A Systematic Review of Flipped Learning in EFL Education

Kevser HAVA [1]

**[1] kevserhava@gmail.com,
orcıd.org/ 0000-0003-3822-6796,
Yozgat Bozok University,Türkiye**

ABSTRACT

Research on flipped learning in English as a Foreign Language (EFL) education has garnered substantial scholarly attention in recent years. This systematic review aims to elucidate the potential of flipped learning within the framework of foreign language education. A total of thirty articles from Social Science Citation Index (SSCI) journals, published between 2018 and 2022, were included in this review based on predetermined inclusion and exclusion criteria. The analysis focused on examining the research contexts, methodologies and foci, learning management systems, learning theories, and learning activities. The findings indicate that the majority of studies predominantly involved higher education students, with a significant number employing a quasi-experimental research design. Furthermore, the flipped learning process was largely informed by constructivist learning theory. The results suggest that the primary advantage of flipped learning lies in its capacity to enhance students' writing, speaking, and overall academic performance. Additionally, the review underscores that the integration of emerging technologies, such as augmented reality, automatic recognition, and artificial intelligence chatbots, into learning activities serves as an effective strategy for improving students' language skills and engagement.

Keywords:	*Flipped learning, EFL education, systematic review, technology-assisted language learning.*

INTRODUCTION

In the contemporary globalized context, there is an increasing expectation for individuals to demonstrate a high level of proficiency in the English language. Consequently, numerous countries have undertaken significant initiatives to integrate English as a Foreign Language (EFL) instruction into their educational frameworks (Wu et al., 2020). Nonetheless, the conventional methodologies employed in EFL pedagogy frequently fail to offer opportunities for intellectually demanding tasks, higher-order thinking skills, communicative activities, and problem-solving (Bakla, 2018). To facilitate effective language instruction, it is imperative to emphasize active learning, student motivation, and interactions among peers and instructors (Lin et al., 2018).

A significant barrier to acquiring English as a foreign language is the limited availability of practice opportunities (Lin & Mubarok, 2021; Lin et al., 2018). The time allocated for lessons is frequently inadequate for students to cultivate their English speaking skills (Lin & Hwang, 2018). This issue is particularly pronounced in traditional writing courses, where fixed time intervals restrict students' participation in both individual and group writing activities (Liu et al., 2022). As a result, students face challenges in developing proficiency in English writing skills (Challob, 2021). Achieving mastery of writing skills in a foreign language within a constrained timeframe presents substantial difficulties (Wu et al., 2020; Wu et al., 2021), thereby necessitating the implementation of innovative teaching materials and pedagogical approaches in English

language education (Wu et al., 2020). In recent years, flipped learning has gained considerable traction within the realm of foreign language education (Jiang et al., 2021; Liu et al., 2022). To enhance understanding of the current state of research on this topic and to identify potential avenues for future inquiry, it is crucial to conduct a thorough review of the existing literature. While prior literature reviews have been undertaken, this review distinguishes itself by focusing on learning strategies and activities, learning models, and learning management systems that have been incorporated into flipped learning within English as a Foreign Language (EFL) education. Additionally, this review encompasses publications from 2018 to 2022, as previous reviews addressing this specific timeframe are limited.

What is a flipped classroom?

The flipped classroom represents an innovative pedagogical model designed to enhance student engagement and achievement by relocating course content delivery beyond the traditional classroom setting, utilizing technological tools (Clark, 2015). The primary objective of the flipped learning approach is to empower students to engage actively and deeply with online course materials, thereby promoting a more profound understanding of the subject matter during instructional time. Additionally, the flipped learning model encourages students to critically examine and discuss new concepts and ideas, fostering a collaborative learning environment in which educators are not the sole purveyors of information (Burke & Fedorek, 2017). In the context of flipped learning, the educator assumes the role of a guide and supporter of students rather than merely delivering course content (Namaziandost & Çakmak, 2020). Furthermore, flipped learning alleviates students from temporal and spatial constraints, thereby enabling them to access information at their own pace and convenience (Haghighi et al., 2019). Group-based activities play a crucial role in flipped learning environments, facilitating interactive and cooperative learning experiences (Tsai, 2021).

What are the benefits and challenges associated with flipped learning?

Flipped classrooms present significant opportunities for students to learn at their own pace and engage with online content (James, Chin, & Williams, 2014; Steen-Utheim & Foldnes, 2018). Furthermore, flipped learning not only captures students' interest in course material but also enhances their active participation in the learning process (Alebrahim & Ku, 2020). In addition, the flipped classroom model facilitates collaboration on meaningful group tasks during class, thereby fostering the development of higher-order thinking skills (Chang & Lin, 2019) and enabling a deeper learning experience (Lin & Mubarok, 2021). To address diverse learning needs, a variety of course materials can be employed, including pre-recorded video lectures, online assignments, and an extensive array of online resources (Tsai, 2021). Research indicates that flipped learning in foreign language education has the potential to improve students' language learning performance (Chen & Hwang, 2020) and to enhance their active engagement in language activities (Khodabandeh, 2023). Within the flipped learning framework, students are provided with increased opportunities to practice writing and speaking skills in a foreign language (Webb & Doman, 2020).

