in the control group were of much lower magnitude than the increases of the flipped instruction group, with a moderate effect size (Cohen's $d = 0.79$).

These findings are in line with previous research literature surrounding flipped classroom approaches to language learning. For example, Öztürk and Çakıroğlu (2021) observed a trend of increased language development and attributed it to opportunities for learner-led active learning, the increased autonomy of learners in their learning, and greater opportunities for enacting quality practice (Hung, 2015).

An independent samples t-test was conducted to technically examine the effectiveness of flip instruction against the standard instruction group based on post-test groups. Post-test comparability results are illustrated in Table 3.

TABLE 3
INDEPENDENT SAMPLES T-TEST OF POST-TEST COMPARABILITY BETWEEN GROUPS

Group	Mean Post-Test Score	Standard Deviation	t-value	p-value	Cohen's d
Experimental	78.67	7.12	8.234	0.000*	2.13
Control	62.43	8.29			

Note: *specified significance at the $p < 0.01$ level.

The descriptive statistics showed that the experimental group obtained significantly higher posttest mean scores ($M=78.67$) compared to the control group ($M=62.43$), with the magnitude of mean difference being 16.24 points. The independent t-test turned out also very significant ($t=8.234$, $p<0.001$), which can be considered as a statistically significant difference, and the researchers are sure that the difference is due to the pretest/posttest procedure and is not just random. The practical size of the effect (Cohen $d=2.13$) indicated that the flipped classroom intervention was not only statistically but also practically significant for both groups, as far as the findings in their language learning and acquisition implied. The study's quantitative results revealed that employing the flipped classroom improved EFL learners' English language skills (Najmi, 2020). Numerous pedagogical factors can explain what the experimental group achieved in the study from using the pedagogic frame of the flipped classroom.

First, the application of the flipped classroom strategy provided more time for active learning in class as content delivery took place outside of class, and consequently, the students devoted more time to practicing a wide range of language skills. Second, the flipped strategy enables students to absorb the instructional input out of class at their own pace and to access multiple views of the content if necessary to reach full understanding. Each person has a unique approach to dealing with and counteracting cognitive overload while learning the skill. Third, since students are already engaged in active learning, flipped instruction increases the effectiveness of the third phase—immediate evaluation and face-to-face remedial instruction. Finally, the flipped method encourages collaborative learning and interaction with peers in the target language, thus creating a more communicative and social learning environment, abundant with collaborative learning and meaningful interaction (Evseeva & Solozhenko, 2015). Implications of this study are consistent with theoretical approaches that emphasize the significance of input, output, and interaction for second language acquisition.

B. Results Related to Individual Language Skills

To describe more fully the individual intervention effects of the flipped classroom on students' language skills, separate analyses were conducted for each of the four language skills, which are represented in the comparative results between the experimental and control groups in Table 4: reading, writing, listening, and speaking skills.

TABLE 4
POST-TEST PERFORMANCE BY INDIVIDUAL LANGUAGE SKILL

Language Skill	Group	Mean Score (out of 25)	Standard Deviation	t-value	p-value	Cohen's d
Reading	Experimental	19.87	2.14	6.452	0.000*	1.67
	Control	15.73	2.48			
Writing	Experimental	19.23	2.35	7.128	0.000*	1.84
	Control	14.90	2.31			
Listening	Experimental	20.13	1.89	5.891	0.000*	1.52
	Control	16.47	2.43			
Speaking	Experimental	19.44	2.28	6.734	0.000*	1.74
	Control	15.33	2.37			

Note: *shows significance at the $p < 0.01$ level.

As presented in Table 4, the students in the experimental group achieved higher scores than the students in the control group across all language skills.

(a). Reading Comprehension

Students in the experimental groups achieved better scores than the control group in reading comprehension ($M = 19.87, SD = 2.14$ vs. $M = 15.73, SD = 2.48$), $t(65) = 6.452, p < 0.001, d = 1.67$. The inverted classroom provided students with the chance to practice reading by letting them read assigned reading texts and practice reading skills outside of class before engaging in deeper excitement and comprehension objectives in class. This was consistent with the academic literature demonstrating the need for additional engagement with the texts and also reading strategy practice (Lee & Wallace, 2018).

