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Evaluating the Effectiveness of Flipped Classroom Pedagogy in English as a Foreign Language (EFL) Instruction: A Systematic Review of Empirical Studies

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Abstract

This systematic review thoroughly examines the efficacy of flipped classrooms in language instruction, specifically within English as a Foreign Language (EFL) context. By synthesizing findings from 18 empirical studies published between 2015 and 2024, the review evaluates the transformative role of digital technologies, self-regulated learning, and student attitudes in shaping educational achievements. The analysis highlights the pivotal contributions of platforms such as Moodle, Kahoot, and Zoom in fostering student engagement, enhancing motivation, and promoting active learning. Furthermore, self-regulated learning emerged as a cornerstone for cultivating autonomy and academic success among learners. However, significant challenges, embracing disparities in technological access and differences in student preparedness, underscore the need for well-structured scaffolding and meticulous implementation strategies. This review consolidates best practices for educators and identifies key areas for future research, reaffirming the potential of flipped classrooms to revolutionize active, student-centered learning environments in language education.

Keywords: Flipped classroom; Self-regulated learning; Digital tools; Challenges

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Introduction

The flipped classroom model has emerged as an innovative and popular teaching approach in language education, particularly within English as a Foreign Language (EFL) setting. By delivering content outside the classroom—primarily through video lectures—this approach allows in-class time to focus on interactive, student-centered activities (van Alten et al., 2021). Research indicates that the model enhances student engagement and leads to improved academic performance (Kong et al., 2020; Guo, 2022), which is vital for developing communicative competence in language learners (Hwang et al., 2021).

A meta-analysis conducted by van Alten et al. (2021) underscores the positive impact of flipped classrooms on student satisfaction and learning outcomes. Low-proficiency EFL students, in particular, benefit from this model, as it facilitates meaningful interactions with content, allowing them to engage at their own pace (Kong et al., 2020). This increased engagement fosters greater confidence in their language abilities, essential for motivation (Chen, 2023).

The importance of technology in the flipped classroom cannot be underestimated. The integration of digital tools, including massive open online courses (MOOCs) and game-based learning platforms, has been linked to increased student motivation and improved learning outcomes across diverse educational settings (Chen et al., 2020; Ekmekci, 2017). These tools facilitate flexible learning experiences and cater to various learning styles, promoting inclusivity and accessibility in language education (Hwang et al., 2021). Furthermore, studies suggest that effective implementation of flipped classrooms is often contingent upon students' self-regulated learning abilities, which empower them to take ownership of their academic journeys (Chen, 2023).

Peer assessment strategies within the flipped classroom also enhance collaborative skills and critical thinking (Chen, 2023). Engaging in peer feedback fosters a sense of community and shared responsibility, which is essential in language learning environments (Hwang et al., 2021). Moreover, flipped classrooms are associated with improved self-efficacy among students. A meta-analysis indicates that students in flipped learning environments exhibit greater confidence in their academic capabilities, correlating with higher levels of engagement and better learning outcomes (van Alten et al., 2021). This underscores the necessity of supportive learning environments that empower students.

Despite these encouraging findings, there remains a gap in understanding how flipped classrooms affect student satisfaction and perceived learning specifically in language contexts (Liu, 2021). Liu (2021) emphasizes the prominence of online self-regulated learning in improving student experiences in flipped language classes, which suggests that fostering autonomy is essential for success in these environments.

In exploring the realm of flipped learning within language education, Baig (2021) highlights that while interest is growing, significant research gaps persist. Despite several systematic reviews addressing flipped learning, few focus explicitly on its application in English Language Teaching (ELT) (Fisher, 2020; Presti, 2016). This lack of focused inquiry is essential, since it restricts our knowledge of how to properly adapt flipped classrooms for language instruction. Additionally, existing literature often overlooks the specific challenges and advantages associated with implementing flipped classrooms in EFL contexts (Amiryousefi, 2017; Çetin Koroğlu & Çakır, 2017). Therefore, this study seeks to contribute to the field by addressing the following research questions:

Research Question 1 (RQ1): What are the tools that are being used in the flipped classroom to support teaching and learning in higher education?

Research Question 2 (RQ2): What is the influence of self-regulated learning practices and student attitudes on the overall efficacy of the flipped classroom structure in language education?

Research Question 3 (RQ3): What particular obstacles do educators confront when using flipped classrooms for language instruction, and what techniques may reduce these obstacles?

Literature Review

Tools Used in Flipped Classrooms for Language Education

In language instruction, the effectiveness of flipped classrooms is significantly influenced by the resources and technology employed. Various studies underscore the eminence of digital platforms and resources that facilitate this instructional model. Tsai (2019) emphasizes the role of technology in promoting learner autonomy, stating that effective tools can empower students to engage with materials independently and take ownership of their

learning process. In language learning, where autonomy can boost engagement and motivation, this is especially substantial.

Gok et al. (2021) examined the effects of an online flipped classroom on foreign language classroom anxiety, highlighting the effectiveness of video conferencing tools and interactive platforms. By the means of this study, it was noticed that these technologies promote a more dynamic and interesting learning environment in addition to supporting the delivery of insight. Lindeiner-Stráský et al. (2020) further discuss the utilization of online learning platforms that allow for collaborative learning, suggesting that such tools enhance student interaction and participation in flipped environments.

Multimedia resource integration is also momentous. Babintseva et al. (2023) explored the role of gamified technologies within flipped classrooms, reporting that these tools improve engagement and learning outcomes by catering to diverse learning styles. Anane (2022) conducted a study on gamified flipped learning in a French language class, revealing that such approaches significantly flourished student motivation and positive perceptions of the learning experience.

Diningrat et al. (2023) examined how an extended flipped classroom style affected, noting that using a combination of online resources and in-class activities effectively supports students' reading comprehension. Various methods to instructional tools can significantly strengthen language learning outcomes, according to their research. Furthermore, Liu, Sands-

Meyer, and Audran (2018) discovered that the use of student response systems (SRS) in flipped classrooms positively impacted English grammar learning, implying that more student involvement and comprehension may be promoted by interactive technologies.