Conversely, there are several disadvantages to consider when implementing flipped learning. The process of locating or producing appropriate instructional videos can be time-consuming for educators (Yang & Chen, 2020). In underprivileged communities, the limited access to technology for both teachers and students may pose significant challenges (Bakla, 2018). Additionally, students may arrive in class already familiar with the course content as a result of pre-lesson preparation (Burke & Fedorek, 2017). Moreover, some students may encounter difficulties in locating and comprehending online course materials due to insufficient self-regulated learning skills (Lai & Hwang, 2016).

Review of the Literature

In recent years, a discernible trend towards flipped learning has emerged within the context of English as a Foreign Language (EFL) or English as a Second Language (ESL) education. Consequently, systematic review studies have been undertaken to investigate the effects of this pedagogical model. For instance, Turan and Akdağ-Çimen (2020) performed a content analysis of 43 articles pertinent to the field of English language teaching. Their systematic review indicated that flipped learning has gained significant traction in language education. Similarly, Arslan (2020) examined 78 articles utilizing content analysis and identified positive

effects of flipped learning in foreign language education. The findings suggested that flipped learning yields favorable learning outcomes for students, particularly regarding writing and speaking skills.

Bener (2021) conducted a review and analysis of 27 articles indexed in various databases, demonstrating that flipped learning in EFL education offers numerous advantages, including the enhancement of language skills, the promotion of peer interaction, and the increase of practice time. Şensöz and Erdemir (2022) evaluated master's and doctoral theses addressing flipped classrooms within the Turkish context. Their research revealed that flipped learning significantly contributes to students' language development, encompassing grammar skills, speaking skills, vocabulary enhancement, and listening skills. Additional review studies conducted by Heredia Ponce et al. (2022) and Zain (2022) also indicated that flipped learning positively influences students' language development. Lining and Abdullah (2023) reviewed 15 articles on flipped learning for EFL education during the COVID-19 pandemic. This systematic review elucidated several advantages of flipped learning in foreign language instruction, including improved speaking skills, increased willingness to engage in speaking activities, and enhanced writing skills.

Purpose of this study and research questions

In this study, a systematic literature review was conducted to gain insights into the current research status and the potential of flipped learning in EFL education. The research questions that guided this systematic review are as follows:

- In what contexts were the studies conducted?
- What is the primary research focus?
- What research methodologies were employed, and how were the variables measured?
- Which internet access platforms were utilized?
- What types of learning theories or models informed the flipped learning approach?
- What types of learning activities were implemented in the studies?
  What were the findings regarding the application of the flipped learning model in EFL education?

RESEARCH METHOD

Research Model

A systematic review has been conducted utilizing a rigorous methodology for the search, selection, coding, and analysis of relevant studies. The subsequent sections will provide a detailed account of these procedures. A systematic literature review involves the identification, selection, and critical appraisal of research to address a clearly articulated research question (Dewey & Drahota, 2016). This methodology includes a comprehensive and transparent search across multiple databases and grey literature, thereby ensuring that the review can be replicated and reproduced by other researchers. The search process specifies the type of information sought, evaluated, and reported within established temporal parameters. Additionally, critical components of the search—including search terms, search strategies (incorporating database names, platforms, and search dates), as well as defined boundaries—must be thoroughly documented.

In this study, only research articles published in journals indexed by the Social Sciences Citation Index (SSCI) were reviewed to ensure the high quality of the included literature. The review process employed the Web of Science search tool, an online service that encompasses multiple databases, including those containing SSCI-indexed journals.

Search terms

During the research process conducted in the Web of Science database, the advanced search function was employed. The selected search term was as follows: TS= (("flipped classroom" OR "flipped learning" OR "flipped" OR "flipping" OR "flipping classroom" OR "inverted") AND ("English" OR "EFL classroom" OR "foreign language teaching" OR "EFL courses")). The retrieved articles were filtered according to specific categories including "education & educational research," "linguistics, language linguistics," "last 5 years," and "English."

Ultimately, a total of 58 articles were accessed upon completion of the search. Of these, 28 articles were excluded due to their lack of focus on flipped learning within the context of EFL education. The search was concluded by the end of November 2022.

Data analysis

The content analysis method was utilized for the data analysis. A coding scheme was adapted from Turan and Akdag-Cimen (2020) to examine substantive factors associated with data collection, data analysis, and learning outcomes. The articles were coded according to the coding scheme documented in an Excel spreadsheet. This scheme encompasses multiple categories, including research method, participants, and Internet access platforms. Based on the data, relevant tables were generated using Excel software. A single researcher undertook the coding and analysis of all the articles.

Validity and Realibility

The full texts of the fifty-eight articles were downloaded, and their eligibility for the current study was assessed independently by two researchers. The review of eligibility for these articles was conducted according to established inclusion and exclusion criteria. It is important to note that potential bias may arise during the selection and evaluation of publications throughout the screening process. Furthermore, in the development of the datasets, a single coder was initially tasked with reviewing and coding the articles; however, the relevance of these articles was subsequently evaluated by two independent coders. Involving a second coder is recommended to mitigate the risk of inadvertently overlooking relevant publications. This supplementary measure may also contribute to reducing reviewer bias in the selection of studies.

RESULTS

This section delineates the findings of the analysis. Appendix 1 comprises a summary table that encapsulates the key results.

