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# The Role of the Flipped Learning in the English Language Learning and Students' Motivation: A Systematic Review

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#### **Abstract**

In the 21st century, English has become an indispensable part of the educational curriculum in secondary and tertiary education institutions. Much effort is expended in determining the most effective methods for learning English. English language acquisition is a highly complex process and require extraordinary cooperation and effort on the part of both learners and educational institutions. Utilizing Flipped Learning can provide a novel method of receiving this content. Systematic review was adopted as the research methodology and article selection and screening process are described. Articles published between 2018 and April 2022 were reviewed, and 47 articles were included for a detailed analysis and synthesis. The results indicated that flipped learning gained popularity amongst language educators who were documenting the flipped process and sharing students feedback. Future research examining different facets of a flipped learning implementation, framed around sound theoretical frameworks and evaluation methods, is still needed to establish the pedagogy of flipped learning in teaching English language.

**Keywords**: Flipped Learning, English Language Skills, Motivation, Learner Autonomy, Teaching Methodology

#### Introduction

English has been mandated as a prerequisite for university admission and as the primary language of instruction in different fields (Richards, 1985). Daily, the number of English language users increases. Individuals, on the other hand, face a slew of obstacles when it comes to learning and mastering this language. In year 2005, Pillay expressed his views on English as a vehicle for acquiring knowledge, particularly in the fields of science and technology. Due to the fact that the majority of research is conducted in it, the language is recognised as a significant and universal language. Additionally, a large number of schools and institutions of higher education use it as a medium of instruction (Morris & Maxey, 2014).

Multiple recent studies into the issues of English Language learning have presented a variety of solutions and approaches to assist EFL learners in overcoming these challenges and improving their language. In general, learners acquire four main skills in the English language namely: writing, speaking, reading, and listening (Harmer, 2007).

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Language learning is a complicated process, even more so in its written form. To compose more effectively, writer must master appropriate contextual expressions and vocabulary (Perumal & Ajit, 2022). English writing has become increasingly important in recent years. According to Jack (2013), the primary factors affecting writing skills are students' attitudes, students' background, learning settings, subject, and their educator's approach to demonstrate writing skills.

Reading is a foundational skill for life (Anderson et.al., 1985). Teele (2004) asserts that every reader's objective should be to comprehend what they're reading. It is critical to teach strategies such as predicting, making connections, visualising, inferring, questioning, and summarising through the think-aloud process, discussion and paired-dialogue (Duke & Pearson, 2005; Block & Israel, 2005).

Additionally, previous research has demonstrated that vocabulary acquisition is a critical element of all language acquisition. Although L2 pedagogy provides a variety of techniques for vocabulary acquisition, it continues to be a challenge because no strategy has been developed that maximises the acquisition of this segment of L2 information (Schmitt, 2008).

Grammar is a critical skill in determining a learner's ability to use the language efficiently. Grammar is a necessary component of language learning because it facilitates effective communication. Grammatical knowledge is necessary for proper language use (Leech & Svartvik, 2013). Grammar, on the other hand, is frequently not a favourite subject for many language learners. The English language's grammar is one aspect of language learning that inhibits learners' willingness to study the language.

Consequently, teaching methods for the language have evolved significantly, with each advancement aimed at making the language easier to learn for students. Radio, television, and, most recently, information technology have all been used to supplement conventional educational methods. The importance of information technology in English education has been recognised, with numerous countries noting how it has facilitated and improved English learning significantly.

#### **Flipped Learning**

The education system has been through steady alteration in recent years, with many shifts breaking through in how we previously understood the concept of education. Students nowadays have different abilities, interests, and motivations than students in earlier years. This means that a point of adoption for current students' new interests and habits must be established in the educational sector. Many active methodologies have lately arisen based on these concepts. The Flipped Classroom, also known as the inverted classroom, which refers to a novel pedagogical approach in which conventional learning environment and its activities are modified in the teaching and learning context.

Flipped Learning (FL) is defined as a "pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" (Flipping Learning Network, 2014). Aaron Sams and John Bergmann, who pioneered and popularised the pedagogy approach, defining the setting of a flipped classroom as "which is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class"

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According to a review of the literature, there are several terms that have been used interchangeably with flipped teaching in various studies (Hung, 2015). Lage and Platt coined the phrase "inverted classroom" (2000); Novak (2011); Bergmann and Sams (2012); Barker et al (2013); Uzunboylu & Karagozlu (2015) all use the terms "just-in-time teaching," "flipped classroom," and "inverted learning" to describe the same approach. Under this pedagogical approach, the teaching and learning process is divided into two stages: (1) outside the classroom, with the supplement of content-related videos, and (2) inside the classroom, where students are given time to resolve doubts and complete exercises and tasks of assimilation and consolidation.

#### The Four Pillars of F-L-I-P™

According to The Flipped Learning Network (FLN), teachers must integrate four pillars into their work in order to engage in Flipped Learning. The four pillars of F-L-I-P™ are Flexible Environment, Learning Culture, Intentional Content, and Professional Educator. Flexible environment demonstrates the importance of adaptable and flexible learning environments. Educators routinely rearrange their classrooms to make them more collaborative and enables students to determine when and where they wish to learn, as well as the type of learning they wish to pursue (Hamden et al., 2013).

Learning Culture, demonstrates a shift away from students as "recipients of instruction" toward students as the "centre of learning." The flipped learning paradigm is a deliberate shift away from a teacher-centered classroom toward a student-centered approach, with in-class time spent assessing students' comprehension and synthesis of the subject.

The third pillar is Intentional Content, which defines the instructor's instructional judgments. They determine what needs to be taught and which materials learners should handle independently. Instructors use Intentional Content to maximise In-class interaction by implementing students-centred, active learning strategies that are suitable for the learners' level and subject content.

Professional Educators, may be the most critical since it emphasises the critical function of instructors in the flipped learning, even if their involvement is "transparent". They must observe students during class time, offering immediate response and an evaluation of their work

#### **Motivation in Language Learning**

While the four pillars of the F-L-I-P™ model place an emphasis on various characteristics of learning environments and culture, learner-related factors are mostly ignored (Chen et al., 2014). Flipped learning's success is contingent upon teachers' convictions about its usefulness and the use of proper instructional design (Bergmann & Sams, 2012). Simultaneously, the success of flipped learning may differ according to the efforts of particular learners (Mason et al., 2013). As a result, it is critical to evaluate not just instructor-related aspects, but also learner motivation as a critical component that might decide the success or failure of flipped learning. We evaluated motivation as a significant learner-related element influencing overall learning results in flipped learning in this study.

