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A bibliometric analysis of research on flipped learning in EFL speaking classroom

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Abstract: This study offers a bibliometric analysis of research on the flipped learning model in EFL speaking classrooms. The intention here is to grasp the trends, implications and core tenets related in this pedagogical method. Data and methods. We used Dimensions database to annotate 2016-2024 articles. A total of 20 articles were selected and analysed by VOSviewer, a bibliometric network visualization analytical tool. Our results suggest that the volume of research activity ebbs and flows over time, with periods of high activity in response to external events (such as a global pandemic driven by an emergence of Covid19). The disciplines that have received the greatest number of publications in research on flipped learning based by categories were "Education," followed closely by a cluster related to "Language", "Communication and Culture" as well as "Linguistics" (showing once again how interdisciplinary this approach has become). Teaching strategies, student engagement and the psychology of flipped learning were common topics among all articles. Innovative, technology-enhanced methods to promote English as a Foreign Language (EFL) speaking skills are posited as playing a prominent part in the analysis. Longitudinal studies to explore the effects of flipped learning over time are warranted. This is supported by the need for regional research on different cultural and educational settings to test its applicability elsewhere. Finally, because there will be practical issues teachers face trying to do flipped learning that influences its effectiveness. Flipped learning is a promising method to improve EFL education. More research should explore the gaps and support its implementation in different educational environments.

Keywords: Bibliometric, EFL, Flipped-Learning, Speaking.

1. Background of Study

Recently, the flipped learning approach has become popular as an innovative teaching model in educational technology and higher education alike. Identifying what works and when it is optimized in a combination of the two, will therefore be vital to engaging students beyond that if they were just exposed to traditional teaching practices [1]. To enhance student engagement and satisfaction [2], the best way is through technology. The most technology-dependent approach is the flipped classroom [3]. Flipping the classroom means turning around the organization of traditional classes [4]. These recorded lectures can be consumed at the discretion of students, whom are also widely encouraged to engage in independent learning outside of class e.g. through reading various sources. Students have to recall and then test the information meted out in class [5]. This followed that students had to try their knowledge in various peer education sessions of different problem-solving sections [6]. Therefore, they can deepen their learning and acquire a complete understanding of the lesson. While an increase in dynamism and student-centered learning are distinguishing features of most learner depending

methods, compared to traditional lecture-based approach [7]. A flipped classroom model can lead to reduced length of traditional lectures, opportunities for practical learning and student preparedness/motivation towards their academic activities [8]. Thus, it can also increase academic achievements of students as well their interest in the subject matter and understanding overall [9], thus building self-confidence through increased analytical thinking skills. For students who cannot afford the time, a flipped classroom model enables them to work through course material independently and at their own pace [10]. Learners are given pre-recorded movies by teachers, allowing them to customise the tempo and moment that they will examine with their talent level. According to Huang et al. With the help of this highly responsive [11]. Teachers and students both may increase their technological skills. Moreover, a flipped classroom has the power to create more cooperation among students and affords teachers greater chances at learner-teacher interaction during their didactics [4].

Flipped learning in higher education provides a cost-efficient and student-focused method to address the increasing number of students and can help resolve financial and structural challenges that favor faculty research above student learning [12]. Simultaneously, it provides students with the necessary 21st-century abilities to tackle global difficulties [13] and the information required to fulfill the current demands of the market [14]. The flipped classroom method improves critical thinking, teamwork, and problem-solving abilities in real-life situations, hence boosting learning, academic achievement, and practical knowledge [15], [16], [17]. Consistently employers will seek a balance of strong academic grounding alongside practical experience, knowledge and skills. Employers need employees capable of taking a concept and turning it into reality [18]. The typical style of teachercantered teaching in the conventional education system is also difficult to develop effective employability skills, attributes and competencies [19]. The common teacher-cantered teaching approach does not develop necessary skills and could leave students unengaged by their own interests. They concluded that the students also were unable to apply a theory and their practical knowledge in a professional work environment $\lceil 20 \rceil$. The use of flipped learning can potentially help to combat the issues highlighted in traditional methods. It involves students practicing concepts and necessary skills via a variety of students-centered activities such as presentations, group work or practical exercises under the supervision of instructors [21], [22].