Years and Outlets of Publication

The 30 articles were published between 2018 and 2022. As illustrated in Figure 1, there has been a consistent increase in the number of SSCI journal articles addressing this subject. Notably, there is a substantial surge in publications during the years 2021 and 2022, with 16 out of 30 articles (53.3%) published in this two-year period.
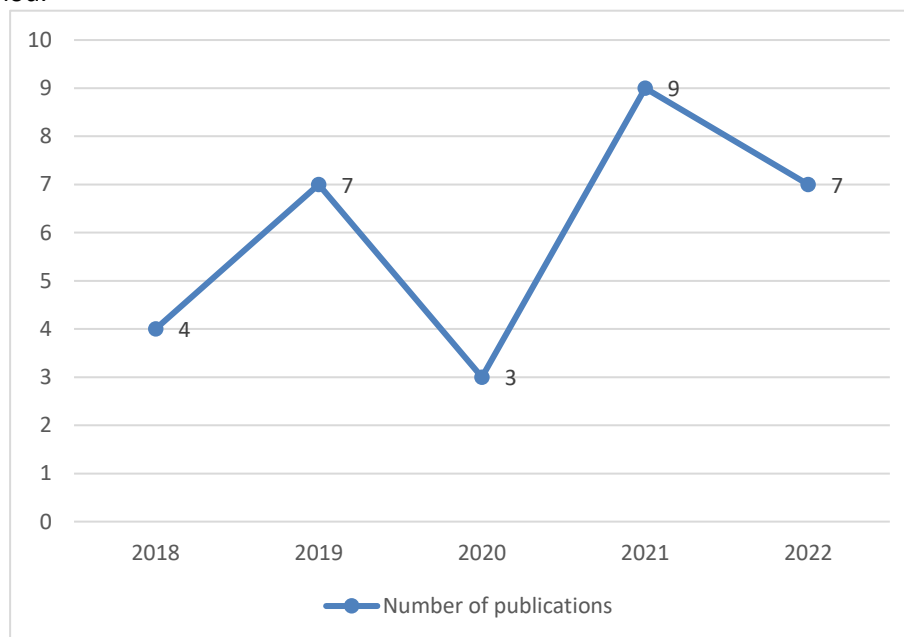

Figure 1. *Number of publications from 2018 to 2022 (n=30)*

The articles selected for analysis were sourced from a total of 17 distinct scholarly journals. Among these, the Journal of Computer-Assisted Language Learning emerged as the most prolific publisher regarding the subject of flipped learning in English as a Foreign Language (EFL) education, with seven articles constituting 23.33% of the total published between 2018 and 2022. The journal Education and Information Technologies ranked second, with five articles representing 16.66% of the total. Three articles on this topic were published in the journal Educational Technology & Society. Furthermore, the Asia-Pacific Educational Researcher, Computer Assisted Learning, International Journal of Educational Technology in Higher Education, Language Teaching Research, and Interactive Learning Environments each published two articles related to this subject. The remaining journals included in the analysis each contributed one article on this topic (refer to Table 1 for further details).

Table 1. *Outlets of Publications (n=30)*

Journal Titles	Frequency
Computer Assisted Language Learning	7
Education and Information Technologies	5
Educational Technology & Society	3
Computer Assisted Learning	2
The Asia-Pacific Education Researcher	2
Language Teaching Research	2
International Journal of Educational Technology in Higher Education	2
Interactive Learning Environments	2
Australasian Journal of Educational Technology	1
Innovations in Education and Teaching International	1
British Journal of Educational Technology	1
Technology, Pedagogy, and Education	1
Language Learning & Technology	1

Context of Studies

Locations

As indicated in Table 2, research on flipped learning in EFL education has predominantly been conducted in Asia (29 studies, 96.6%) and, to a lesser extent, in Europe (1 study, 3.33%). The highest concentration of studies is found in Taiwan (10 studies, 33.3%) and Iran (9 studies, 30%), with China closely following with 5 studies (16.6%).

Table 2. *Locations Where Studies Are Conducted*

Locations	Frequency
Taiwan	10
Iran	9
China	5
Turkey	1
Omani	1
Malaysia	1
Anbar-Iraq	1
France	1
South Korea	1

Sample Sizes

The sample sizes varied across the studies (see Table 3). Fewer than 100 participants were included in 23 studies (69%). Approximately 16.66% of the studies featured a sample size ranging from 101 to 200. Of the total 30 studies, only 2 (6.66%) included 200 or more participants.

Table 3. *Samples Size Across The Studies (n=30)*

Sample size	Number of studies
< 25	2
25–50	7
51–100	14
101–150	1
151–200	4
> 200	2

Education Levels

Table 4 delineates the distribution of studies conducted among students across various educational levels. The preponderance of the studies, comprising 73.33% of the total, concentrated on university students. Four studies (13.3%) included participants from multiple educational levels, whereas two studies (6.66%) specifically focused on high school students. Furthermore, two studies (6.66%) engaged participants from primary school.

Table 4. *Participants' Educational Levels (n=30)*

Educational level	Frequency
Primary	2
High school	2
Higher	22
Mixed	4

Duration of the Intervention

The duration of interventions across 30 studies is presented in Table 5. Twelve of the 30 studies (40%) reported interventions lasting less than three months. Notably, in half of the studies (11 out of 30, 36.6%), the interventions were conducted for a duration exceeding three months. Additionally, seven studies (23.33%) documented interventions lasting longer than four months.