Often, one mention that motivation is the key of a language learner's success or failure in mastering a second language (L2) (Guerrero, 2015). Motivation affects performance in a variety of language skills, including reading, writing, listening, and oral communication

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(Oxford, 1990). Motivation is one of the constructs that are encompassed by the term "self-concept", which has been defined as "what we believe about ourselves in relation to a particular field" (Mercer, 2012). As defined by the scholars William and Burden (1997), "motivation" as "a condition of cognitive and emotional arousal that results in a conscious decision to act and a period of sustained intellectual and or physical effort toward the accomplishment of a previously declared goal (or goals)." In language acquisition, motivation accounts for the student's desire to engage in specific activities. For instance, to enrol in a course or applying the targeted language (Dornyei, 2001). Numerous factors that may affect one's motivation, the willingness to achieve good grade, self-esteem, talent, causal attributions, perceived value of the activity, significance, incentives, and context (Dornyei, 2001; Williams & Burden, 1997).

#### Self-determination Theory

Self-determination is a critical concept in psychology because it refers to an individual's capacity to make choices and manage their own lives. Deci and Ryan (2012) define self-determination theory as "a theory of human motivation and personality in social contexts that distinguishes motivation in terms of autonomy and control." When people believe their actions will have an effect on the outcome, they are more motivated to act. Self-determination has been applied in a variety of settings, including education, employment, parenting, physical activity, and health. According to research, a high level of self-determination can assist an individual in achieving success in a variety of different areas of life.

According to self-determination theory, there are two types of motivation: intrinsic motivation (IM) and extrinsic motivation (EM). Intrinsic motivation (IM) denotes the desire to take part in a particular event because it is joyful and rewarding. IM is based on innate desires for competence and autonomy (Deci & Ryan, 1985). Niemic and Ryan (2009) define the need for competence as the experience of behaviour as effectively enacted while the term "autonomy" denotes the experience of behaviour as volitional and self-endorsed through reflection (Niemiec & Ryan, 2009). According to Niemiec and Ryan (2009), satisfying both autonomy and competence demands is critical for maintaining intrinsic motivation; students who feel competent but not independent will lose intrinsic drive for studying. Along with autonomy and competence, this theory also asserts that satisfying the need for relatedness able to promote the internalisation process. In the classroom, relatedness is connected to a student's attitude of the instructors' genuine affection, respect, and value for the learners. Learners who experience this connection are more likely to perform in difficult learning tasks assigned by the instructors, whereas those who feel disengaged or banned by instructors are more likely to be demotivated.

Vallerand (1997) introduced a three-part IM taxonomy. IM-Knowledge, is the desire to act as a result of the sentiments associated with learning new things. Second, IM-Accomplishment, denotes to the feelings connected with making an attempt to master a task or accomplish a goal. IM-Stimulation on the other hand, is completely motivated by the sensations evoked by completing the action, such as satisfaction, pleasure, and excitement. Positive experiences are shared by all three categories throughout the self-initiated and challenging process.

On the other hand, extrinsically motivated actions, are behaviours taken to achieve a specific objective, for instance to earn an incentives or to avoid penalty. There are three types

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of extrinsic motivations namely. First, external regulation is described as actions that are influenced by factors outside of individual's control, like actual advantages or costs. Second, introjected regulation denotes to motivations for performing an action that are connected to some form of pressure that people have integrated into themselves. The internal pressure has triggering them to urge themselves to perform the task given. Despite the fact that the cause of the pressure is internal, it does not considered as self-determined because people are reacting to a pressure rather than acting on their own volition. Individuals contributes efforts in an activity because they have decided to do so for personally meaningful reasons, which is referred to as identified regulation. In this case, learners would complete the exercise since it is necessary for reaching a worthwhile goal.

English Language Learning and Learners' Motivation from the Lens of Flipped Learning
The classroom, including the tertiary English classroom, is changing as a result of digital technologies. George et al (2015) argue English teacher educators will need to work with "the resourceful of digital tools and a diverse range of texts" along with "the influence of technologies to modify traditional pedagogies and encourage opportunities for all learners to comprehend in and out of the classroom." Literacy education in today's digital era will require instruction in a variety of digital texts as well as instructional methods that incorporate technology to reach every student.

Although several scholars have extensively used flipped classrooms, their construct and practise in relation to learners' motivation in ELT settings are not well established. In order to close the gaps listed above, we intend to propose a generic flipped learning framework along with detailed explanations for learners' motivation in ELT settings. The suggested model is based on Luo et al (2020)'s framework, supported by the four pillars of F-L-I-P™ and self-determination theory. The said framework includes these major rules: flexible environments, learning culture, intentional content and professional language instructors, serving as a theoretical core for instructors seeking to effectively conduct flipped learning in ELT contexts more accurately.



Figure 1 The Flip Learning-Motivation Wheel

FLW was originally proposed by Luo et al (2020) consists of the elements and principals involved in an effectual flipped classroom. The theoretical basis of the model are instructional design theories, technological, pedagogical, and content knowledge (TPACK) and Community of Inquiry model.

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As stated by Merrill (2002), learning occurs when the instructor demonstrates the knowledge, and learner applies it. Simultaneously, new knowledge should be connected to the learners and be understandable in light of the learners' prior knowledge Though Merrill's (2002) model does not specifically mention the implementation of flipped learning, scholar have revised it for flipped learning in subsequent research.

TPACK is a prevalent framework in the ground of technology in education. TPACK can be used to interpret the understanding of knowledge in three dimensions: technological, pedagogical, and content. According to Doering et al (2009), TPACK places a premium on technology-enhanced approach and can be applied in conjunction with technology-enhanced classroom. The use of the said framework provides both studies linked to the analysis and the systematic paradigm on the use of the Flipped learning pedagogy approach (Zainuddin & Perera, 2019) and its effects on academic performance (Hinojo et al., 2019), motivation and satisfaction of students (Lag & Sæle, 2019).

Additionally, Community of Inquiry is a term that refers to the process of learning for a group of individual learners that occurs at the integration of instructional, cognitive, and social presence (Bektashi, 2018) Instructors are likely to establish an evident link between inclass and out-of-class activities. They provide well-designed guidance and allocate learners adequate duratiob to accomplish the task given. While students are completing assignments, instructors should guide their development and provide appropriate response (Kim et al., 2014).

After conducting a review of the relevant studies, we discovered that studies on Flipped learning and learners' motivation in L2 context is still in its early stage, with scattered study results. It is critical to investigate the findings of researchers at various stages of Flipped learning (Eppard & Rochdi, 2017). With the growing popularity of flipped learning, it is necessary to improve the systematic nature and integration of this area, along with providing practical suggestions for future studies. Considering the research characteristics of English teaching and learning and learners' motivation in a flipped classroom, the Flipped Learning-Motivation Wheel (FLMW) was proposed as the analysis framework for the study's influencing factors. Based on these ideas, the objectives of this study are:

- To locate the educational experiences that would use the Flipped Classroom method for the promotion of English language skills in language classroom
- To examine the relatioanship between flipped learning implementation and students' motivation.