In teaching English as a Foreign Language (EFL), flipped learning has proven to be highly successful in the development of speaking skills. Not only would this support the learning of important 21st-century skills like collaboration and problem solving, but it is also needed to rectify some deficits observed in traditional educational paradigms that often fall short from preparing learners for real-world practice [13], [14]. Flipped learning has been found to enhance learner speaking ability, self-efficacy and engagement significantly, especially in EFL contexts [23]. In addition, there is evidence that the use of digital tools like Flipgrid helps with oral practice and contributes to favourable student attitudes towards learning [24]. Two other significant studies also highlight the importance of flipped learning in EFL settings. For instance Bergmann & Sams (2012) [26] offer an early introduction to the concept of flipped classroom which shows benefits in establishing more active and student centred learning environments. Flipped instruction effect on speaking performance of EFL students has also been examined, the results indicated that student spoke significantly better when learned flipped design [27], [28].

Several comprehensive systematic reviews have been written on the issue of flipped classrooms, including a diverse array of important subjects. These review studies have restricted publishing coverage, concentrate on a certain learner type, or concentrate on a singular academic topic. Huang et al. (2023) proposed the use of video lessons in a flipped classroom setting to augment students' engagement and enthusiasm in a systems programming course. Senali et al. (2022) [29] presented the most advanced and current information on business and entrepreneurship education using the flipped classroom approach. Divjak et al. (2022) [30] did another review that emphasized the utilization of flipped classroom techniques during the epidemic. Jiang et al. (2022) [8] synthesized the research on

flipped language education by utilizing publications from the social sciences citation index. Flipped learning is becoming increasingly popular in higher education.

Despite the promising outcomes associated with flipped learning, there remain gaps in the literature, particularly in terms of long-term studies on its impact on speaking skills and its applicability across diverse cultural and educational contexts. In addition, challenges in implementing flipped classrooms (e.g., large amount of preparation and adaptation) have yet to be well described [31]. Utilization of a bibliometric analysis is crucial for reviewing research related to flipped learning in EFL speaking classrooms. Bibliometric analysis identifies the research outputs over time and trends in that show how a particular area of interest is progressing. Since citation patterns can be used to assess the impact of research articles, ArnetMiner supports finding influential works and researchers. This kind of analysis can be used to identify collaborative networks between researchers and institutions who also seek to understand how knowledge and practices are distributed internationally. Secondly, a bibliometric analysis is able to track missing areas and topics often researched, allowing future research trajectories of flipped learning's impacts on an evidence basisorative trail. Such analysis can inform trends, key works and authors as well as collaboration networks that should support the design of future research and secure an in-depth insight into flipped learning effects.

2. Methodology

The purpose of this research was assessed based on a bibliometric forecast for flipped learning focusing in speaking skills among EFL classrooms. Focusing on articles published from 2016 through to the snapshot date of June, 2024, all collected in Dimensions database which contains title-level metadata and abstracts as well as author names) for a variety of forms including journal articles/conference papers/book chapters). Dimensions was selected due to its comprehensive coverage and superior detail on metadata which ensure that the bibliometric analysis retains a high level of accuracy and depth [32].

2.1. Inclusion and Exclusion Criteria

Strict criteria for inclusion and exclusion were devised to ensure that only studies highly pertinent to this analysis were included (Table 1). To locate articles that are related to a specific topic, it is necessary to perform a comprehensive keyword search. Consequently, relevant terms were sought in the titles, abstracts, and keywords.

Table 1.

Inclusion and exclusion criteria.

Inclusions	lusions Exclusion	
Relevant keywords are found in the titles or	Studies that do not have relevant keywords in the	
abstracts or keywords section	titles or abstracts or keywords section	
Empirical studies based on the flipped classroom	Non-empirical studies based on surveys and	
in higher education	perceptions, reviews, meta-analyses, and	
	bibliometric analyses	
Research papers published in English between Research papers that were not in English		
January 2016 and July 2024 published beyond this period		
The articles described flipped classroom		
methodology in the higher education sector method ology in the higher education sector		

This review considers empirical studies. An empirical method [16] offers the advantages of ongoing scrutiny and modification of the work. It enhances the quality and dependability of the study being conducted. Furthermore, English is the most widely read and written language. Furthermore, the adoption of the flipped classroom approach gained more popularity in 2016, as evidenced by studies conducted by Galway et al. (2014) and Li & Li (2022) [21], [33]. The study included all pertinent

studies that has been published in the English language from January 2016 to July 2024. The aim of this study is to provide a detailed description of the technology, courses, and activities associated with the flipped classroom model. Thus, this evaluation only includes research that offer an elaborate account of flipped classroom practices and approaches.