Table 5. *Duration of Interventions (n=30)*

Duration of the studies	Number of studies
More than 1 week and less than 5 weeks	3
More than 6 weeks and less than 10 weeks	9
More than 11 weeks to 15 weeks	11
More than 16 weeks	7

Research Focus, Methods, Measures, And Instruments/Techniques

Research methods

Table 6 presents the research methodologies employed in the analyzed studies. A significant proportion of the studies utilized quasi-experimental methods (19 studies, 63.3%), while a smaller subset employed mixed-methods approaches (9 studies, 30%). Additionally, two studies utilized case study methodologies (6.7%).

Table 6. *Types of Research Methods (n=30)*

Research Methods	Number of studies
Quasi-Experimental Research	19
Mixed	9
Case Study	2

Instruments / Measures

As illustrated in Table 7, questionnaires and surveys emerged as the predominant methods employed, with 28 studies (93.3%) utilizing these instruments. This was followed by learning assessments in 23 studies (76.6%), interviews in 10 studies (33.3%), process data also in 10 studies (33.3%), reflective journals in 6 studies (20%), and observations in 2 studies (6.66%).

Table 7. *Types of Instruments Identified in the Studies*

Instruments	Frequency
Self-report (Questionnaires and surveys)	28
Learning assessments (Tests examining student learning performance)	23
Interviews	10
Process data (classroom recording data, log-on time, etc.)	10
Reflective journals /learning diaries	6
Observations	2

Internet Access Platforms

The internet access platforms employed in the intervention of 22 studies are presented in Table 8. It is important to highlight that eight studies did not offer documentation concerning the internet access platforms utilized. An examination of Table 8 reveals that four articles (13.3%) employed Moodle as a learning management system, while three articles (10%) selected Edmodo. Additionally, two articles utilized Sakai (6.6%), YouTube (6.6%), and WhatsApp (6.6%) as platforms.

Table 8. *Internet Access Platforms Used in the Studies*

Internet Access Platforms	Frequency
Moodle	4
Edmodo	3
Sakai	2
YouTube	2
WhatsApp	2
Facebook	1
ZUVIO	1
Voice Tube	1
Unipus	1
Blackboard	1
Telegram	1
Google Classroom	1
Schoology	1
Kakao Talk	1
Not specified	8

Learning Activities

The pre-class and in-class learning activities utilized in the studies are presented in Table 9. As illustrated in Table 9, seven articles employed individual and collaborative writing activities alongside

discussion techniques, accounting for 23.33% of the total. Four articles incorporated speaking activities, representing 13.33%, followed by role-play techniques, which constituted 10%. The remaining methodologies and techniques employed in the studies included homework or exercises, augmented-enhanced activities, group and pair work, concept mapping, student-led questioning, student response systems, reading activities, and mind map-guided artificial intelligence chatbots.

Table 9. *Pre-class/In-Class Learning Activities Used in the Studies*

Pre-class/In-class learning activities	Number of the studies
Individual / Collaborative writing activities	7
Discussion	7
Speaking activities / ASR task-based activities	4
Role-play	3
Group/ Pair work	3
Homework or exercises	2
Augmented-enhanced activities	2
Concept mapping	1
Student-led questioning	1
Student response system	1
Reading activities	1
Mind map-guided AI Chatbot	1

Learning Theories / Models

In the context of learning theories and models, it was noted that 13 out of 30 studies (43.33%) did not provide specific information regarding the learning theories or models employed to inform the intervention (refer to Table 10). Among the remaining 17 studies (56.66%), a diverse array of learning theories and models were identified as guiding the implementation of flipped learning. These included constructivist theory, self-determination theory, cognitive theory, context-based game learning, pair and share strategy, output-driven/input-enabled model, technology acceptance model, and the ARCS motivational model. For a more comprehensive elucidation of the learning theories and models, please consult Appendix A.

Table 10. *Types of Learning Theories /Models (n=30)*

Learning Theories / Models	Number of the studies
Constructivist theory/ Social constructivist theory/ Active learning / Experiential learning	7
Self-Determination Theory	2
Cognitive elaboration theory/ Social-cognitive theory	2
Context-based game learning	1
Online community-based learning	1
Output-driven/Input-enabled model	1
Technology acceptance model	1
The ARCS motivational model	1
Not specified	13

Research Focus

Approximately half of the studies (13 out of 30, 43.33%) focused on student perceptions and experiences. Eight articles (26.6%) investigated the effectiveness of flipped learning on writing performance. Seven articles (23.33%) examined student speaking and learning performance. Motivation and learning anxiety were the subjects of investigation in four studies (13.33%). Two studies (6.66%) explored students'

self-efficacy, satisfaction, participation, and autonomy within the context of flipped EFL education. Additionally, factors such as willingness to communicate, critical thinking awareness, intercultural sensitivity, cognitive load, demotivation, reading proficiency, and attitudes toward technology for language learning were addressed in one article (3.33%).