This study was led by the following two research questions (RQs):

**RQ1**. What is the relationship between flipped learning and students' English learning performance?

**RQ2**. What is the relationship between flipped learning and students' motivation in English Language classroom?

#### **Research Method**

To better answer these two research questions, a systematic literature review following the PRISMA statement's standards, and a stringent selection approach was conducted (Moher et al., 2009). The systematic literature review method is most relevant for providing an overview of the empirical papers that have been chosen. We set defined assessment criteria and analysis frameworks while classifying the selected empirical studies.

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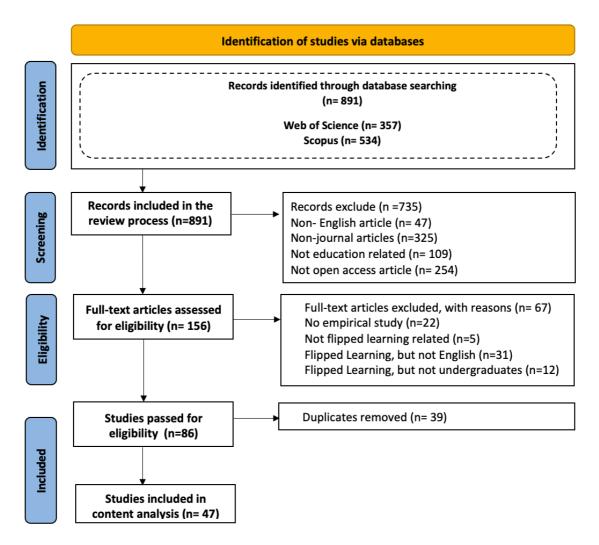


Figure 2 Study flow diagram adapted from PRISMA

Table 1

Search terms	Synonyms and alternative terms	Search strings
flipped learning	inverted learning; flipped classroom; just-in-time teaching	("flipped learning" OR "inverted learning" OR "flipped classroom" OR "just-in-time teaching")
AND		
English	EFL; language	("English" OR "language" OR "EFL")

List of Term and Search Strings

#### Search, Screen, and Inclusion Process

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al., 2009) were used to guide our search method in this systematic review (see Figure 1). Identification of search terms and search strings, database search, preliminary literature screening, and full-text eligibility assessment are the four stages in this process.

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Inclusion criteria (IC)	Exclusion criteria (EX)	
IC1: Journal articles	EX1: Book chapters, books, or other types of	
	non-peer-reviews publications	
IC2:Articles available in Open Access	EX2:Articles not available in Open Access	
IC3: Empirical researches	EX3:Theoretical studies or revisions	
IC4: Articles written in English	EX4: Articles not written in English	
IC5: Research that has taken place among	EX5: Practices that have not been implemented	
undergraduates	in among undergraduates	
	EX7: Duplicate articles	

TABLE 2 List of Inclusion criteria and Exclusion criteria

#### Identification of primary search terms and search strings

After analysing the research questions, two key search terms emerged: "flipped learning" and "English." After perusing the previous foundational literature, a list of synonyms and alternative terms was developed (see Table 1). As a result of this research, the following search terms were used: ("flipped learning" OR "inverted learning" OR "flipped classroom" OR "just-in-time teaching") AND ("English" OR "language" OR "EFL")

#### The Search on the Database

In this research, Scopus and Web of Science were chosen as the resource of relevant and high quality papers in relation to the review concerns. These databases were searched until 17 April 2022. Overall, we discovered 891 records from databases (for a full explanation of our search methodology and process, see Appendix A).

#### **Preliminary Literature Screening**

The titles, abstracts, and keywords of the searched papers were screened in this stage. This review has set four exclusion criteria namely, non-English articles, non-journal articles, articles not related to education and not open-access articles. From the total of 891 searched articles, 735 articles were filtered, and the remaining 156 proceeded to the next stage.

#### **Full-text Evaluation for Eligibility**

To determine eligibility, 156 articles were read in their entirety. Four exclusion criteria were specified: non-empirical research papers, publications unrelated to Flipped learning, articles connected to Flipped learning but unrelated to the English language classroom, and techniques not adopted in undergraduate classrooms. This stage resulted in the exclusion of 67 articles, whereas 86 articles passed the full-text examination for eligibility. After removing 39 duplicate articles, 47 remained for further coding and content analysis.

#### The Coding Process and the Analysis of Content

The content analysis of eligible articles about flipped learning in English language classrooms was used in this systematic review. In a word, content analysis is a systematic, objective, quantitative evaluation of the characteristics of a message (Neuendorf, 2017). Three components of this content analysis were identified: a review of the articles, language skills coding, and motivation type coding. The 47 qualifying articles were imported and sorted them alphabetically by author name, providing each piece a specific coding number (see Table 3). The independent article serves as the analytic unit in this content analysis procedure.

Table 3
47 articles included in the systematic review

Eligibility No.	Citations		
E1	Abdullah et al (2020)		
E2	Abdullah et al (2019)		
E3	Afzali and Izadpanah (2021)		
E4	Andujar et al (2020)		
E5	Angelini and Garcia-Carbonell (2019)		
E6	Annamalai et al (2021)		
E7	Arif and Omar (2019)		
E8	Atwa et al (2022)		
E9	Birova (2019)		
E10	Chivata and Oviedo (2018)		
E11	Etemadfar et al (2020)		
E12	Fischer and Yang (2022)		
E13	Ghufron and Nurdianingsih (2021)		
E14	Girmen and Kaya (2019)		
E15	Hajebi (2020)		
E16	Jiang et al (2021)		
E17	Khasanah and Anggoro (2022)		
E18	Khonamri et al (2020)		
E19	Knezevic et al (2020)		
E20	Kusuma et al (2021)		
E21	Li and Qu (2019)		
E22	Makruf et al (2021)		
E23	Montaner-Villalba (2021)		
E24	Namaziandost and Váakmak (2020)		
E25	Ozturk and Çakıroğlu (2021)		
E26	Pasaribu and Wulandari (2021)		
E27	Phoeun and Sengsri (2021)		
E28	Purwanti et al (2022)		
E29	Rad (2021)		
E30	Reddy et al (2021)		

E31	Reflianto et al (2021)
E32	Roohani and Etemadfar (2021)
E33	Samiei and Ebadi (2021)
E34	Santikarn and Wichadee (2018)
E35	Shaari et al (2021)
E36	Singay (2020)
E37	Solimani et al (2019)
E38	Soltanabadi et al (2021)
E39	Umutlu and Akpinar (2020)
E40	Wang et al (2018)
E41	Li and Cao (2020)
E42	Yang et al (2019)
E43	Yoon and Kim (2020)
E44	Yu and Gao (2022)
E45	Yulian (2021)
E46	Zhang (2022)
E47	Zhang (2019)

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#### **Data Extraction**

The data extraction form was created using the principles of (Dyba et al., 2011). Metadata (research title, publication year of publication, database), characteristics (research objectives, setting application), research design (methodology, time allocation), experiment (the size of the sample, criteria for participators selection, experiment groups, control groups), and findings were all organized using the form.