(b). Writing Proficiency

The experimental group had significantly better writing abilities ($M=19.23, SD=2.35$) than the control group ($M=14.90, SD=2.31$) and reported significant differences at 7.128 and $p=0.001$. Moreover, the significant effect size was 1.84. Many of these were aligned with Fathi and Rahimi (2022), who noted significant gains in complex writing accuracy and fluency with flipped instruction. The students had ample preparation before class and then had enough time to write in class through peer review, and the teacher’s feedback presented ideal conditions for writing development (Al-Harbi & Alshumaimeri, 2016).

(c). Listening Comprehension

The student in the experimental group had a higher listening score ($M=20.13, SD=1.89$) than the students in the control group ($M=16.47, SD=2.43$) for a significant effect at 5.891 and $p=0.001$, with a large effect size of 1.52. This finding appears to support the earlier work of Qiu and Luo's (2022) report, which enhances listening performance and decreases listening anxiety when doing flipped classroom practice. The potential to preview listening materials, develop specific listening strategies, and receive support during in-class activities resulted in improved listening performance (Gok et al., 2021).

(d). Speaking Skills

The experimental group showed significantly higher speaking, achieving $M=19.44$ and $SD=2.28$, whereas the control group attained $M=15.33$ and $SD=2.37$, demonstrating a significant difference at 6.734 and $p=.001$ and a large effect size of 1.74. These results were consistent with Teng (2018), who found improvement in oral proficiency after flipping instruction. The flipped instruction models promote speaking development by freeing up class time for speaking practice while lowering cognitive load by not processing new content and producing output in the same time period (Najmi, 2020).

The replicable pattern of superiority in performance across all four language skills provides further supporting evidence that the flipped classroom model meets the holistic language development needs of EFL learners. The flexibility of the approach to support the simultaneous development of multiple skill areas is a notable advantage of the pedagogical model, given that integrated skills' development reinforces communicative competence (Mehring, 2016).

C. Student Engagement Results

To meet the goal of the research in relation to student engagement, participants were administered a comprehensive post-intervention questionnaire, which measured behavioral, emotional, and cognitive engagement for both groups. Table 5 displays overall engagement results and subscale comparisons.

TABLE 5
STUDENT ENGAGEMENT SCORES BY GROUP AND DIMENSION

Engagement Dimension	Group	Mean Score	Standard Deviation	Maximum Possible	%	t-value	p-value
Overall Engagement (25 items)	Experimental	102.47	8.23	125	82.0%	9.156	0.000**
	Control	78.93	9.45	125	63.1%		
Behavioral Engagement (9 items)	Experimental	37.23	2.87	45	82.7%	8.734	0.000**
	Control	28.67	3.12	45	63.7%		
Emotional Engagement (8 items)	Experimental	33.17	2.94	40	82.9%	9.012	0.000**
	Control	25.43	3.28	40	63.6%		
Cognitive Engagement (8 items)	Experimental	32.07	3.15	40	80.2%	8.567	0.000**
	Control	24.83	3.41	40	62.1%		

Note: **indicate significance at the $p<0.01$ level.

The engagement analysis showed that the student in the experimental condition was significantly more engaged in overall engagement than the student from the control group ($M=102.47, 82.0%$, and $M=78.93, 63.1%$ points), $t=9.156, p<0.001$, a difference of 18.9 percentage points. This major difference in level of engagement suggests that the flipped classroom model supports a more engaging learning experience that engages students with more cognitive affection and behavior in learning English.

(a). Behavioral Engagement

The experimental group showed significantly higher levels of behavioral engagement ($M=37.23, 82.7%$) compared to the control one ($M=28.67, 63.7%$), $t=8.734, p<0.001$. It was suggested that students in flipped classes were more engaged behaviorally, showed a higher attendance rate, completed assignments more often, and participated in class interaction more frequently while showing a higher level of on-task behavior. The teacher also notes that students in the experimental

condition come to class more prepared, participate with more enthusiasm during the activity, and put in strong effort into completing the learning task (Ardi & Rianita, 2022).