Table 11. *Types of Variables Adopted in the Studies (n=30)*

Measures	Number of studies
Perception	13
Writing performance	8
Speaking performance	7
Learning performance	7
Motivation	4
Learning anxiety	4
Self-efficacy	2
Participation	2
Autonomy	2
Willingness to communicate	1
Critical thinking awareness	1
Intercultural sensitivity	1
Cognitive load	1
Demotivation	1
Reading proficiency	1
Communicative competence	1
Attitudes toward technology for language learning	1

Findings Related to the Results of the Studies

Student Perception/Satisfaction Toward Flipped Learning

Across multiple studies, researchers have consistently found that students exhibit positive attitudes toward the flipped learning model. The results indicate that students perceive the flipped learning approach favorably (Haghighi et al., 2019; Lin & Hwang, 2018; Lin et al., 2018; Liu et al., 2019; Liu et al., 2022; Mirzaei et al., 2022; Shafiee Rad et al., 2021; Su Ping et al., 2019; Wu et al., 2017; Wu et al., 2020; Xue & Dunham, 2021; Yang & Chen, 2020; Zarrinfard et al., 2021). Furthermore, a separate study conducted by Jeon (2021) revealed that students developed an enhanced awareness of technology's role in language learning through their engagement with a flipped learning experience.

Student Writing Performance

Student writing performance was assessed primarily through writing tasks. Research studies have consistently demonstrated that students who engaged in flipped learning exhibited a significantly higher level of writing performance (Challob, 2021; Fathi & Rahimi, 2022; Lin et al., 2018; Liu et al., 2022; Mirzaei et al., 2022; Shafiee Rad et al., 2021; Wu et al., 2020; Wu et al., 2021). Challob (2021) highlighted the positive impact of flipped learning on enhancing students' English writing performance. Furthermore, Fathi and Rahimi (2022) determined that flipped learning had a greater influence on the enhancement of students' overall writing skills and writing fluency compared to traditional learning methods. Lin et al. (2018) revealed that flipped contextual game-based learning was more effective in improving students' writing performance in comparison to traditional contextual game-based learning. Similarly, Liu et al. (2022) discovered that the flipped learning group outperformed the non-flipped group regarding writing performance and the application of metacognitive strategies. Mirzaei et al. (2022) also found that flipped learning based on the ARCS model was more successful in enhancing students' writing performance compared to conventional learning approaches. Shafiee Rad et al. (2021) demonstrated that both role-reversal flipped instruction and

discussion-oriented flipped instruction were more effective than traditional instruction in improving students' writing performance. Additionally, it was observed that students in the role-reversal flipped instruction group performed significantly better than those in the discussion-oriented flipped instruction group. Another study conducted by Wu et al. (2021) revealed that flipped learning, which incorporated constructivist intercultural writing activities, significantly enhanced students' writing performance. Similarly, Wu et al. (2020) found that flipped writing instruction positively affected students' writing proficiency.

Student Speaking Performance

Student speaking performance was primarily evaluated through oral recordings. Numerous studies consistently demonstrate the positive effects of flipped learning on student speaking performance (Chen & Hwang, 2020; Fischer & Yang, 2022; Khodabandeh, 2022b; Lin & Hwang, 2018; Jiang et al., 2021; Jiang et al., 2022; Xue & Dunham, 2021). For instance, Chen and Hwang (2020) found that flipped learning, which incorporated concept-mapping activities, positively influenced learners' speaking performance. Lin and Hwang's (2018) research indicated that online community-based flipped learning was more effective than traditional teaching methods in enhancing students' speaking performance. Furthermore, Jiang et al. (2021) and Jiang et al. (2022) reported that students who participated in flipped learning, which included pre-class automatic speech recognition practices, demonstrated superior speaking performance compared to their peers in traditional learning environments.

Student Learning Performance/ Self-Efficacy/ Reading Proficiency/ Communicative Competence

Research has produced findings that illustrate the beneficial effects of flipped learning on students' academic performance (Chen & Yeh, 2019; Haghighi et al., 2019; Khodabandeh, 2022; Liu et al., 2019; Xue & Dunham, 2021; Yang & Chen, 2020; Zarrinfard et al., 2021). For example, Chen and Yeh (2019) found that flipped learning, especially when integrating student-generated questioning activities, was significantly more effective than its counterpart that employed teacher-generated questioning activities. In a similar vein, Khodabandeh's study (2022) revealed that students in a flipped learning environment augmented with reality-enhanced education outperformed their peers in traditional instructional settings in tasks related to providing and soliciting directions. Conversely, Liu et al. (2019) reported that the implementation of flipped learning using a student response system did not result in improved student performance. Nonetheless, Namaziandost and Çakmak (2020) and Liu et al. (2019) underscored the efficacy of flipped learning in enhancing students' self-efficacy. In contrast, Zarrinfard et al. (2021) concluded that flipped learning had no discernible impact on the reading proficiency of students with varying levels of impulsivity. Finally, Li et al. (2022) evidenced the overall positive influence of the flipped learning approach on the development of students' communicative competencies.