#### **Descriptive and Summative Overview**

Demographic information from these eligible articles were extracted for the descriptive and summative reviews of the article, including the publication year, first author's country, publication channel, and discipline distribution.

#### **Results**

The studies were categorized following the year of publication (Figure 3). As shown in the statistics, most of the papers were published in 2021, eleven papers in 2020, nine papers in 2019, five papers in 2022 and three papers in 2018.

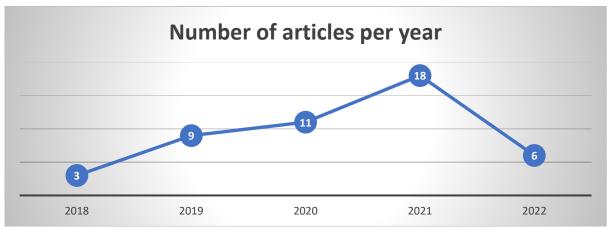


Figure 3 Number of papers per year

#### **Sources of Publication**

According to the statistics, all of the selected papers were published in 29 journals, each of which is highly diversified and content-rich. The four categories of publication channels are education, education technology, language teaching and learning, and others. Table 4 summarises the categories of journals devoted to FL in English English language acquisition. As seen in the table, the majority of papers were published in educational journals, with 17 research papers accounting for 36.2 percent of the total. Education technology (16 articles, representing 34% of the total) and language teaching and learning are the next two categories (10 articles, accounting for 21.2 percent). Two prominent sources, each having five studies, are the International Journal of Instruction and the International Journal of Emerging Technologies in Learning.

Table 4
List of the publications on FL in English language learning and teaching

Categories of journal (sum total, percent)	Publication	Frequency	References
Education (17, 36.2%)	Asia Pacific Journal of Educators and Education	2	[E6,E30]
	Cogent Education	2	[E3, E11]
	Education Research International	1	[E38]
	European Journal of Educational Research	2	[E28,E31]
	Gist Education and Learning Research Journal	1	[E10]
	International Journal of Education in Mathematics, Science and Technology	1	[E22]
	International Journal of Instruction	5	[E8,E14,E17,E27, E37]
	International Journal of Learning, Teaching and Educational Research	1	[E13]
	Turkish Online Journal of Distance Education	1	[E26]
	Journal of Higher Education Turkey	1	[E7]
Educational Technology	Australasian Journal of Educational Technology	1	[E16]
(16, 34%)	Computer Assisted Language Learning	1	[E40]
	Contemporary Educational Technology	1	[E39]
	Education and Information Technologies	1	[E24]
	International Journal of Educational Technology in Higher Education	2	[E5, E12]
	International Journal of Emerging Technologies in Learning	5	[E1, E2, E21, E34,E47]
	International Journal of Information and Education Technology	1	[E41]
	Research and Practice in Technology Enhanced Learning	1	[E33]

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	Science for Education Today	1	[E18]
	Smart Learning Environments	1	[E25]
	JALT CALL Journal	1	[E20]
Language Teaching and	Indonesian Journal of Applied Linguistics	1	[E37]
Learning	Journal of Asia TEFL	4	[E29,E32,E42,E43]
(10, 21.2%)	Journal of Language and Education	1	[E23]
	Studies in English Language and Education	2	[E35,E45]
	Theory and Practice in Language Studies	2	[E15,E46]
Others	Publications from the Faculty of	1	[E9]
(4, 8.5%) Education and Humanities			
	Melilla Campus		
	SAGE Open	2	[E19, E44]
	Sustainability (Switzerland)	1	[E4]

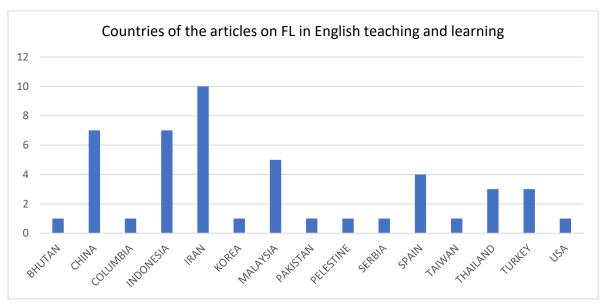


Figure 4 Countries of the articles on FL in English teaching and learning

As for the origin of the journals (Figure 4), there is homogeneity, as most of them belong to either Iran, Indonesia or China.

Table 5 depicts majority studies found that participants in EFL Flipped Classroom improved their English language skills as well as increased personal and academic characteristics including motivation and engagement. In terms of implementation, it was discovered that there are a variety of approaches, including the use of video tutorials, training modules, weblog, podcast and WebQuest, online quiz distributed through Learning Management

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System (LMS) platforms such as *Google Classroom, Schoology* and *Unipus*, video sharing website such as *Youtube* and *Facebook* and internet-based text and voice messaging service providers such as *WhatsApp*, *Telegram* and *WeChat*.

Finally, there is an obvious heterogeneity in terms of research design, with studies ranging from quasi-experimental (pre-test and post-tests), quantitative (using questionnaires or assessments) and mixed (combining questionnaires and focus group interviews).

**Table 5** *Analysis of the Collected Articles* 

Reference	Objectives	Flipped Learning Implementation	Instrument	Effect of Flipped Classroom Application
E1	To examine the implementation of FL on learners' self-confidence English speaking classroom.	The utilization of Google Classroom platform , videos, internet sources, and active whiteboard.	Survey, reflective journal, interview	FL contributed significantly to increase self-confidence among the participants in English speaking performance.
E2	To determine the most effective method for assisting students in overcoming speaking difficulties and optimising their English speaking performance.	The use of lectures video and online quizzes	Pre-test and post-tests, observation, interviews	FL was a significant methodology in the EFL speaking classroom. Students' participations , motivation and commitment level in English speaking tasks have improved significantly.
E3	To see how the FL model affects learners' motivation and involvement in studying English grammar.	Use of 50 videos on grammar.	Pre-test and Post-test	The participants in the flipped classroom outperformed those in the standard classroom.
E4	To examine students' perceptions of and acceptance of a FL model.	Different video clips on YouTube platform.	Survey	The findings revealed that students enjoyed the intervention. Participants also mentioned the simplicity of use and the relevance of a well-designed video material
E5	To demonstrate the effectiveness of simulation-based instruction in students' writing.	Using situational (or class) simulations in real time, as well as a large-scale webbased simulation.	Pre-test and Post-test	Participants greatly improved their English writing abilities, particularly their ability to organise and connect ideas.
E6	To investigate the effectiveness of the online flipped classroom approach (OFCA) and the Discover, Learn, Practice, Collaborate, and Assess (DLPAC) model (DLPCA) in	Asynchronous discussion (60%) and synchronous discussion (40%) (Google Meet). DLPCA strategy was adapted.	Questionnaire, open-ended questions, reflection	Students showed their satisfaction and their reflections revealed that OFCA carried a important role in their development as future teachers