2.2. Search Method

The search method has two distinct stages, specifically manual search and automated search. The first identification of main studies in the flipped classroom and higher education sectors was conducted through a manual search. The platforms Science Direct, Taylor & Francis, MDPI, SAGE, Springer Link, Wiley, and IEEE Xplore were extensively investigated. They offer extensive coverage of journal and conference publications, guaranteeing a more comprehensive overview of the topic [34]. The search employed an extensive array of keywords to limit the possibility of inadvertently missing any vital papers. The search queries utilized Boolean operators to get the most relevant items. The initial phase of the search involves combining the terms "flipped" OR "inverted" AND "classroom," OR "learning," OR "teaching," OR "pedagogy," AND "ELT," OR "English Language Teaching," OR "English Learning," AND "speaking" OR "oral skill." Kitchenham (2007) [34] proposed performing a manual examination of the main study materials. Therefore, a thorough examination of all the references cited in the original investigation is likewise carried out in the second step.

2.3. Selection Process

The selection process is employed to identify research studies that address the research questions of the review study. Figure 1 illustrates the procedure used to select participants for the study. A computerized search using the keyword string resulted in a total of 500 studies. All 436 studies were excluded because they did not meet the criteria for empirical research. Kitchenham and Charters (2007) proposed the exclusion of research that lack purpose from the evaluations. Consequently, the remaining 64 research underwent a process of applying inclusion and exclusion criteria. A total of 48 articles were removed due to their failure to adequately elucidate the implementation of the flipped classroom, resulting in just 16 articles remaining that specifically address its use in ELT in higher education. The snowball method was utilized to ensure that the outcomes of the automated search were thorough. The second stage involved performing a manual search on Google Scholar for all relevant publications

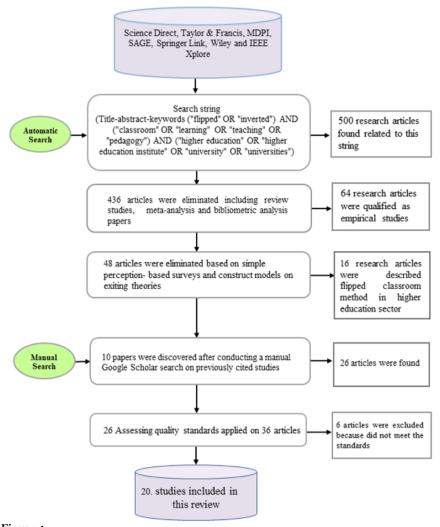


Figure 1, Document selection process.

A total of 10 studies were identified through the use of Google Scholar. The 26 studies underwent the evaluation process to meet the criteria for quality assessment. After applying quality evaluation criteria, 6 papers were disqualified, leaving a total of 20 relevant research articles included in the study. The 20 articles are presented in Table 2.

Table 2.

Relevant resea	arch articles.

No.	Title	Author
1	"The effects of using flipped learning in an EFL speaking class on Korean EFL undergraduate students' speaking anxiety and speaking skills"	[35]
2	"The incorporation of flipped learning into conventional classes to enhance EFL learners' L2 speaking, L2 listening, and engagement"	[36]
3	"Effects of a concept mapping: based flipped learning approach on EFL students' English speaking performance, critical thinking awareness and speaking anxiety"	[37]