The impact of discrete digital tool types in flipped classes on student involvement varies. Research indicates that interactive learning tools, including educational games and multimedia content, significantly enhance student motivation (Ekmekci, 2017; Hwang & Wang, 2021). Specifically, Chen (2020) emphasizes that such tools can foster collaborative engagement among students, facilitating a more dynamic learning atmosphere. Different digital tools used in flipped classrooms have distinct effects on student engagement.

According to Chen (2020) and Ekmekci (2017), MOOCs and instructional games have the greatest impact on students' incentives.

Moreover, Birová, Ruiz-Cecilia, and Guijarro-Ojeda (2023) highlight the importance of incorporating diverse digital tools in teacher training programs, which can empower pre-service teachers to effectively utilize flipped classrooms in their future practices. This emphasis on preparation aligns with findings from Hernández-Nanclares and Pérez- Rodríguez (2016), who reported high student satisfaction with blended instructional designs that incorporated a variety of technological tools.

In conclusion, a variety of technology tools and multimedia materials must be integrated for flipped classrooms to be successful in language instruction. In addition to, making it easier to present content, these tools encourage active learning and engagement, both of which are critical for successful language acquisition.

Key Factors Impacting the Effectiveness of Flipped Classrooms in Language Education

Self-regulated learning strategies are essential for assessing how well flipped classrooms work in language instruction. Liu et al. (2023) discuss how students' self-regulation skills directly influence their learning outcomes in flipped environments. According to their

research, students who successfully manage their time and study habits have a better ability to interact with pre-class materials and take an active part in class discussions.

Tsai (2019) further highlights the necessity of promoting learner autonomy within the flipped classroom framework. Students can interact fully with the course material when they have developed self-regulation skills, which is fundamental in language learning when motivation and engagement are crucial. Birová et al. (2023) provide evidence that pre-service teachers who employed self-regulated learning strategies saw improvements in their teaching practices and student engagement, reinforcing the connection between self-regulation and effective learning outcomes.

Nevertheless, there still exist issues with encouraging self-control in all students. Cripps et al. (2023) highlight that many students struggle with time management and motivation in flipped classrooms, which can hinder their ability to engage fully with pre-class activities. Due to this adversity, students may participate to differing degrees, with some feeling pressured by the autonomy needed in flipped learning settings.

Learning outcomes and student engagement are also strongly impacted by their attitudes towards the flipped classroom framework. Gok et al. (2021) found that students who held

positive perceptions of the flipped classroom experienced reduced anxiety and increased motivation to participate in class activities. This aligns with the findings of Hernández-Nanclares and Pérez-Rodríguez (2016), which indicated that student satisfaction with blended instructional designs positively correlated with overall learning experiences.

Moreover, Anane (2022) revealed that gamified approaches in language classes not only enhanced engagement but also helped shape positive attitudes toward the flipped model. Students expressed increased motivation and a desire to participate in their education when play and competition were incorporated. Pratiwi et al. (2024) also supported this notion, highlighting that gamified strategies effectively address diverse learning preferences and improve vocabulary acquisition in language education.

In overall, student attitudes and self-regulated learning strategies are critical to the success of flipped classrooms in language instruction. Instructors must concentrate on helping students become more adept at self-regulation and cultivating favorable opinions of the flipped learning environment to optimize the advantages of this teaching approach. As seen in Chart 1 below, the relationship between self-regulated learning and student satisfaction underscores the importance of fostering autonomous learning habits among students.

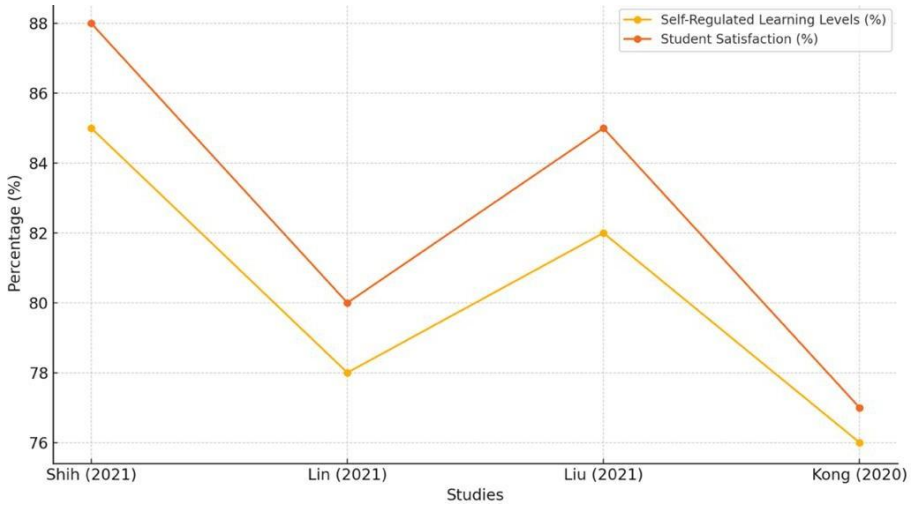

Figure 1. *Correlation Between Self-Regulated Learning and Student Satisfaction in Flipped Classrooms*

Diverse digital tools used in flipped classrooms have different effects on student engagement. According to Chen (2020) and Ekmekci (2017), MOOCs and instructional games have the greatest impact on students' incentives.