E7	grammar teaching and learning.  Transparent Language Online was used to examine the impact of novel learning design and the use of FC (TLO).	Students watched YouTube Videos, listen to songs and online quizzes.  Use of books , movies, audios, websites, and peer discussion activities through the use of TLO and LMS.	Content-analysis Survey	The results showed that students were more engaged and motivated to learn, which led to increased academic achievement.
E8	The goal of this study is to determine the efficacy of FL on students' critical thinking abilities, psychological stress, and academic accomplishment in four subjects: science, mathematics, information technology, and English.	Students can view the videos through YouTube platform before attending the F2F classroom sessions.	Questionnaires Pre-test and Post-test Thematic analysis	The Flipped Classroom implementation affected the students' critical thinking skills. It is concluded that Flipped Classroom students' score is better than that the students in traditional classroom.
E9	To determine the efficacy of the flipped classroom teaching strategy in terms of students' communicative ability in a foreign language.	Materials (most frequently video lectures) were provided before the lesson.	Pre-test and post-test Observation Survey	The implemented tests result indicate that FL does have the potential to improve language learning and teaching.
E10	This study examines participants' perceptions of activeness during FL approach's deployment.	Students watched a video on Playposit, Exposed to the FL approach through different active learning strategies. 4 online Quizzes on Quizizz.	Immediate feedback, online survey, interview	The statistics suggested that students were highly engaged, that their opinions were heard, that they experienced a greater sense of ownership over their learning, and that they had a favourable attitude toward collaborative work.
E11	To determine the influence of flipped classrooms on the listening comprehension of Iranian EFL students.	The listening materials were presented through the Internet and computer.	Pre-test and post test	The results indicated that there were substantial variations in the experimental group's learning of English listening comprehension and critical thinking compared to the control group
E12	To determine the effect of adding a more synchronous/collaborative out-of-class flipped-class component.	A novel suggested flipped group (PFG) was constructed using cutting-edge online technology.	Pre-test and post test	The results indicated that the PFG improved significantly on average, outperforming the RFG. Surprisingly, the TC outperformed the RFG substantially.
E13	To determine the advantages,	The utilisation of videos, weblogs	Questionnaires interviews,	A flipped classroom using CALL in an EFL

	disadvantages, and impactof the flipped classroom with CALL in an EFL writing class.	and Google Doc in language teaching and learning.	Pre-test and post-test	writing class can foster learner autonomy by optimising teaching and learning processes.
E14	To facilitate the development of fundamental language abilities through the use of digital storey activities and games modelled after the Flipped Classroom Model (FCM).	Students created scenarios from the text and converted into a video.	Observation, Diaries interviews	The use of FCM in conjunction with digital storey and game-based activities enhances pupils' language skills, along with their cognitive, emotional, social, and psychomotor abilities.
E15	To determine the efficacy of the flipped classroom as a support strategy for English language learners.	The experimental pupils were provided with a supporting package plan that included two distinct sorts of films (educational and life style series).	Pre-test and post test	The flipped approach of instruction improved students' English proficiency and attitudes and beliefs concerning the language, as well as increased students' motivation and learning.
E16	To determine the impact of applying automatic speech recognition (ASR) technology on the oral complexity.	Prior to the lesson, the experiment group was assigned a mediated ASR-based oral activity on <i>Unipus</i> .	Pre-test and post test	The obtained data evident that EG students scored much higher on lexical and syntactic complexity. Additionally, both groups demonstrated significant improvement in phrasal complexity over time.
E17	To evaluate the effectiveness and perceptions of students toward the FL model in order to see how such perceptions correspond with the model's success.	Using smartphones and laptops, teachers deliver lecture videos and educational materials. Shared media via the Facebook page.	Pre-test and post test	The obtained data validated the model's success, since the average student's posttest score was significantly higher than their pre-test score.
E18	TO determine the impact of FL approach in relation to students' development in critical reading and problem-solving skills.	Students view the associated video and then write a diary post on it. They were then instructed to upload their reflecting journal entries (both written and audio) to Telegram.	Pre-test and post test	The data suggested that the treatment group outscored their counterparts enrolled in the traditional approach on a critical reading test.
E19	The purpose of this study is to determine the efficacy of the flipped classroom strategy on the	Students conduct pre-class study focused on two online resources:	Pre-test and post-test	The post-test tasks revealed that learners in flipped classrooms expended less mental

	academic vocabulary acquisition of English for Academic Purposes (EAP) students.	the Moodle platform and the website.		effort. They indicated much higher favourable attitudes toward the educational experience.
E20	To investigate the effect of e-portfolios on students' speaking performance and learning engagement in flipped classes.	At home, review certain online materials (monologues and dialogues with speaking components) and publish summaries to the Schoology discussion forum.	Speaking test and interview	The results indicated that the e-portfolio had a substantial effect on students' speaking performance in flipped courses. Students demonstrated active participation in behavioural, cognitive, and affective domains.
E21	The purpose of this article is to determine the effectiveness of the English Language teaching platform that was created.	The experimental group adopts the college English education model based on the B/S architecture and the flipping classroom.	Pre-test and Post test	The flipping classroom teaching platform and educational model are excellent; they can help Chinese students reclaim their interest in English study and inspire their own learning initiatives.
E22	THE PURPOSE OF THIS STUDY IS TO DETERMINE THE EFFECT OF FLIPPED LEARNING ON THE DEVELOPMENT OF ENGLISH LEARNERS' COMMUNICATIVE SKILLS.	The flipped group's students were taught through the use of electronic learning platforms, several vocabulary and reading websites, and numerous video clips.	QUESTIONNAIRE PRE-TEST AND POST-TEST	A CONSIDERABLE DIFFERENCE IN LEARNERS' PRE- AND POST-TEST SCORES DETECTED ON DCTS IN THE FLIPPED GROUP, AND IT OUTPERFORMED THE NON-FLIPPED GROUP SIGNIFICANTLY.
E23	To investigate participants' opinions of ESP academic writing through the use of the Flipped Learning approach as an active learning strategy.	Students attend the online writing class through both the online platform as well as the video conferencing tool, Microsoft TEAMS.	Survey	Students' perceptions of academic ESP writing proficiency in Business English were good when adopting the Flipped Learning technique. The key findings indicated that students were aware of their demands and the ESP written requirements.
E24	The purpose of this study is to determine the effect of the English language flipped classroom on students' self-efficacy and gender.	Researchers generated podcasts (10-12 minutes) with videos (vodcasts) and uploaded on Edmodo.	Pre-test and post-test  Survey	The results demonstrated a significant increase in self efficacy scores of the experimental group. The female students have greater improvements in terms of individual confidence in completing