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No.	Title	Author
4	"The effect of flipped learning on EFL learners' public speaking in	[38]
	Taiwan"	
5	"Applying the Flipped Learning Model in an EFL Speaking Class for	[39]
	Adult Learners"	
6	"Flip Your Classroom to Improve EFL Students' Speaking Skills"	[35]
7	"A Study of English Dialogue Activity Based on Flipped Learning"	[36]
8	"Japanese EFL Learners' Speaking Practice Utilizing Text-to-Speech	[37]
	Technology Within a Team-Based Flipped Learning Framework"	
9	"Facilitating EFL learners' willingness to communicate amidst the	[38]
	pandemic: a digital storytelling-based online flipped learning approach"	
10	"Teaching speaking skills through flipped classroom model: EFL	[39]
	students' autonomy, willingness to communicate, and anxiety"	
11	"Exploring Reflective Practices in Modified EFL Flipped	[40]
	Videoconferences"	
12	"Flipped learning as situated practice: A contrastive narrative inquiry in	[41]
	an EFL classroom"	
13	"Content-Based Language Teaching and the Flipped Classroom: A Case	$\begin{bmatrix} 42 \end{bmatrix}$
	Study in the Japanese EFL Environment"	
14	"The Effectiveness of Flipping Classroom Model on EFL Secondary	[43]
	School Speaking Skills"	
15	"Aoyama Gakuin University Case Study: Blended Learning and Flipped	[44]
	Classrooms Utilizing Mobile Devices"	
16	"Flipped learning design in EFL classrooms: implementing self-	[45]
	regulated learning strategies to develop language skills"	
17	"Does flipped learning affect language skills and learning styles	[46]
	differently?"	
18	"Exploring the impact of AI on EFL teaching in Japan"	[47]
19	"Using the Flipped Classroom to Promote Learner Engagement for the	[48]
	Sustainable Development of Language Skills: A Mixed-Methods Study"	
20	"Unveiling the silent struggle: Investigating the effects of flipped	[49]
	classroom instruction models on business English oral presentation	
	development through online learning: A case of learner engagement,	
	emotions, and anxiety"	

The bibliometric data obtained from Dimensions is then analyzed using VOSviewer, a tool for constructing and visualizing bibliometric networks. VOSviewer facilitates the creation of maps based on network data, allowing researchers to identify key trends, influential papers, and collaboration patterns among researchers and institutions [50]. By employing these tools and methods, the research aims to provide a comprehensive overview of the current state of research on flipped learning in speaking classrooms, highlighting areas of high impact and identifying gaps for future study.

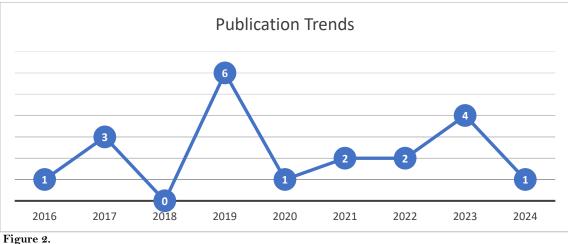
3. Findings

3.1. Publication Trends

Results of the Trends in Publication rates: although there is a buzz surrounding flipped learning translated into English as educational terminology, literature outputs from 2016 to predicted publication for 2024 indicate fluctuating levels of research activity involving its practice within English as a Foreign Language (EFL) classrooms. This sparked an initial interest with the number of publications increasing from 1 in August 2016 to 3 by early May last year, which I wrote about. But

researchers were much less active, with no publications during 2018. This might suggest a temporary decrease in research interest or could hint at difficulties that may appear during the practical implementation of this approach. While that is a steep decline, and signalling the rise of interest in this type of approaches (due to successful implementations), 2019 still saw six publications.

The count decreased from that peak to 1 in 2020, almost certainly due to a disruption brought about by the worldwide effects of COVID pandemic on scientific activity and academic activities. 2 publications in 2021: gradually recovering from this decrease, and with a rise to predicted next year following that same trend; 2 Publications in Both of the Next Two Years. This insignificant decrease of 1 publication in 2024 is due to the fact that this year has not yet ended, thus additional publications can still be counted.



Publication Trends from 2016 to 2024.

3.2. Research Categories

The evaluation of flipped learning research on EFL speaking courses using various item bases, citations and categories reflect the focus and assertation placed by divergent research areas. The most active category has been "Education" with relevant participation by contributing fifteen publications being cited at two hundred sixteen times identified as an important input for this research area. Both the "Language, Communication & Culture" and "Linguistics" categories have high levels of research activity 14 publications each with a total number of citations being exactly the same (144). This suggests a level of cross-discipline appeal, as well as major relevance to flipped learning cultural and linguistic complexities. This closely followed by 13 publications and 147 citations for "Curriculum & Pedagogy", highlighting the impact of how curriculum design possibilities could be realised in implementation within flipped learning. Similarly, the domain of Language Studies appears to generate a meaningful degree of research activity with 13 respective papers and 135 citations.