Student Motivation/ Demotivation/ Participation/ Autonomy/ Willingness to Communicate

Research studies have consistently demonstrated that students who engage in flipped learning exhibit elevated levels of motivation (Abdullah et al., 2019; Challob, 2021; Lin et al., 2018; Liu et al., 2019), autonomy (Challob, 2021; Tsai, 2019), and active participation in learning activities (Liu et al., 2019). Abdullah et al. (2019) specifically revealed that flipped learning effectively enhances students' motivation in English speaking performance. Furthermore, Wu et al. (2020) found that the implementation of flipped learning in conjunction with peer feedback mitigates the risk of student demotivation. Additionally, Chang and Lin (2019) indicated that the integration of flipped learning along with the pair-and-share strategy significantly contributes to students' willingness to communicate throughout the learning process. Ultimately, Challob (2021) concluded that flipped learning has a substantial impact on enhancing students' motivation and autonomy.

Student Learning Anxiety

The studies consistently demonstrate the positive impact of flipped learning on the reduction of student learning anxiety. For instance, Chang and Lin (2019) found that students engaged in flipped learning exhibited lower levels of anxiety compared to their counterparts in traditional learning environments. Similarly, Chen and Hwang (2020) observed that flipped learning, which included concept-mapping activities, had a favorable effect on reducing students' speaking anxiety. Furthermore, Gok et al. (2021) reported a significant reduction in both foreign language classroom anxiety and foreign language reading anxiety as a result of implementing flipped learning.

Student Critical Thinking Awareness/ Cognitive Load/ Intercultural Sensitivity

Chen and Hwang (2020) concluded that flipped learning, which incorporated concept-mapping activities, positively influenced the enhancement of students' critical thinking awareness. In contrast, Chen and Yeh (2019) found that flipped learning involving student-generated questioning activities did not lead to a decrease in students' cognitive load. Furthermore, Wu et al. (2017) reported that students demonstrated increased levels of intercultural sensitivity following participation in an online intercultural exchange.

DISCUSSION, CONCLUSIONS, AND SUGGESTIONS

This systematic review aimed to address four research questions concerning the implementation of flipped learning in English as a Foreign Language (EFL) education. The first research question relates to the contextual settings of the reviewed studies. The findings indicated that the majority of the examined articles were published in the prestigious 2021 issues of the journal Computer Assisted Learning. Furthermore, these articles predominantly originated from Taiwan, Iran, and China, with limited representation from other countries. Regarding sample sizes, the majority of the studies involved fewer than 100 participants, with only a small number encompassing more than 200 participants. Additionally, the intervention duration lasted less than three months in approximately half of the studies. It was also observed that most of the studies focused on higher education students, consistent with previous reviews on flipped learning in language teaching (Arslan, 2020; Bener, 2021; Heredia Ponce et al., 2022; Muamar, 2022; Şensöz & Erdemir, 2022; Turan & Akdag-Cimen, 2020). However, there is a notable lack of studies conducted at the K-12 level, highlighting the need for further investigation involving elementary, pre-service teachers, or postgraduate students. The second question pertains to the research focus, research methodologies, instruments, and internet access platforms utilized in conducting flipped learning studies.

This review identified that a quasi-experimental design was predominantly utilized in the examined studies, followed by mixed methods and case studies. A range of qualitative research methodologies, including phenomenological studies, naturalistic inquiry, and grounded theory, were employed to address diverse research questions within this context. Various assessment instruments were utilized to evaluate the effectiveness of flipped learning, with questionnaires and surveys being the most frequently employed, followed by learning assessments, interviews, process data, and observations. Future research could benefit from the incorporation of more innovative tools, such as learning analytics or data mining, to facilitate a more objective evaluation. Among the twenty-two studies included in this review, learning management systems or course content access platforms were utilized to organize pre-class or in-class activities. Moodle and Edmodo emerged as the most commonly preferred tools, while other studies employed instant messaging systems such as WhatsApp or Telegram. Comparing the usability of these tools within the flipped learning framework could represent a valuable direction for future research.

The third research question investigates the learning theories and models employed to inform flipped learning. The findings reveal that a significant majority of studies incorporated constructivist theory (Chen & Yen, 2019; Go et al., 2021; Wu et al., 2021). Furthermore, various learning models were utilized to gather data, including context-based game learning as posited by Lin et al. (2018), online community-based learning by Lin and Hwang (2018), and cognitive elaboration theory as articulated by Chen and Hwang (2020). The advancement of flipped learning in foreign language education could be enhanced by the integration of motivational learning theories in forthcoming research. Regarding pre-class or in-class learning activities,

most studies employed individual and collaborative writing activities, as well as discussions, within the flipped learning framework. Jiang et al. (2021) contend that flipped learning in English as a Foreign Language (EFL) education should transcend the use of YouTube videos and conventional learning activities. However, several studies demonstrated the application of emerging technologies, including Automated Speech Recognition (ASR) task-based learning, augmented-enhanced student response systems, and concept-mapping mind map-guided artificial intelligence chatbots, to support EFL education in a flipped learning context. These studies underscore the numerous advantages that emerging technologies confer in the flipped learning process. For example, interactive response systems and pairing strategies not only facilitate students' cognitive development but also promote effective utilization of the target language within the learning environment (Chang & Lin, 2019). ASR-based technology has proven to be highly effective in providing instantaneous feedback, empowering learners with increased control over their learning processes, and fostering enhanced interaction in the target language (Jiang et al., 2021). Augmented reality activities afford valuable opportunities for students to visualize real-world scenarios and bolster their motivation throughout the flipped learning experience (Khodabandeh, 2023). The implementation of artificial intelligence chatbot applications may also contribute to the enhancement of students' speaking skills (Lin & Mubarok, 2021). Further research is warranted to investigate the benefits of emerging technologies in language education within the framework of flipped learning.