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				assignments in language learning.
E25	To study the relationship between self-regulated learning strategies and flipped classroom.	Participants studied with the worksheet and various SRL strategies were used.	Pre-test and post-test	The findings demonstrated that self-regulated learning methodologies had a beneficial effect on the development of foreign language skills.
E26	To investigate how the participants engaged with the implementation of mobile-assisted in flipped classroom.	The utilization of vlogs, videos, blogs, news websites help EFL students to master language skills.	Online archives, observations, questionnaires focus group discussion.	The findings indicate that the flipped course contributes to emotional, behavioural, cognitive, social, and emotional engagement in learning.
E27	The purpose of this study is to determine the influence of a flipped classroom approach combined with Communicative Language Teaching (CLT) on students' speaking abilities.	The use of preclass activities such as prepared internet videos to replace live "chalk and talk" lectures with a range of CLT activities such as discussion-based learning, pair and group work, role play, and games.	Pre- test and post-tests observations.	These findings indicated that flipped instruction combined with CLT activities was helpful at increasing participants' speaking skills, which contributed considerably to improved learning outcomes.
E28	To determine the impact of video lectures on students' learning outcomes, video evaluations, and their experience in an online flipped classroom	Students were asked to complete the quiz following their viewing of each video in preclass.	Pre-test and post-test, questionnaire interview	Students in the intervention program outperformed those in the control group in terms of learning outcomes. The video lectures received a favourable review, which was consistent with their positive perceptions of video lectures in the flipped classroom.
E29	To determine the effect of incorporating active learning strategies into flipped learning on the grammatical abilities.	Both groups worked with the same teacher, same timeframe, same materials. The PCaRD DGB flipped learning model included mobile gaming apps and a feedback mechanism based on game play	Pre- test and post-tests	The findings suggested that the PCaRD DGB flipped learning method beat regular flipped learning in terms of grammatical achievement and positive attitudes

E30	To determine the extent to which watching academic videos facilitates IVL for ESL learners in higher education and to analyse the relationship between intrinsic motivation to watch videos and IVL for ESL learners in higher education through watching academic videos.	Students view a ten-minute academic video on "Social Influence" from YouTube's Crash Course Psychology. Following that, twenty target words were chosen from the film to assess students' learning of the vocabulary.	Pre- test and post-tests questionnaire	Findings demonstrate that audio-visual information does facilitate IVL. However, the findings suggest that IM may not be as influential on IVL as previously believed.
E31	To investigate the effect of online-based flipped classroom learning through the use of Microsoft Team and WhatsApp on students' reading comprehension abilities.	The experimental groups talked via Microsoft Teams' chat feature and transmitted completed tasks to professors. Students in the control group communicated via WhatsApp and completed all assigned work via email.	Pre-test and post-test	According to the data, the online flipped learning technique with Microsoft Team surpassed WhatsApp in terms of enhancing student involvement and reading comprehension skills.
E32	To determine the influence of the micro flipped approach on the English speaking fluency.	The experimental group was exposed to educational materials such as videos posted before to class via Edmodo.	Pre-test and post-test PRAAT (computer software package for speech analysis)	The post-test interview found that the experimental group had a greater articulate rate and mean length of run, as well as a lower rate of pauses.
E33	To determine the influence of a flipped classroom model based on WebQuests on EFL learners' inferential reading comprehension skills.	The experimental group participants are provided the WebQuest in order to familiarise themselves with the materials and contents prior to attending class. Throughout class, the lecturer expanded on the new topics introduced in the WebQuest regarding inferential reading skills.	Pre-test and post-test interview	The flipped classroom model using WebQuests effectively increased learners' inferential reading comprehension skills. Additionally, the data demonstrated that EFL learners' perceptions toward the usefulness of this technique in enhancing their inferential reading comprehension skills were overwhelmingly positive.
E34	To determine the effect of a modified "flipped classroom" on students'	Students see pre- recorded lectures and discuss	Assignment Questionnaire	The data indicated that after students received instruction in the flipped

	learning performance and perspectives.	themes, share knowledge, and complete assigned assignments in the class.		classroom, their English scores improved significantly.
E35	The purpose of this study is to determine dual language learners' attitudes toward the flipped classroom.	Six videos were uploaded to the intervention program's WhatsApp Groups. To encourage student participation, specific activities were assigned to them based on the movies. Each movie was assigned twenty questions, which were distributed weekly to the groups.	Pre-test and post-test  Questionnaire  Interview	The obtained data indicated that learners demonstrated favourable responses and improvements in English grammar as a result of flipped classrooms and culturally appropriate interactive resources.
E36	THE PURPOSE OF THIS STUDY IS TO ASCERTAIN LEARNERS' ATTITUDES AND PERSPECTIVES CONCERNING FLIPPED LEARNING.	The utilization of videos and PowerPoint presentations and reading texts.	QUESTIONNAIRE  SEMI- STRUCTURED INTERVIEW	THE QUESTIONNAIRE RESULTS INDICATED THAT THE FLIPPED LEARNING TECHNIQUE AIDED LEARNERS IN THEIR GRAMMAR ACQUISITION. ADDITIONALLY, STUDENTS DEMONSTRATED FAVOURABLE ATTITUDES AND VIEWS REGARDING THE FLIPPED CLASSROOM MODEL.
E37	To compare the influence of two non-traditional instructional methods, namely the Flipped Classroom Model (FCM) and the Unplugged Classroom Model (UCM), on the oral competency of Iranian EFL learners.	Participants in the FCM and UCM were provided with access to the WhatsApp online platform and conversation-driven, emergent instructions, respectively	pre-test and post-test questionnaire interview	The findings suggested that both FCM and UCM education were effective in enhancing learners' speech proficiency
E38	To experiment with flipping the classroom for English language learners in an Iranian institute to determine its pedagogical capacity for vocabulary recall and retention.	The utilisation of movies to illustrate and explain each unit's target lexical elements, as well as photographs, examples, explanations, and	Pre-test and post-test  Questionnaire  Interview	The results suggested that implementing flipped classrooms had a substantial effect on participants' vocabulary memory and retention.