Less publications were found in the "Education Systems" and fewer still in categories labelled as "Specialist Studies in Education" (two each). Yet, "Specialist Studies in Education" performs fairly well with 69 citations: a smaller number but clearly more impactful than the others. This classification exposes not only the scope of research topics but also how powerful or weak those struggles are depending on their area, therefore offering great seems into what flipped learning in different fields offers and where it is going for EFL speaking classrooms.

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No.	Research category	Publication	Citation
1	Education	15	216
2	Language, communication and culture	14	144
3	Linguistics	14	144
4	Curriculum and pedagogy	13	147
5	Language studies	13	135
6	Education systems	2	29
7	Specialist studies in education	2	69



3.3. Most Cited Journals

Looking at the presentation of research development, it seems that by analysing which journals are most cited in connection with flipped learning within English as a Foreign Language (EFL) classrooms we can identify those central publications and determine who merits the reputation. Number 1 on the list is "Innovation in Language Learning and Teaching" which has been cited twice, giving validation to the significant impact this publication had. "Smart Learning Environments " is nearly as strong a contender, with only one pub yet 68 cited. In addition, an honourable mention should be the British Journal of Educational Technology (63 citations/1 publication), suggesting a strong outlet for literature spreading learning and technology research.

Sustainability (1 publication, 32 citations) and Education and Information Technologies (2 publications, 23 citations). They demonstrate the multidisciplinary of flipped learning research, covering elements relating to technology, sustainability and education. Related academic journals from a single country or region (Indonesia) is clear with the "Journal on English as a Foreign Language" and an article published in this journal has been cited 9 time, and also followed by the others namely, Indonesian EFL Journal which is even from Indonesia counted had following are some of his contributions: publish 1 article and get citation were qualified to adequate since it be able to opposition make score mentioned huge. Also, "E-Learning and Digital Media" (1 publication; 6 cites), and two publications with an equal share made i-manager's Journal on English Language Teaching (2 pubs.; 2 cites), further demonstrating the wide range of sources publishing important studies. Last but not least, "SpringerBriefs in Education" (contributed 1 out of 311 works and received the same number [n = 1] citation) contributed less to academic discourse though still have added their valuable parts.

Most cited journals.			
No.	Journal	Publications	Citations
1	Innovation in Language Learning and Teaching	2	80
2	Smart Learning Environments	1	68
3	British Journal of Educational Technology	1	63
4	Sustainability	1	32
5	Education and Information Technologies	2	23
6	Journal on English as a Foreign Language	1	9
7	Indonesian EFL Journal	1	8
8	E-Learning and Digital Media	1	6
9	i-manager's Journal on English Language Teaching	1	2
10	SpringerBriefs in Education	1	1

Table 4.

3.4. Key Research Terms

This study reviews key terms pertaining to research studies on flipped learning in English as a Foreign Language (EFL) speaking classrooms and provides thematic insights. The word "approach,"

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which appeared 28 times, signals an overarching focus on how flipped learning is pursued along with the tactics that are used. Baking engagement into the curriculum was noted 16 times, indicating also the importance of student participation and interaction.

Anxiety (mentioned 15 times / concerns of emotional/psychological load on students) The phrase "EFL learner" occurs 12 times, indicating the research interest that is more specific to students who are in the process of learning English as a foreign language. The phrase control group and the word strategy with both having 10 mentions show that studies are largely comparative, implying a use of strategic planning.