Challenges Faced by Educators in Implementing Flipped Classrooms

Despite the benefits of flipped classrooms, teachers face several difficulties when putting them into practice. It can be intimidating to go from standard teaching approaches to the flipped approach. Liu et al. (2023) emphasize the need for educators to adapt their instructional strategies and materials effectively, which often requires significant time and effort. Birová et al. (2023) highlight the resistance some students may exhibit towards the flipped classroom model, particularly if they are unaccustomed to its demands, such as engaging with pre-class materials. Teachers must give students enough assistance and direction because this resistance can cause disengagement and dissatisfaction. Gondra and Aguiló-Mora (2024) suggest that ongoing professional development and training for educators are crucial to overcoming these challenges. Offering teachers the abilities and information they need to successfully use flipped classrooms can improve student learning in general. They provide training sessions and workshops that emphasize modern strategies and best practices for classroom flipping. Additionally, Irianti et al. (2024) explored the impact of flipped classrooms on critical thinking in public speaking classes, noting that while the model can foster essential skills, teachers need to be mindful of what extra help pupils might need to succeed in these kinds of settings. This finding emphasizes how crucial it is to regularly assess and modify teaching strategies to fulfil the requirements of students, in addition to putting the flipped structure into practice. Finally, while flipped classrooms can enhance language skills, technical issues and access to technology can pose significant barriers to effective implementation. For the flipped classroom approach to be successful, it is imperative that all students have access to the technologies they need. In result, even though flipped classrooms have a lot of potential to improve language instruction, teachers still face several obstacles that need to be overcome. These strains can be lessened, and the flipped model can be implemented more successfully with focused professional development, continuous assistance, and a dedication to modifying procedures in response to student input. Significant gaps in the literature still exist despite the flipped classroom model's growing popularity, especially when it comes to its use in English as a Foreign Language (EFL) contexts. Existing studies often overlook specific challenges faced by educators and students, such as the effective integration of technology and the cultivation of self-regulated learning practices (Amiryousefi, 2017; Liu, 2021). Moreover, while some research highlights the benefits of the flipped classroom approach, there is insufficient exploration of how these methods can be tailored to enhance student satisfaction and perceived

learning outcomes in language education (van Alten et al., 2021; Hwang et al., 2021). By combining the most effective practices for implementing flipped classrooms in EFL settings and synthesizing existing research, this review seeks to fill these distinguished gaps. By focusing on the tools, strategies, and challenges unique to this educational context, this review contributes valuable knowledge that can inform educators and researchers, ultimately leading to improved teaching and learning experiences in language education (Kong et al., 2020; Chen, 2023).

Methodology

This article has adopted the systematic review methodology that involves a methodical, rigorous process for finding, selection and evaluation of relevant research in an accessible way. Unlike traditional literature reviews, which may synthesize research more narratively, systematic reviews follow strict methodological protocols that ensure replicability and minimize bias (Anane, 2022). Systematic reviews identify studies to be embraced based on specific inclusion and exclusion criteria; conduct thorough searches in all designated databases; and systematically categorize and examine the findings based on the research aims. This rigorous methodology enhances the reliability and precision of the review's conclusions, allowing for a thorough examination of themes in flipped classroom research (Arif & Irfana, 2019, & Guijarro-Ojeda, 2023). This study is based on a systematic approach in which three major steps are followed: (1) article selection, (2) coding, and (3) data analysis. The description of these steps is particularized in the following subsections.

Article selection

With an objective of making a comprehensive assessment on the effectiveness of flipped classrooms in EFL instruction, the article selection followed strict criteria meant to justify the inclusion of the most relevant and high-quality articles. All articles were sourced from the Web of Science database, with great emphasis placed on journals indexed in the Arts & Humanities Citation Index (AH&CI), the Emerging Sources Citation Index (ESCI), and the Social Sciences Citation Index (SSCI). This ensured that all publications were peer-reviewed and met the high standards of quality research established by these renowned indicators (Diningrat et al., 2023; Etemadfar, Soozandehfar, & Namaziandost, 2020). Search terms were constructed by using Boolean operators to group relevant words, such as 'flipped classroom', 'language learning', and 'English', parsing results to articles published between 2014 and 2023. This time frame was selected to capture recent trends, particularly those related to digital and gamified

components that have become increasingly significant in flipped classroom practices (Cripps et al., 2023).

The article selection process adhered to explicit inclusion and exclusion criteria to ensure transparency, consistency, and replicability. Included studies were: (a) published in English to maintain linguistic consistency, (b) empirical studies presenting original research data on flipped classroom implementation in EFL contexts, (c) indexed in AH&CI, ESCI, or SSCI, ensuring academic credibility, (d) conducted within classroom settings focused on English language learning and digital or blended instructional methodologies, with full text available, and (f) published in peer-reviewed journals.

Excluded studies encapsulated those not meeting these criteria, such as: (a) articles published in languages other than English, (b) those not applying flipped classroom methodologies, (c) purely theoretical or non-empirical works (e.g., literature reviews, editorials), and (d) studies conducted in non-English language contexts or extracurricular settings (Diningrat et al., 2023; Etemadfar, Soozandehfar, & Namaziandost, 2020).

The selection process began with an initial search in the Web of Science database, yielding 293 articles. After performing a duplicate check, which confirmed no duplicates, the selection was filtered to embrace only those articles indexed in A&HCI, ESCI, or SSCI, narrowing the total to 206 articles. A screening of titles and abstracts excluded 14 non-empirical studies, bringing the count to 192 articles. The language screening excluded 12 non-English publications, further reducing the publications to 180 articles. The last step entailed a full-text article review, with emphasis on the usage of the flipped classroom model in English language teaching. What this rigorous process detected was that there were 31 relevant articles, and thus this formed the final dataset to be included in this systematic review.

Coding

Based on the research questions and key themes identified in the literature on flipped classrooms in language teaching, I developed a coding book to systematically analyse the data. The process was guided by content analysis methods (e.g., Etemadfar et al., 2020a) to ensure a thorough and structured evaluation of the relevant studies. The following characteristics were systematically coded for each empirical study:

- Years of publication
- Context (country, educational level, proficiency)
- Theoretical Framework
- Methodology **(**quantitative, qualitative, or mixed methods)
- Research Approach
- Digital tools and technologies used in the flipped classroom
- Advantages of Flipped Classroom
- Obstacles faced by educators in implementing the flipped classroom
- Student attitudes towards the flipped classroom model
- Factors influencing student attitudes

In accordance with each study, the tools and technologies mentioned, pedagogical strategies employed, and ways in which student engagement was encouraged were highlighted.

Information referring to self-regulated learning practices and attitudes was also coded, since these are considered an important aspect of flipped classrooms in language education.