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		PowerPoint screenshots.		
E39	To determine the effect of flipped classrooms on students' writing achievement in an intensive English programme, as well as the influence of the flipped video modality on students' writing achievement.	Each of the experimental groups was assigned a slide-based video lesson for home viewing, with each group receiving the presentation in a unique fashion.	Pre-test and post-test	The experimental group outperformed the control group on the recall post-test after seeing the video lecture, which combined animation and onscreen text with narration in a self-paced environment.
E40	The purpose of this study is to determine the influence of flipped learning on students' oral proficiency development performance.	The course book's content was repurposed as a MOOC and made publicly available on www.coursera.org. Students were expected to complete the MOOC's online module.	Pre-test and post-test	The results indicated that learners exposed to flipped instruction outperformed their peers significantly in terms of speaking fluency, however their advantage in terms of complexity and correctness was less clear.
E41	To examine the influence of a hybrid flipped classroom approach supported by virtual reality on students' language learning, cognitive traits, and intersection of interests.	Teachers create micro course films and other instructional resources in addition to planning classroom activities based on real-world challenges.	Pre-test and post-test  Questionnaire  Interview	This model achieved good teaching effects on overall cultural accomplishments and to meet the requirements of national, social and personal developments.
E42	To demonstrate the flipped classroom's feasibility and utility in high school education, and to compare its effects on high school students with varied levels of foreign language proficiency to those of conventional lecture-based instruction.	Six level vocabulary instructional videos were selected and shared through Facebook platform The assigned duty group will charge of producing a vocabulary mnemonic video for the week.	Pre-test and post-test  Questionnaire	The data indicate that both instructional strategies were effective at increasing vocabulary. The flipped classroom appears to have a greater influence on poor performers.
E43	To determine the efficacy of flipped learning in improving English speaking skills learning outcomes.	The blended learning group used online content and messengers, and the conventional group used paper-based exercises.	Pre-test and post-test	The findings indicated that all three groups experienced statistically significant gains in fluency, coherence, and lexical resources. However, only the two experimental groups

				demonstrated substantial increases in grammatical range, accuracy, and pronunciation.
E44	To investigate the influence of video length on students' English skill, engagement, and satisfaction in a flipped English classroom.	The three types of videos all have some elements in common but vary in length.	Pre-test and post-test	(1) A short video (less than 5 minutes) may result in much greater levels of English proficiency, student engagement, and satisfaction than a flipped classroom supplemented by medium length videos (2) A medium video-assisted English flipped classroom may result in significantly higher levels of English competence, student engagement, and satisfaction than a long video-assisted English flipped classroom.
E45	To advocate for increased critical thinking in reading among EFL (English as a Foreign Language) students in higher education via a flipped classroom teaching paradigm.	The lecturer uploaded audio and video content on the subject to the learning management system.	Pre-test and post-test observation questionnaire	The findings indicate that the flipped classroom paradigm improved students' critical thinking for critical reading in terms of correctness, clarity, precision, depth, relevance, and logic.
E46	THIS PAPER EXAMINES STUDENTS' PERCEPTION ON MOBILE LEARNING AND ITS IMPACTS ON COLLEGE STUDENTS' AUTONOMOUS LEARNING ABILITY AND ENGLISH ACADEMIC PERFORMANCE.	Utilization of videos, PowerPoint presentations, and learning task lists via social media platforms, mobile learning applications, and school network learning platforms.	Questionnaires Interview Pre-test and post tests	The data indicate that mobile learning increased students' enthusiasm to learn, strengthened their ability to learn autonomously, and improved their academic accomplishment.
E47	This article tries to construct an FC-based education system for college English teaching, which is crucial to the quality of college English instruction.	Students conducted English learning in the flipped classroom mode based on the college English education system and SQL system for two semesters.	Survey	The results demonstrate that the system is capable of meeting instructional need, piquing students' interest in learning, and enhancing the effectiveness of English instruction.

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#### Discussion

RQ1. What is the relationship between flipped learning and students' English learning performance?

Flipped Learning implementation is regarded as one of most current and applicable methodological developments in recent years. The debut of this teaching style, namely in the subject of English, has led educators incorporating it into their everyday teaching in the language classroom. The goal of this review was to look at some of the most common experiences with this style when teaching English and see how it affected students.

In general, all of the studies state that using Flipped Learning has enhanced students' motivation, as well as their mastery of English language skills in some circumstances. It should be emphasised that the 13 of the articles focused on general English skills. Another 13 papers directly addressing speaking language skills. The study of grammar came in third with eight papers and seven papers in the study of reading skills (Figure 4).

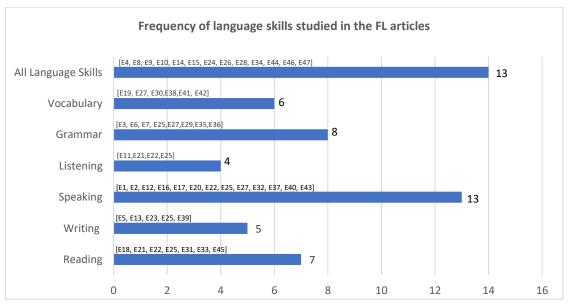


Figure 5 Frequency of language skills studied in FL articles

The work's main findings revealed that, in the majority of the studies examined, implementing Flipped Learning resulted in significant improvements in students' knowledge of the specific content covered, such as developing speaking skills and fluency in online and actual contexts. (Roohani & Etemadfar, 2021; Solimani et al., 2019). Flipped Learning has been shown to significantly improve students' speaking performance during both in-class and out-of-class activities. There has been a considerable improvement in learners' speaking performance as their speaking anxiety decreases and they are able to conduct the various speaking tasks confidently and without worry (Abdullah et al., 2019).

The integration of technology in fostering students' speaking skills through Flipped Learning approach were detected in the studies. ASR-based software is a useful means in learners' pronunciation practice which able to assist them in identifying common faults, improving

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their target language pronunciation, and improving their interlanguage comprehension (Jiang et al., 2021). As noted in the study, the components of the E-portfolio were critical in increasing students' speaking skills, including frequent practises, peer activities, and self-assessments (Kusuma et al., 2021).

Flipped Learning approach is significant to teach English language grammar to the language learners (Arif & Omar, 2019; Ozturk & Cakıroglu, 2021; Phoeun & Sengsri, 2021). The implementation of active learning strategies such as *Discover*, *Learn*, *Practice*, *Collaborate and Assess (DLPCA)*, *Play Curricular Activity Reflection Discussion (PCaRD)* and *Digital Game-based (DGB)* has significantly increased EFL learners' achievement in a grammar course (Annamalai et al., 2021; Rad, 2021). The findings from the study that integrated language software such as Transparent Language Online (TLO) also contributed to the conceptual understandings of grammar and hence reduce the number of grammatical errors in writing (Arif & Omar, 2019).

In addition, flipped learning instruction indicates improvement in learners' vocabulary gains (Knezevic et al., 2020; Reddy et al., 2021; Reddy et al., 2021). This approach seems to have been more beneficial for the low achievers (Yang et al., 2019). The use of a flipped learning approach could help adolescent primary EFL students remember and retain more vocabulary. There is more opportunity for involvement and interaction in the flipped classroom, and as a result, these elements of flipped classroom instruction, paired with technology, improve learners' vocabulary knowledge (Reddy et al., 2021).

The development of critical reading skills is one of the objectives of flipped learning. Outside of the classroom, these students engaged in meaningful, and collaborative written and oral activities via online networks, which benefited in their critical reading development (Khonamri et al., 2020). The impact of flipped learning on language development, particularly pragmatic knowledge and inferential reading, was investigated in these research. Flipped Learning through the integration of application such as Microsoft Teams and WhatsApp (Reflianto et al., 2021); Webquest (Samiei & Ebadi, 2021) contribute to the cooperative learning of students, in which group members are personally involved in developing knowledge to scaffold classroom instruction. Learners are able to infer the underlying concepts by combining previous sociocultural awareness with linguistic knowledge. The flipped classroom model exposes and engages learners in realistic situations in which speech resources are used and cross-cultural conversation (Makruf et al., 2021).