(b). *Emotional Engagement*

Students enrolled in a flipped instructional model indicated significantly greater levels of emotional engagement ($M = 33.17$, 82.9%) than participants following a traditional instructional model ($M = 25.43$, 63.6%). $t = 9.012$, $p < 0.001$, indicating the flipped instructional model engaged students more positively in the learning of English, in terms of positive feelings towards learning English, interest in course content, enjoyment of learning activities, and identification with being an English learner. Qualitative feedback indicated students experienced the flipped instruction as more pleasurable, less stressful, and more personally valuable than the traditional instructional model (Huseinović, 2024).

(c). *Cognitive Engagement*

The experimental group indicated significantly greater cognitive engagement ($M = 32.07$, 80.2) than the control group ($M = 24.83$, 62.1). $t = 8.567$, $p < 0.001$, demonstrating that students in the flipped classroom approached learning from a deeper learning style, demonstrated metacognitive awareness, displayed greater mental effort in the learning task, and approached challenging learning materials with much perseverance. The findings for engagement corroborate findings from Öztürk and Çakıroğlu (2021).

In the link between engagement and language skill development, the one-way ANOVA revealed a significant effect for engagement on post-test language proficiency, $F(2,57)=12.45$, $p<0.001$, $\eta^2=0.31$. The post hoc Tukey HSD test showed that there was much higher post-test proficiency for the high-engagement experimental group ($M=82.35$, $SD=6.78$) when compared with both the medium-engagement ($M=75.12$, $SD=7.23$) and low-engagement ($M=68.45$, $SD=8.10$) experimental groups in the post-test for each language skill ($p<0.05$). There were no significant differences between the engagement groups in the control group ($p>0.05$). This finding suggested that engagement—especially in the flipped classroom model—is an important predictor for growth in language skill, and it supported the hypothesis that engagement mediates the effectiveness of flipped instruction.

TABLE 6
HIGH-RANK STATEMENTS FROM EXPERIMENTAL GROUP

Statement	Mean Score (Out of 5)	Percentage Agreement (4-5 on Scale)
The flipped classroom approach helped me learn English more effectively.	4.57	93.3%
I enjoyed having access to learning materials that I could review at my own pace.	4.53	90.0%
Class time activities were more interesting and engaging than in traditional classes.	4.47	90.0%
I felt more confident participating in class activities after preparing at home.	4.43	86.7%
The flipped model helped me develop better study habits and learning strategies.	4.37	86.7%

Responses to the survey offer a strong indication that the flipped classroom has been viewed very positively by participants. In the experimental group, the most highly rated statement, “The flipped classroom helps me learn English better” ($M=4.57$ or 93.3% agreement), indicated that students view the instructional method as successful.

Students greatly appreciated learning in a flipped classroom, especially because of the demonstrated flexibility and agency it offered. For example, there was strong agreement with “I enjoy having access to learning materials, so I reviewed them at my own pace” ($M=4.53$, or 90.0% agreement). As mentioned, this flexibility will enable learning variety that considers individual student variances in engagement, access, and interaction with academic content (Azzouz Boudadi & Gutiérrez-Colón, 2020).

The statement regarding class activities being more engaging ($M = 4.47$, or 90.0% agreement) also suggested that this reformulated use of class time creates a more engaging and captivating method for learning, while the use of class time for in-class interactive practice and participation in learning activities, rather than receiving information passively, was making a difference in classroom environments that participants found engaging, motivating, and fun (Ardi & Rianita, 2022). More importantly, students had indicated increased confidence in classroom participation after home preparation ($M=4.43$, or 86.7% agreement), indicating that the flipped model contributed to reducing anxiety during performance and arriving better prepared.

The students also noted that the flipped model had facilitated the development of meaningful learning strategies and study skills ($M=4.37$, and 86.7% agreement). This metacognitive awareness and strategy development was another added benefit beyond the relatively immediate language skill benefits and contributed to eventual long-term learning success. This enhancement of engagement outcomes, combined with better levels of achievement, will add additional evidence in supporting the flipped learning of EFL learners (Huseinović, 2024).