To respond to Research Question 1 (RQ1): What are the tools being utilized in the Flipped Classroom to support teaching and learning in higher education? I focused on the extraction of specific tools, such as digital platforms, software, or multimedia resources, mentioned in the studies. For example, studies identified potential tools used in flipped classroom instruction, including interactive video, LMS, mobile application, and online quiz, which were coded under the category "Flipped Classroom Tools and Technologies." For example, in the study by Anane (2022), tools such as Moodle and Kahoot were used to enhance engagement and interaction in the flipped classroom, particularly in a gamified French language learning setting. The use of these tools "increased engagement and personalized learning" (Anane, 2022). Additionally, YouTube and Google Classroom were mentioned in several studies, including Sohrabi and Iraj (2016), where the combination of YouTube videos and Google Classroom was identified as a key method for enhancing speaking and listening skills.

The use of Zoom and Google Meet was also prevalent in several studies, providing platforms for synchronous interaction and collaborative activities.

In light of the second research question, to what extent do the practices of self-regulated learning and student attitudes impact the general effectiveness of the flipped classroom structure within language education? I coded the data related to self-regulation practices such as setting goals, managing time, and reflecting, in addition to the students' attitudes toward flipped learning. These practices were fundamental in understanding how they contributed or hindered the learning process within a flipped classroom environment. For example, Fraga & Harmon (2014) noted that self-regulated learning practices positively influenced student outcomes, with students showing greater autonomy and improved academic performance.

Similarly, in Tsai (2019), it was observed that students with higher levels of learner autonomy experienced better outcomes in flipped language classrooms. On the other hand, challenges such as student resistance to the flipped model and issues with time management were also highlighted. In Etemadfar et al. (2020a), students struggled with balancing the flexibility of the flipped classroom with the need for disciplined self-regulation, particularly in critical thinking and listening comprehension tasks. These challenges reflected the need for scaffolding and proper guidance to help students adopt the use of self-regulated learning strategies.

With regard to the last research question (RQ3), “what specific challenges do educators face when using flipped classrooms for language teaching, and what methods can mitigate these challenges?” I focused on the kinds of challenges that were reported by instructors in flipped classroom settings, such as technology limitations, student resistance, and lack of engagement. Technology access was identified as a major obstacle, with many students facing issues related to internet access and device compatibility. Similarly, Khodabandeh (2022) highlighted that the lack of familiarity with the required technology (e.g., augmented reality tools) proved quite a challenge to both students and instructors. In addition, the instructors faced resistance to the flipped model, mainly when the students were not used to being responsible for learning out of the class. To overcome these obstacles, various strategies were employed. In Sohrabi & Iraj (2016), instructors provided clear guidelines for pre-class activities and ensured consistent support through online tutorials. Some educators employed active learning techniques to enhance student participation, fostering engagement through peer collaboration and personalized feedback. In Birova et al. (2023), teachers employed collaborative learning

methods to foster a supportive classroom environment, which helped alleviate resistance and improve student engagement.

Data Analysis

Having collated the database of the 35 selected studies on flipped classrooms in EFL instruction, a comprehensive worksheet was made cataloguing the following categories to address the research questions: (1) general characteristics of the studies, including year of publication, country where the study was conducted, sample size, and educational level; (2) theoretical frameworks; (3) technological tools used; (4) student attitudes and perceptions; (5) challenges in implementation. The next step incorporated categorizing the information by these main themes. Following that, statistical tables and graphical representations—charts and figures were generated—to highlight common trends and major differences in the findings, therefore, presenting a clear overview of the current state of flipped classroom studies in the field of language teaching.

Findings

This section presents the findings of our systematic review of the effectiveness of the flipped classroom (FC) model in language education. The data is organized and interpreted to address the research questions concerning tools and technologies in flipped classrooms, the impact of self-regulated learning and student attitudes, and the challenges faced during implementation. A total of 18 articles were analysed, with data collected from studies published between 2015 and 2024. The systematic review highlights the growing interest in flipped classrooms within language education, as illustrated by Figure 2. The steady increase in research publications focused on flipped classrooms in language education, with a notable increase in 2023 accounting for 44% of studies. This trend reflects the growing adoption of the flipped classroom model, driven by advancements in digital technologies and the increasing emphasis on student-centred learning environments (van Alten et al., 2021; Chen et al., 2020).

However, the apparent decline in publication volume in 2024 should be interpreted with caution. This decrease may be attributed to the partial nature of the data collection year, as the year had not yet concluded at the time of this review. Furthermore, delays in indexing and the typical lag in academic publication cycles, particularly during the first half of a calendar year, may have contributed to the lower count. Embodying this consideration allows for a more balanced and accurate interpretation of publication trends across the reviewed period.

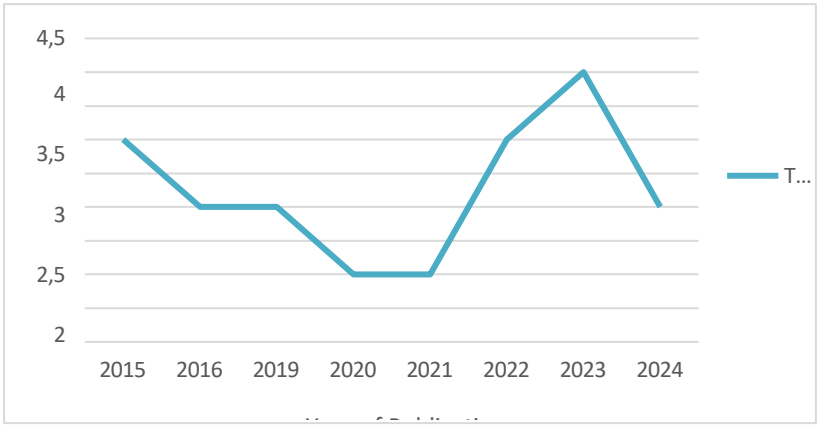

Figure 2. *Trend of publication volume during 2015–2024 (N = 18).*

Figure 3 displays the distribution of studies across different countries. Indonesia has 2 studies, followed by the UAE and China with 1 study each. Iran, the United States, and Taiwan each have 3 studies per category, reflecting a significant research focus in these areas. Pakistan and Slovakia also have 3 studies, while other countries like Spain and Cyprus have just 1 study each. This distribution indicates varying levels of research activity across regions. Additionally, Figure 4 shows that most studies were conducted in the United States, Taiwan and Iran (50% of studies) and Indonesia (11%). This geographical distribution highlights the adoption of flipped classrooms across both English-dominant and non-English-speaking regions, emphasizing their relevance in diverse educational contexts (Tsai, 2019). The strong representation of non-English-speaking countries supports findings in the literature that flipped classrooms are particularly effective in EFL and ESL settings, as they allow for individualized learning and enhanced student autonomy (Hernández-Nanclares & Pérez-Rodríguez, 2016).