The fourth question aimed to ascertain the potential benefits of flipped learning. A preponderance of studies indicates that this instructional model effectively enhances students' writing skills and speaking proficiency. Furthermore, the adoption of flipped learning has been associated with improvements in students' learning performance, motivation, and self-efficacy. Additionally, it has been found to effectively mitigate students' learning anxiety. These findings are substantiated by previous research (Arslan, 2020; Bener, 2021; Heredia Ponce et al., 2022; Muamar, 2022; Şensöz & Erdemir, 2022; Turan & Akdag-Cimen, 2020). The results of this review may serve as a foundation for further exploration of flipped learning practices within the context of EFL education. Flipped learning possesses the potential to enhance students' writing, speaking, and overall learning performance in EFL settings.

REFERENCES

Abdullah, M. Y., Hussin, S., & Ismail, K. (2019). Investigating the effects of the flipped classroom model on Omani EFL learners' motivation level in English speaking performance. *Education and Information Technologies, 24*, 2975-2995.

Arslan, A. (2020). A systematic review on flipped learning in teaching English as a foreign or second language. *Journal of Language and Linguistic Studies, 16*(2), 775-797.

Bakla, A. (2018). Learner-generated materials in a flipped pronunciation class: A sequential explanatory mixed-methods study. *Computers & Education*, *125*, 14-38.

Bener, E. (2021). Flipping EFL classes in higher education: A systematic review. *Language Education and Technology, 1*(2), 90-109.

Burke, A. S., & Fedorek, B. (2017). Does "flipping" promote engagement? A comparison of a traditional, online, and flipped class. *Active Learning in Higher Education, 18*(1), 11-24.

Chang, C., & Lin, H. C. K. (2019). Classroom interaction and learning anxiety in the IRs-integrated flipped language classrooms. *The Asia-Pacific Education Researcher, 28*, 193-201.

Chen, C. H., & Yeh, H. C. (2019). Effects of integrating a questioning strategy with game-based learning on students' language learning performances in flipped classrooms. *Technology, Pedagogy and Education, 28*(3), 347-361.

Chen, M. R. A., & Hwang, G. J. (2020). Effects of a concept mapping-based flipped learning approach on EFL students' English speaking performance, critical thinking awareness and speaking anxiety. *British Journal of Educational Technology, 51*(3), 817-834.

Challob, A. I. (2021). The effect of flipped learning on EFL students' writing performance, autonomy, and motivation. *Education and Information Technologies, 26(*4), 3743-3769.

Fathi, J., & Rahimi, M. (2022). Examining the impact of flipped classroom on writing complexity, accuracy, and fluency: a case of EFL students. *Computer Assisted Language Learning, 35*(7), 1668-1706.

Fischer, I. D., & Yang, J. C. (2022). Flipping the flipped class: using online collaboration to enhance EFL students' oral learning skills. *International Journal of Educational Technology in Higher Education, 19*(1), 1-24.

Gok, D., Bozoglan, H., & Bozoglan, B. (2021). Effects of online flipped classroom on foreign language classroom anxiety and reading anxiety. *Computer Assisted Language Learning,* 1-21.

Haghighi, H., Jafarigohar, M., Khoshsima, H., & Vahdany, F. (2019). Impact of flipped classroom on EFL learners' appropriate use of refusal: achievement, participation, perception. *Computer Assisted Language Learning, 32*(3), 261-293.

Heredia Ponce, H., Romero Oliva, M. F., & Romero Claudio, C. (2022). Language Teaching through the flipped classroom: A systematic review. *Education Sciences, 12*(10), 1-14.

Kernagaran, V., & Abdullah, A. (2022). A systematic literature review of flipped learning in English as second language (ESL) Context. *International Journal of Instruction, 15*(2), 793-814.

Khodabandeh, F. (2023a). Exploring the viability of augmented reality game-enhanced education in WhatsApp flipped and blended classes versus the face-to-face classes. *Education and Information Technologies, 28*(1), 617-646.

Khodabandeh, F. (2022). Investigating the effectiveness of augmented reality-enhanced instruction on EFL learners' speaking in online flipped and face-to-face classes. *Language Teaching Research*, https://doi.org/10.1177/13621688221110991

Li, S., He, J., Tao, Y., & Liu, X. (2022). The effects of flipped classroom approach in EFL teaching: Can we strategically use the flipped method to acquire communicative competence? *Language Teaching Research,* https://doi.org/10.1177/13621688221081575

Lin, C. J., Hwang, G. J., Fu, Q. K., & Chen, J. F. (2018). A flipped contextual game-based learning approach to enhancing EFL students' English business writing performance and reflective behaviors. *Journal of Educational Technology & Society, 21(*3), 117-131.

Lin, C. J., & Hwang, G. J. (2018). A learning analytics approach to investigating factors affecting EFL students' oral performance in a flipped classroom. *Journal of Educational Technology & Society, 21*(2), 205-219.