### RQ2. What is the relationship between flipped learning and students' motivation in English Language classroom?

As discussed in section earlier, motivation is a multidimensional notion with numerous dimensions. Described as "intrinsic driver that leads a person to act in a particular way" (Gardner & Lambert, 1959). The above opinion states that motivation is an important component that must be possessed by students in language learning. The result is consistent with the opinion of Gardner (1985) that one of the main influeces in learning English is the motivation of students themselves.

The selected studies involves EFL learners in Flipped Classroom where motivation of learning demonstrates lies within (intrinsic) or outside (extrinsic) factors. Although each paper has different research purposes, the current study presents two underlying reasons for learning

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a new language in Flipped Classroom under intrinsic and extrinsic motivational inclinations. These motivational orientations are based on research into Self Determination Theory.

Overall, majority of the studies state that using Flipped Learning has enhanced students' motivation in English language learning. It is worth noting that the 15 of the articles demonstrate intrinsic motivation-stimulation (IM-stimulation). Another 8 papers relate to intrinsic motivation-accomplishment (IM-Accomplishment). Intrinsic motivation-knowledge (IM-Knowledge) came in third with five papers (Figure 6).

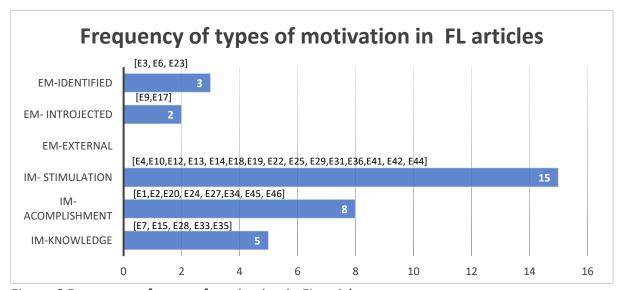


Figure 6 Frequency of types of motivation in FL articles.

The outcomes of this study demonstrate a clear contrast between learner motivation subscales and support the use of Deci and Ryan's intrinsic and extrinsic subtypes to assess motivation (1985). Reflecting a continuum of self-determination, flipped classroom learners report a significant improvement in IM Stimulation. Learners like seeing how technology was integrated into teaching and learning throughout the class (Ozturk & Cakıroglu, 2021; Andujar et al., 2020; Chivata & Oviedo, 2018). In addition, the integration of mobile games applications observed in intensive contribution to promote collaborative response, creating a fun setting in which learners could engage in more language learning activities (Girmen & Kaya, 2019; Rad, 2021).

The results also revealed that the majority of learners praised the flipped learning environment and had a favourable opinion of the learning management system *Google Classroom*, *Unipus*, *Schoology* use for language learning (Makruf et al., 2021; Jiang et al., 2021; Kusuma et al., 2021). Learners claimed the flexibility of online learning increase their motivation in language learning as They can study the material at any location and at any time (Ghufron & Nurdianingsih, 2021).

The data indicate that a flipped learning strategy greatly helps to intrinsic motivation -achievement (IM-Accomplishment). There is a favourable association between intrinsic motivation and the need for autonomy in an educational setting. It is vital for learners to have an active role in knowledge generation rather than simply receiving information passively. The flipped learning strategy promotes the use of scaffolded assessments to facilitate autonomous learning and to assist learners in co-constructing information with peers and

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engaging in more meaningful language learning. This type of independent engagement can assist students in becoming more intrinsically driven and performing better in language studies.

The findings revealed that some research participants reported significantly improved learning, and it appeared as though students benefited from the flipped classroom form of education. The majority of students regarded instructional films to be beneficial, engaging, and effective in increasing their level of understanding and self-efficacy with the topic (Hajebi, 2020; Khonamri et al., 2020). What they reported to have gained the most from the flipped learning class was the ability to become self-sufficient learners (Santikarn & Wichadee, 2018; Yang et al., 2019). Learners in the flipped classroom had access to a variety of learning resources provided by teachers via the learning software and could access them at any time and from any location using mobile devices. This dramatically enhanced their motivation and desire to learn (Zhang, 2022).

Furthermore, the study's findings show that flipped learning promotes intrinsic motivation - Knowledge (IM-Knowledge) by allowing students to master language skills and become active learners. The utilisation of instructional films, podcasts, and other media generates a sense of usefulness among students. They thought the videos were beneficial. They regarded the films as useful and beneficial because they assisted pupils in comprehending the topic and providing them with knowledge (Purwanti et al., 2022; Montaner-Villalba, 2021).

#### Limitation

Although we followed the prisma procedure to accomplish the research objective, this study has some limitations. One limitation is that, despite our thorough review of these results, there may have been errors during the manual retrieval and search process. The second constraint relates to the keywords we employed; it is likely that some potential papers did not contain our keywords or were not included in the online databases we searched. The other constraint we considered was the exclusion criteria. Non-english articles that were not published in a journal or were not empirical in nature were excluded, which may have undervalued some high-quality articles.

Likewise, bias in selection may appeared as most studies did not randomly assign participants to comparison groups, such as by including interested participants to take part in a flipped (experimental) classroom or by sampling participants simply because they are "convenient" sources of data for researchers. A minority of studies (eleven) confirmed the use of randomization with concealment of allocation, thereby minimising the possibility of selection bias. However, for the majority, the inherent risk of selection bias may have influenced the occurrence of positive results.

When other variables were introduced in addition to the intervention of interest, a moderate risk of performance bias was discovered in research assessing the impact of the flipped learning strategy. For instance, some studies introduced novel strategies such as a blended flipped classroom supported by virtual reality and digital game-based apps concurrently with the introduction of flipped learning. Others launched latest mooc platforms to facilitate student learning, concurrently with the intervention. As a result, it is difficult to determine whether the intervention's results (flipped learning) were due to the intervention itself or to a variety of other unregulated variables discovered in external studies.

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#### Conclusion

The findings of this SLR show that introducing a flipped learning technique may benefit both student performance and motivation in higher education, while additional research is needed to bolster confidence in these preliminary findings. Each study demonstrated an increase in student performance. In terms of student motivation, 70% reported an increase in student motivation as a result of flipping the classroom. However, as previously said, this research highlighted numerous obstacles and restrictions. These include ambiguity in the definition and implementation of flipped learning, heterogeneity in the interpretation of outcomes such as performance and motivation, diverse measuring methodologies, and apparent bias within the selected research. As such, future study may focus on elucidating the effects of flipped learning at various educational levels, particularly over longer time periods and with bigger sample numbers. Additionally, it may be useful to explore additional elements that may influence flipped learning results, including as instructors' perceptions and training, students' perceptions and satisfaction, and cultural considerations.

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