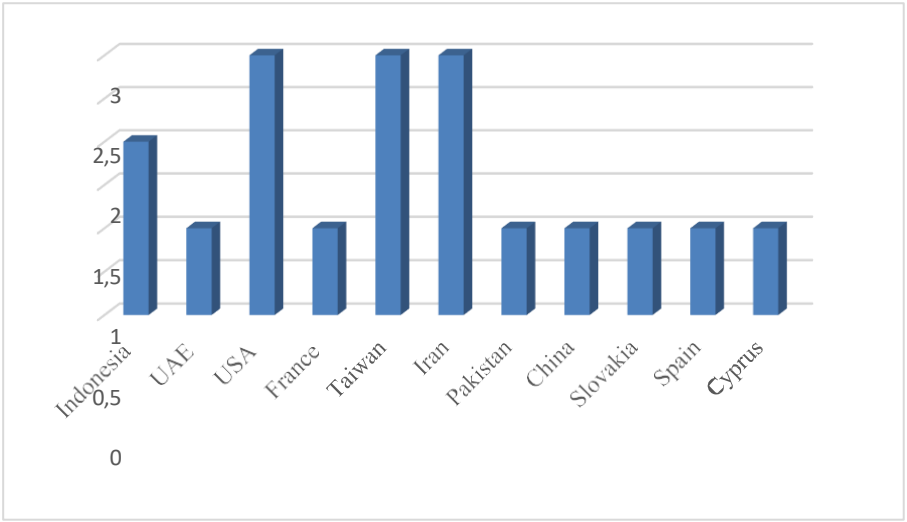

Figure 3. *Article count by the country of research site (N = 18).*

Figure 4 categorizes studies by education level. University and Undergraduate studies are the most frequent with 4 studies, reflecting a strong emphasis on higher education research. Higher education levels each have 3 studies, indicating a moderate level of research activity. Private language institutes have 1 study, while elementary education and engineering student studies also have 1 study each. Preservice teachers and postgraduate studies are the least represented with only 1 study each, suggesting a gap in research focus in these segments.

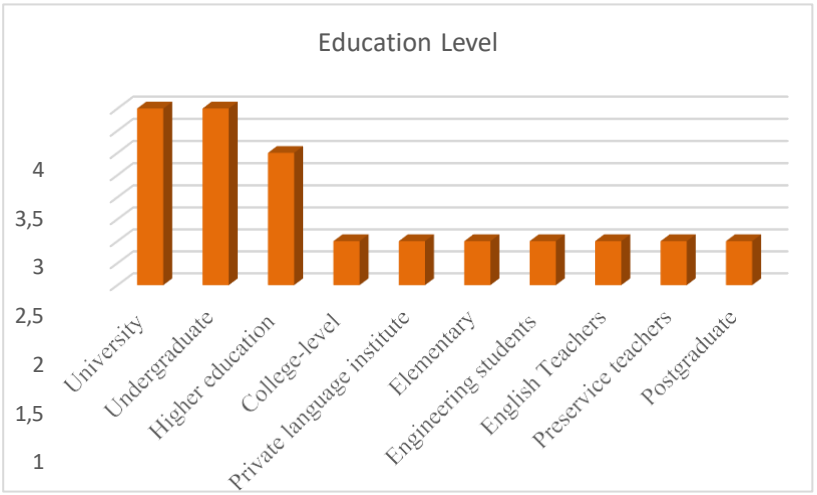

Figure 4. *The education levels of the samples of the reviewed articles.*

Based on **Figure 5** *Constructivism* and *Active Learning* are the most dominant theoretical frameworks, each accounting for 13% of the studies reviewed. This suggests a strong focus on learner-centred approaches that emphasize knowledge construction and active participation. Frameworks like *Bloom's Taxonomy*, *Gamification in Language Learning*, and *Flipped Classroom* each contribute 9%, reflecting moderate attention to structured learning objectives, motivational strategies, and cognitive processing. Several other theoretical frameworks, including *Inquiry-Based Learning*, *Cognitive Load Theory*, *Experiential Learning Theory*, and *Socio-cultural Constructivism*, make smaller contributions, ranging from 4% to 5%. This diversity in theoretical foundations demonstrates that researchers are drawing from a wide range of learning theories to address various aspects of the teaching and learning process.