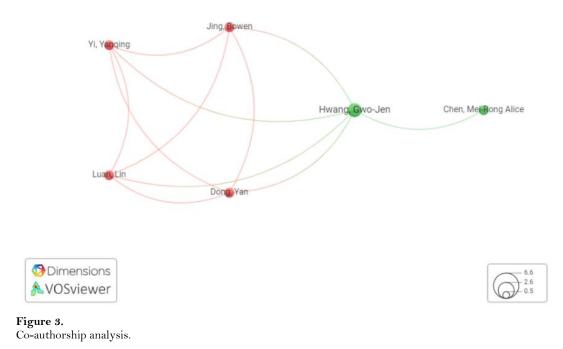
The term "environment," appearing 7 times, emphasizes the role of the learning environment. The term "flipped classroom," which was also mentioned 7 times, serves to reinforce the central theme of the research. The terms "language skill" and "case study," which were mentioned 7 and 6 times, respectively, highlight the focus on specific language abilities and detailed examinations of individual or group experiences. Finally, terms like "willingness" (6 mentions) and "critical thinking awareness" (5 mentions) suggest an interest in student readiness and the development of higher-order thinking skills.

No.	Terms	Occurrences
1	Approach	28
2	Engagement	16
3	Anxiety	15
4	EFL learner	12
5	Control group	10
6	Strategy	10
7	Environment	7
8	Flipped classroom	7
9	Language skill	7
10	Case study	6
11	Willingness	6
12	Critical thinking awareness	5
13	Online	5

3.5. Co-Authorship Analysis

Table #

The co-authorship analysis reveals the key collaborative relationships among researchers engaged in the study of flipped learning in EFL (English as a Foreign Language) classrooms. The collaboration between Hwang, Gwo-Jen, and Chen, Mei-Rong Alice represents a central and robust partnership, with significant joint contributions. Another cluster, which includes Yi, Yanping, Jing, Bowen, Luan, Lin, and Dong, Yan, demonstrates a high level of collaboration within the group. These two primary clusters indicate that the research focuses are distinct, with limited collaboration between the clusters. This analysis highlights the importance of these researchers and their potential for fostering broader, more integrated research initiatives within the field.



4. Discussion

In English as a Foreign Language (EFL) speaking classes, flipped learning has emerged as a viable instructional tool, which has resulted in a shift of the conventional ways of education. The constraints that we have in our understanding of this approach have not been adequately addressed by the research that has been done in the past. In spite of the fact that the potential benefits of flipped learning have been documented, there is a paucity of substantial study that has been conducted over an extended period of time to evaluate its long-term impact on speaking ability. Due to the fact that the extent to which flipped learning is advantageous in a variety of cultural and educational settings has not been well researched, our knowledge of its general applicability is hindered. Moreover, the obstacles experienced by educators in using this breakthrough strategy have not been fully investigated, resulting in a fundamental lack in our understanding of how to effectively help instructors in accepting and modifying flipped learning techniques.

Publication trends, like those from the years 2016 to 2024 when papers are written covering levels of research activity related today This led to a surge in publications suggesting interest and awareness of the potential benefits of flipped learning. The 2019 peak indicates that in this year, a lot of implementations were underway with success being written about. The decline in 2020 is due directly to the Covid-19 pandemic, a barrier that hampered research practices across schools and remote teaching models [28]. Even so, the trend line indicates a persistent flywheel of flipped learning.

A number of significant findings are revealed by the bibliometric study, which shed light on the patterns and impact of flipped learning in English as a Foreign Language (EFL) speaking classes. Through the promotion of active learning and the utilization of contemporary technology, flipped learning has shown to have a significant potential for enhancing the speaking abilities of English as a Foreign Language (EFL) students [26]. A discernible rise in the number of publications occurred between the years 2016 and 2024, reaching its highest point in 2019, and then beginning a downward trend in 2020 as a consequence of the COVID-19 pandemic [56]. Although there have been swings, there is clear evidence of a continuing interest in flipped learning. As a result of the fact that the fields of "Education," "Language Communication and Culture," and "Linguistics" dominate the scholarly conversation, the interdisciplinary nature of research on flipped learning is brought to light [51], [52].

According to van Eck and Waltman (2010) [59], highly referenced journals such as "Innovation in Language Learning and Teaching" and "Smart Learning Environments" play an essential part in the dissemination of research and the formation of educational practices. According to [53], the use of common terminology like "approach," "engagement," and "anxiety" highlights the importance of instructional tactics, student involvement, and the psychological components of learning.