Lin, C. J., & Mubarok, H. (2021). Learning analytics for investigating the mind map-guided AI chatbot approach in an EFL flipped speaking classroom. *Educational Technology & Society, 24*(4), 16-35.

Liu, G. Z., Rahimi, M., & Fathi, J. (2022). Flipping writing metacognitive strategies and writing skills in an English as a foreign language collaborative writing context: a mixed-methods study. *Journal of Computer Assisted Learning,* 38, 1730–1751.

Liu, C., Sands-Meyer, S., & Audran, J. (2019). The effectiveness of the student response system (SRS) in English grammar learning in a flipped English as a foreign language (EFL) class. *Interactive Learning Environments, 27*(8), 1178-1191.

Liu, X., & Pei, J. (2021). Effects of IELTS reading education by using new media learning environments effectively. *Interactive Learning Environments*, 1-17.

James, A. J., Chin, C. K., & Williams, B. R. (2014). Using the flipped classroom to improve student engagement and to prepare graduates to meet maritime industry requirements: a focus on maritime education. *WMU Journal of Maritime Affairs, 13*, 331-343.

Jeon, J. (2022). The impact of a flipped EFL course on primary school learners' use of technology for language learning. *Interactive Learning Environments,* 1-14.

Jiang, M. Y. C., Jong, M. S. Y., Lau, W. W. F., Chai, C. S., & Wu, N. (2021). Using automatic speech recognition technology to enhance EFL learners' oral language complexity in a flipped classroom. *Australasian journal of educational technology, 37*(2), 110-131.

Jiang, M. Y. C., Jong, M. S. Y., Lau, W. W. F., Chai, C. S., Liu, K. S. X., & Park, M. (2022). A scoping review on flipped classroom approach in language education: Challenges, implications and an interaction model. *Computer Assisted Language Learning, 35*(5-6), 1218-1249.

Jiang, M. Y. C., Jong, M. S. Y., Lau, W. W. F., Chai, C. S., & Wu, N. (2023). Exploring the effects of automatic speech recognition technology on oral accuracy and fluency in a flipped classroom. *Journal of Computer Assisted Learning, 39(*1), 125-140.

Mirzaei, A., Shafiee Rad, H., & Rahimi, E. (2022). Integrating ARCS motivational model and flipped teaching in L2 classrooms: A case of EFL expository writing. *Computer Assisted Language Learning,* 1-30.

Namaziandost, E., & Çakmak, F. (2020). An account of EFL learners' self-efficacy and gender in the flipped classroom model. *Education and Information Technologies, 25*(5), 4041-4055.

Shafiee Rad, H., Roohani, A., & Rahimi Domakani, M. (2021). Flipping EFL learners' writing classroom through role-reversal and discussion-oriented models. *Language Learning & Technology, 25* (2), 158–177.

Su Ping, R. L., Verezub, E., Adi Badiozaman, I. F. B., & Chen, W. S. (2020). Tracing EFL students' flipped classroom journey in a writing class: Lessons from Malaysia. *Innovations in Education and Teaching International, 57(*3), 305-316.

Steen-Utheim, A. T., & Foldnes, N. (2018). A qualitative investigation of student engagement in a flipped classroom. *Teaching in Higher Education, 23*(3), 307-324.

Şensöz, M. Z., & Erdemir, N. (2022). A systematic review of graduate studies on flipped classrooms in English language teaching in Turkey. *ELT Research Journal, 11*(1), 1-15.

Tsai, Y. R. (2021). Promotion of learner autonomy within the framework of a flipped EFL instructional model: Perception and perspectives. *Computer Assisted Language Learning, 34*(7), 979-1011.

Turan, Z., & Akdag-Cimen, B. (2020). Flipped classroom in English language teaching: a systematic review. *Computer Assisted Language Learning, 33*(5-6), 590-606.

Webb, M., & Doman, E. (2020). Impacts of flipped classrooms on learner attitudes towards technology-enhanced language learning. *Computer Assisted Language Learning*, *33*(3), 240-274.

Wu, W. C. V., Hsieh, J. C., & Yang, J. C. (2021). Effects of flipped reading–writing constructivist instruction on EFL learners' writing performance and intercultural sensitivity. *The Asia-Pacific Education Researcher*, 1-17.

Wu, W. C. V., Yang, J. C., Scott Chen Hsieh, J., & Yamamoto, T. (2020). Free from demotivation in EFL writing: The use of online flipped writing instruction. *Computer Assisted Language Learning, 33*(4), 353-387.

Xue, X., & Dunham, R. E. (2021). Using a SPOC-based flipped classroom instructional mode to teach English pronunciation. *Computer Assisted Language Learning*, 1-29.

Yang, C. C. R., & Chen, Y. (2020). Implementing the flipped classroom approach in primary English classrooms in China. *Education and Information Technologies, 25*, 1217-1235.

Muamar, Z. D. S. (2022). Flipped classroom model for EFL/ESL instruction in higher education: A systematic literature review. *Journal of Language and Education, 8*(3 (31)), 133-149.

Zarrinfard, S., Rahimi, M., & Mohseny, A. (2021). Flipping an on-campus general English course: a focus on technology complexity of instruction and learners' levels of impulsivity. *International Journal of Educational Technology in Higher Education, 18*(1), 1-25.