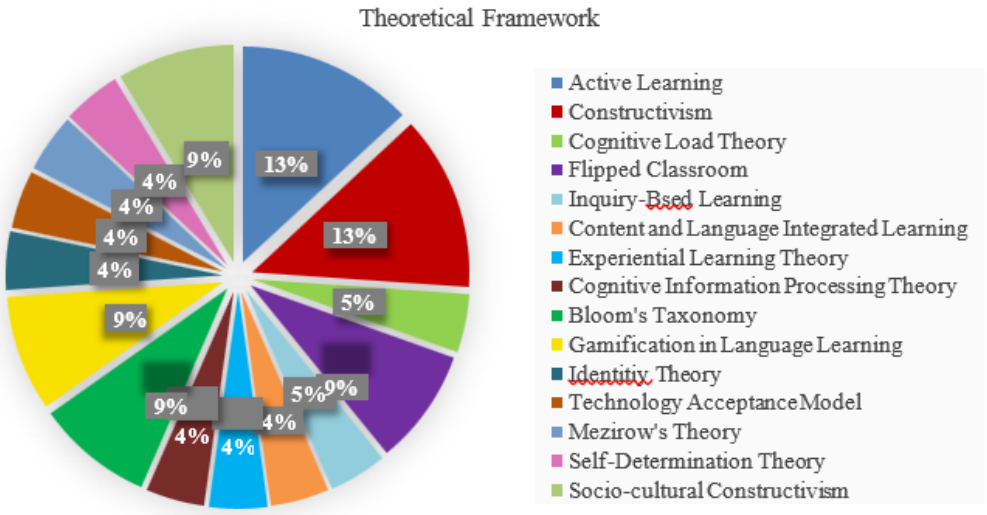

Figure 5. *Theoretical Frameworks used in the reviewed articles.*

Figure 6 designates the distribution of research methods used in the reviewed studies. With experimental designs making up the majority of the studies (35 percent), there is a clear emphasis on examining the causal impacts of flipped classroom teaching. A growing trend of integrating both quantitative and qualitative data to create a more nuanced picture of flipped classroom outcomes is shown in the 23% of mixed-methods techniques that come next. 18% of the studies are quantitative in nature, with a focus on quantifiable factors like academic achievement. Qualitative studies represent 12%, suggesting a concentration on studying learners' experiences and perceptions in deeper depth. A further 12% of research are descriptive in nature, offering a summary of the flipped classroom approach without exploring causality. As illustrated in Figure 6, this distribution indicates a preponderance of experimental and mixed-methods techniques, with less frequent but no less significant use of quantitative, qualitative, and descriptive methodologies to investigate divergent facets of flipped classroom teaching.

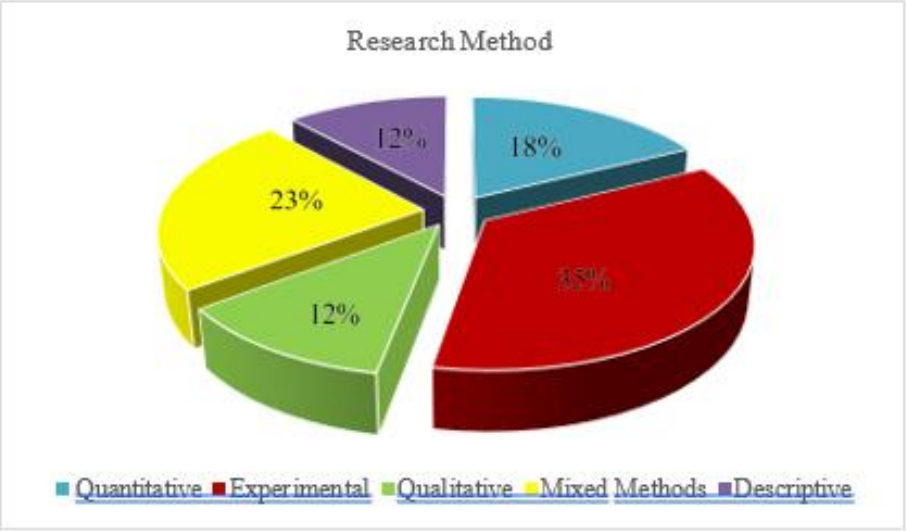

Figure 6. *The distribution of reported study designs.*

The findings indicate a significant reliance on digital tools to support teaching and learning processes. Tools such as PowerPoints, Quizlet, and Zoom are the most frequently utilized, each nearing a value of 2.0 on the scale, showcasing their popularity and accessibility in educational contexts. Other tools, comprising Google Meet, TED Talks, and Coursera, show moderate levels of usage, averaging slightly above 1.0. These tools provide additional platforms for content delivery, engagement, and professional development. Less frequently used tools, such as Wenjuanxing, PollEverywhere, and iClicker, also contribute to the overall technological landscape, indicating that while they are less common, they still play a role in supporting interactive and student-centred learning. This overall distribution highlights a balance between traditional, widely used tools and emerging technologies that are gradually being integrated into educational practices.

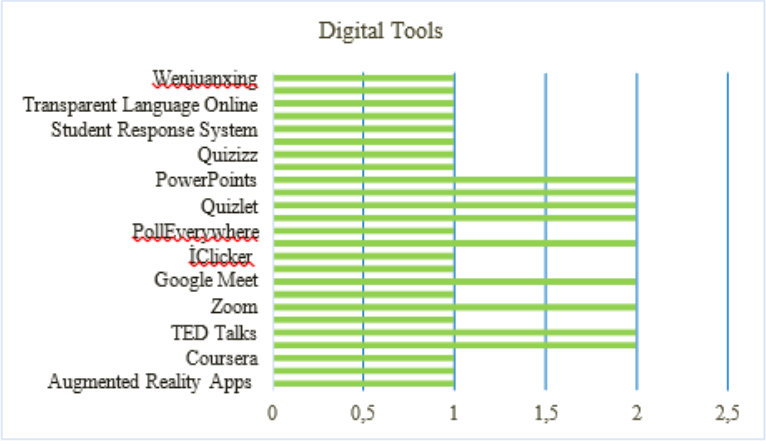

Figure 7. *Technological Tools Frequently Used in Flipped Classrooms*

Figure 8 presents data on student attitudes toward flipped classrooms. Out of the total responses, the overwhelming majority (14 instances) reflect positive attitudes toward the flipped classroom approach. This constitutes 82.3% of the total attitudes recorded. In contrast, neutral attitudes account for only 2 instances (11.8%), representing limited neutrality among students. Mixed attitudes and N/A responses are equally low, each with 1 instance (5.9%). This distribution demonstrates a clear predominance of positive reception to the flipped classroom model, aligning with findings from studies such as Fraga and Harmon (2014), who noted increased student participation in flipped learning environments. Such high levels of positive attitudes indicate that flipped classrooms are generally well-received by learners. However, the small representation of neutral, mixed, or non-assessed responses highlights areas that may warrant further qualitative investigation to determine specific concerns or barriers.