V. CONCLUSION

This is a strong empirical study that offers convincing proof for endorsing the flipped instruction model in short-term English proficiency and involvement by secondary EFL students. According to the study results, the flipped instruction method had specific benefits compared to the traditional instruction in many learning outcomes. Also, the result of engagement showed much improvement from the use of the flipped approach. This positive impact is attributed to the

following points:

The first one is the possibility for the flipped model to optimize learning potential by active learning chance, removing content delivery during instruction time, and providing the instruction time to practice meaningful communication and apply skills in face-to-face interaction. This sequence of learning time also aligns with the research results that show the process of language learning is a developing process requiring time and engagement with active language usage rather than just passive language use (Evseeva & Solozhenko, 2015). Second, there exists in the flipped model the opportunity for managing personal differences in learning, depending on how the student is capable of going through his/her instructional material at his/her own pace. This involves the capability of going through content as many times as one can to achieve the realization. Students can learn at their own rhythm and at a much slower pace than the teacher and can completely and thoroughly process the input of the lingo without being distracted by anxiety about not being able to follow the teacher (Mehring, 2016).

Third, flipped teaching allows one to offer timely feedback and remedial learning at an essential phase of learning the skill application. In particular, within the classroom setting, the teachers can observe the performance and identify any challenges as they arise and deliver corrective instruction at the very point that students are working on language skills application (Başal, 2015).

Fourth, the inverted classroom provides an opportunity for collaborative learning, peer-to-peer learning, and communicative use of the language, which is frequently extremely difficult to imitate in the traditional environment. The pedagogical structure of content delivery duration would enable the teacher with the power to structure active group work, pair work, conversations, and other interactive activities, all of which would be valuable interactive experiences capable of supporting rich interaction and social learning. Such collaborative interactions are also directly concerned with the social nature of transformational language learning and provide real-life contexts for creating communicative competence (Azzouz Boudadi & Gutiérrez-Colón, 2020).

Finally, fifth point implies that it promotes autonomy, self-regulated learning among students, and metacognitive awareness. Students gain the ability to create their own learning, keep track of their knowledge, evaluate their progress, and correct their approaches to learning: an ability that they will not only find useful in their current learning success but also allow them to obtain and develop the skills of such activity in the future (Nikmah, 2020).

A. Limitations of the Study

While the researchers provide useful information to support the efficacy of flipped classes, numerous limitations must be addressed. The study was conducted in a single geographical location and included a limited sample of students from a single secondary school, limiting the study's findings. The intervention lasted six weeks, which was long enough to see substantial impacts from the intervention in the trial; however, this length did not adequately capture the durability of improvement after the study or any delayed effects on learning.

B. Recommendations and Pedagogical Considerations

The researcher suggests some recommendations for practice in education in view of the ample evidence highlighting the flipped classroom's effectiveness provided in this study. First, flipped classrooms should be considered as a guiding model for EFL programs in schools, particularly in secondary and post-secondary educational contexts, where students develop an essential level of technological literacy and self-regulated learning (Mehring, 2016). Second, professional learning development for teachers should include content on flipped instruction principles and how to work with technology and create effective content materials and design to implement that practice (Akçayır & Akçayır, 2017). Third, schools must develop the appropriate technological infrastructure to support flipped instruction, including internet access, learning management systems, and content creation tools. Fourth, curriculum developers should create well-designed, quality pre-class materials, such as instructional videos, interactive exercises, and digital resources for actively engaging learners, to represent content clearly and provide multiple access points and the ability to access content quickly (Başal, 2015). Fifth, teachers should create engaging classroom activities that maximize the time for active learning, promote collaboration and interaction, and provide opportunities for authentic language practice for all four skills (Ardi & Rianita, 2022). Finally, the implementation should be gradual and mapped out, carefully starting with a pilot program, obtaining student feedback, making refinements based on experiences, and incrementally expanding with systematic models (Evseeva & Solozhenko, 2015).

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