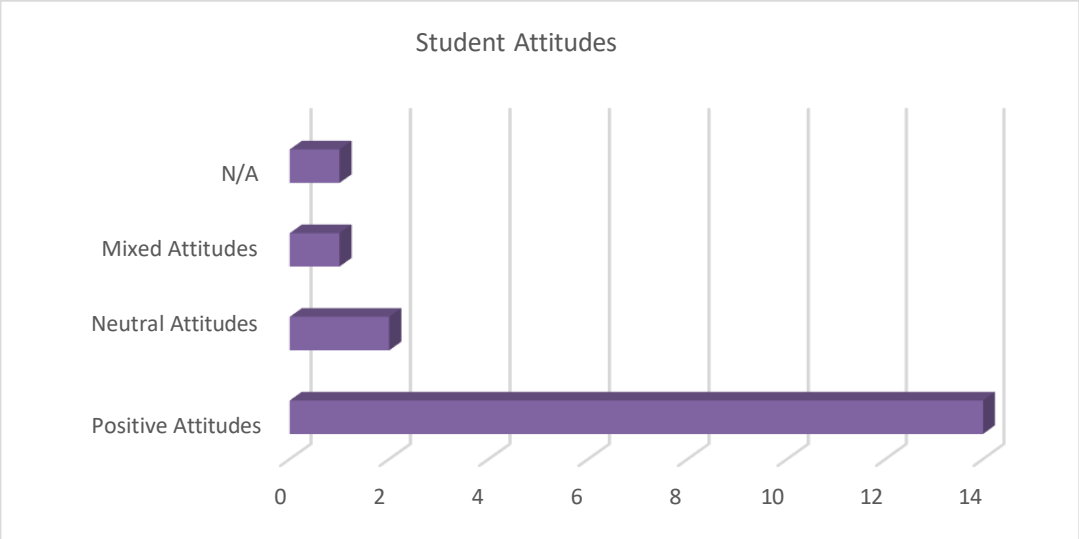

Figure 8. *Students' Attitudes Toward Flipped Classrooms*

Table 1 categorizes factors influencing student attitudes across various studies, highlighting the diversity of elements impacting flipped classroom perceptions. The most frequently mentioned factor is learning activities, noted 4 times (Fischer & Yang, 2022). This suggests that engaging and structured learning activities play a critical role in shaping positive attitudes. Digital tools and technology use follow, with 3 mentions each (Etemadfar et al., 2020; Khodabandeh, 2022), reflecting the growing reliance on and perception of technological integration. Issues such as technology access (2 mentions) and preparation time (1 mention) underscore concerns related to resource availability and educator workload. Several studies also highlight individualized and flexible instructional practices (Arif & Irfana, 2019), familiarity with the approach (Cripps et al., 2023), and external factors like working memory capacity

(Diningrat et al., 2023) or distractions (Pratiwi et al., 2024). These elements, though individually less frequent, emphasize the multi-dimensional nature of student attitudes and the importance of contextual variables. Overall, the factors underscore that both technological infrastructure and pedagogical strategies significantly impact student perceptions. Addressing these areas could enhance flipped classroom effectiveness, particularly in contexts where technological readiness or instructional clarity remains a challenge.

Table 1. Factors Influencing Student Attitudes Toward Flipped Classrooms

Studies	Factors Influencing Student Attitudes	Frequency
Fischer, I. D. & Yang, J. C. (2022)	Learning activities	4
Etemadfar, P. et al. (2020)	Digital tools	3
Khodabandeh, F. (2022)	Technology Use	3
Liu, C. et al. (2018)	Technology access	2
Anane, C. (2022)	Preparation time	1
Anane, C. (2022)	Task clarity	1
Arif, S. & Irfana, O. (2019)	Individualized instruction	1
Arif, S. & Irfana, O. (2019)	Flexibility in pacing learning tasks	1
Birova, L. et al. (2023)	Time constraints	1
Cripps, J. H. et al. (2023)	Familiarity with flipped approach	1
Cripps, J. H. et al. (2023)	Consistency in teaching style	1
Diningrat, S. W. M. et al. (2023)	Working Memory Capacity (WMC)	1
Etemadfar, P. et al. (2020a)	Integration of cooperative learning	1
Fraga, L. M. & Harmon, J. (2014)	Resistance to new instructional models	1
Hernández-Nanclares, N. & Pérez-Rodríguez, M. (2016)	Active in-class discussions	1
Liu, C. et al. (2018)	Motivation to participate	1
Luo, S. & Zou, D. (2024)	Anxiety related to technology integration	1
Luo, S. & Zou, D. (2024)	Unfamiliarity with flipped teaching methods	1
Pratiwi, D. I. et al. (2024)	Distraction issues	1
Sengul, F. et al. (2022)	Scheduling flexibility	1
Sohrabi, B. & Iraj, H. (2016)	Challenges with English materials	1
Tsai, Y. (2019)	Opportunities for self-regulation	1

Finally, Table 2 highlights challenges faced by educators during the implementation of flipped classrooms, categorized by their frequency across studies. The most cited challenge is technical issues, appearing in 5 studies (Diningrat et al., 2023). This underscores the consistent

difficulty of integrating digital tools and platforms into flipped classroom models. Time management emerges as the second most frequent challenge, noted in 3 instances (Arif & Irfana, 2019). Educators struggle with balancing instructional time both inside and outside the classroom. Other significant concerns encompass motivation (2 mentions), as well as issues such as distractions from digital tools (Pratiwi et al., 2024), resistance to new methods (Fraga & Harmon, 2014), and language barriers (Hernández-Nanclares & Pérez-Rodríguez, 2016). Additional challenges—like adapting content to a flipped format (Cripps et al., 2023) and addressing student autonomy levels (Tsai, 2019)—reflect the nuanced demands placed on educators. Notably, less frequent but impactful challenges cover anxiety about technology integration (Luo & Zou, 2024) and limited student participation (Fischer & Yang, 2022). The diversity of challenges suggests that successful flipped classroom implementation requires addressing both technical and pedagogical hurdles. Institutional support, professional development, and tailored scaffolding can mitigate these challenges and ensure smoother adoption.

Table 2. Challenges Faced by Educators in Implementing Flipped Classrooms

Studies Mentioning the Challenge	Challenge Category	Frequency
Diningrat et al. (2023)	Technical issues	5
Arif, S. & Irfana, O. (2019)	Time Management	3
Anane, C. (2022)	Motivation	2
Arif, S. & Irfana, O. (2019)	Individual pace adjustment	1
Cripps, J. H. et al. (2023)	Need for additional outside-of-class support	1
Pratiwi, D. I. et al. (2024)	Distractions from digital tools	1
Hernández-Nanclares, N. & Pérez-Rodríguez, M. (2016)	Language barriers	1
Etemadfar, P. et al. (2020)	Limited resources	1
Fischer, I. D. & Yang, J. C. (2022)	Limited student participation	1
Fraga, L. M. & Harmon, J. (2014)	Resistance to new methods	1
Jensen, J. L. et al. (2015)	Student resistance	1
Tsai, Y. (2019)	Varied comfort levels with autonomy and digital tools	1
Luo, S. & Zou, D. (2024)	Anxiety about effective integration of technology	1
Cripps, J. H. et al. (2023)	Need for additional outside-of-class support	1
Cripps, J. H. et al. (2023)	Adapting content to flipped format	1

Discussion

The current systematic review investigated the efficacy of flipped classrooms in the context of language teaching through a synthesis of findings gathered from 18 empirical studies published between 2015 and 2024. The current study represents a broad approach to the impact of FCs on language learning by synthesizing the tools and technologies used, the importance of self-directed learning and students' perception, as well as the challenges encountered during implementation. The analysis highlights the important role of digital tools within flipped classroom environments. It is found that Moodle, Kahoot, and Zoom are among the most frequently used platforms for enabling asynchronous learning, thereby increasing learner engagement towards learning (Sohrabi & Iraj, 2016; Anane, 2022). The latter finds some resonance in the constructivist paradigms in which students take an active role in knowledge acquisition through digital and collaborative means (Chen et al., 2020). While these tools enormously improve the learning experience, their efficacy strongly depends on the issues of accessibility and technological reliability. This echoes the finding by Pratiwi et al. (2024), where it was highlighted that technical problems related to device compatibility and internet connectivity are among the major persistent barriers, especially in resource-constrained settings. The second central theme from the findings relates to self-regulated learning practices. Flipped classrooms require a high level of autonomy, as students have to engage with preparatory materials before the class on their own (Liu et al., 2018). Students with high self- regulation—time management, goal setting, and self-reflection—can profit more from the flipped model, which yields etter learning outcomes and increased engagement (Tsai, 2019). However, students have different self-regulation abilities, which pose a great challenge because those with low levels of autonomy will not be able to endure the pace and therefore may lower the effectiveness of the model (Cripps et al., 2023). That means teachers should help students in developing their self-regulation abilities and provide extra support for students who might have problems with self-directed learning. The findings also elucidate the influence of well- designed learning activities and well-structured task designs on student attitudes. As shown in Table 1, factors such as clarity of tasks and the time given for preparation determine students' perceptions of flipped classrooms (Fischer & Yang, 2022; Anane, 2022). Interactive and interesting activities that take into consideration individual learning needs lead to positive attitudes and increase motivation while poorly designed tasks can lead to frustration and dislike. This is in line with the previous findings that emphasize the significant role of learner- centric activities within a supportive learning environment (Hernández-Nanclares & Pérez- Rodríguez,

2016; Hwang et al., 2021). Practical and logistical challenges in implementing the flipped classroom by instructors, as summarized in Table 2, are thus challenges that could easily jeopardize the effectiveness of this model. The most reported were the technical challenges found in 28% of the studies, followed by issues in managing time effectively at 17% and opposition by students to new instructional approaches also at 17% (Arif & Irfana, 2019; Pratiwi et al., 2024). The findings clearly illustrate the need for professional development activities designed to offer instructors competencies to appropriately employ both technology and instructional strategies. Such difficulties can be overcome by providing training sessions and workshops on flipped classroom design, as suggested by Sohrabi and Iraj (2016). The comparison of the findings with the existing literature puts into relief the transformative potential of flipped classrooms in language teaching. In line with the studies by van Alten et al. (2021) and Hwang et al. (2021), this analysis confirms that flipped classrooms heighten students' engagement, active learning, and language proficiency. Nonetheless, this review adds a new dimension to the discussion by identifying specific tools, task frameworks, and methodologies which align with contexts of English language teaching and therefore provide practical insights for teachers.

Conclusion

This study systematically reviewed 18 empirical, peer-reviewed articles on the effectiveness of the flipped classroom in EFL instruction, published between 2015 and 2024. The studies were analysed in terms of their distribution across time, geographical contexts, and educational levels, and their foci of investigation, theoretical frameworks, technological tools, and methodological approaches. These findings present that the interest in Flipped Classroom pedagogy is growing in EFL contexts, especially during the last years, reaching its peak in the number of studies in 2023. The use of digital tools such as Moodle, Kahoot, and Zoom to favour asynchronous and collaborative learning was discussed in the selected articles. Gamified and multimedia resources were as well reported very frequently to raise students' engagement and motivation.

Most of the studies used an experimental or mixed-methods design, showing a preference for measurable outcomes while capturing qualitative insights. Research was mostly conducted in higher education settings, with limited representation in K-12 or community-based contexts. The learners in the reviewed studies were mostly university students learning English as a foreign language. Other findings included that self-regulated learning and the

attitude of the students themselves would be important components in the efficacy of flipped classroom learning. Challenges identified as faced by the learners included the disparities in technologies, time management issues, and the level of preparedness of students. The above findings agree with the literature reviewed, which has further emphasized scaffolding tailored to fit specific needs, especially, for professional development of instructors. The review has reflected an advance in the application of flipped classrooms in language education but also points out lacunae that need further exploration.

Specifically, future research should focus on (a) the use of flipped classrooms in primary and secondary education; (b) long-term impacts on language proficiency and learner autonomy; (c) strategies to address technological and infrastructural barriers; (d) the flipped classrooms application in under-researched regions and learner populations; and (e) innovative uses of emerging technologies, such as augmented reality, virtual reality, and adaptive learning systems. Future systematic reviews should look to extend the scope to non-English publications and unpublished studies to provide a wider understanding of flipped classrooms across diverse educational contexts. By addressing such gaps, both researchers and practitioners could be better positioned to realize fully the potential of flipped classrooms for creating student-centered, interactive, and equitable learning environments in language education.

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