The findings are consistent with and build upon earlier studies in several ways. The observed improvement in speaking abilities through flipped learning supports the findings of Bergmann & Sams (2012) [26], who highlighted the efficacy of this method in actively involving students both in and out of the classroom. Chen Hsieh et al. (2017) [27] argue that for successful implementation of flipped learning, it is essential to have an interdisciplinary research approach that covers education, linguistics, and cultural studies. This approach emphasizes the need of creative curriculum design and teaching methodologies. The emphasis on student participation and the alleviation of anxiety is consistent with the research conducted by Young, 1990on the psychological advantages of flipped learning, including enhanced independence and decreased apprehension in speaking situations. This indicates that flipped learning not only enhances language proficiency but also has a favourable influence on students' entire educational experience and well-being. These publishing trends, including the rise (2019) and fall (2020), mirror broader influences of COVID-19 on educational research in general mentioned by Herzog et al. (2020).

This phenomenon underlines the potential of educational research community to resist and adapt in response to international threats.

The results of this bibliometric analysis may be influenced by several limitations. Patterns of publishing may have been disrupted during the COVID-19 pandemic and not all continuing work in research activities or teaching approaches could be adequately represented [56]. Because of the lack of long-term research, our understanding about lasting benefits on speaking abilities is constrained by possible over-looking longer effects or delayed results. The lack of overall research, on multiple cultural and academic contexts is limiting the generalisability with potential for significant culture specific biases that influence flipped learning implementation [27]. Failing to expose the challenges faced by educators adopting flipped learning can restrict our understanding of its practical aspects.

The findings and recognised limitations highlight a number of areas for future work. Extended studies should be implemented to test the lasting effect that flipped learning has on EFL speaking skills. That may include long-term follow-up to see how well learners are doing over the years, these studies will need. An investigation into the effectiveness of flipped learning in a number of cultural and educational backgrounds can help to provide an understanding as to how widely this method is appropriate, highlighting any contextual challenges or opportunities [27]. A study on Cobos et al (2017) covering the Problems and Experiences faced during application explained about flipped learning process has definitely a better scope of understanding when research is conducted to help educators in specific areas viz. Preparations, Content Conversion & PD needs [6]. The impact of new technologies that have improved flipped learning experience in EFL speaking classrooms must be explored. There, it is necessary to analyse further how the method of flipped learning can provide psychological benefits such as increase in student motivation, decrease in reported fear and willingness to speak a foreign language [55].

In this work, we used bibliometric analysis to provide an overview of trends and impacts for flipped learning in EFL speaking classrooms. The benefits of this instructional strategy have been well ascertained, particularly with speaking skills and student engagement; yet there remain significant limitations in research. This highlights how challenging it is to implement flipped learning because the field spans education, linguistic and cultural studies. Prospective study designs, cross- cultural validity and the ability of educators to apply these tools in practice must be addressed in future research. Focusing on these dimensions can also shed more light towards flipped learning as a key to transform EFL education and offer evidence-based transcending borders recommendations for practice.

5. Conclusion

A bibliometric analysis was conducted to show the trends and impact of flipped learning on EFL speaking classrooms. Its rising popularity as an instructional strategy emphasizes its potential to improve speaking skills and promote active learning, which is believed to positively impact on the mental health of students. These research reports illustrate that despite the rapid changes to our practice brought about by Covid-19, flipped learning remains a durable pedagogy well suited for modern educational environments.

In addition, there are many areas that need further research. Future research should conduct longitudinal studies to assess the long-term benefits and sustainability of gains in speaking skills under flipped learning. Moreover, research should aim to establish the effectiveness of flipped learning in different cultural and educational contexts. To inform this, we hope to undertake a larger understanding of its relevance and identify the specific challenges and opportunities that come out for different setups.

Identifying the opportunities and constraints associated with implementation of flipped learning from an educator's perspective along with addressing practical challenges they face such as preparation and re-framing their materials (to name a few)will further shed light on best level support required for educators. Future studies that conduct more in-depth research on these aspects can help to complete a broader picture of flipped learning and improve it as an instructional mode for English as Foreign Language education.

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References

- [1] E. Yıldız, U. Doğan, Ö. Özbay, and S. S. Seferoğlu, "Flipped classroom in higher education: An investigation of instructor perceptions through the lens of TPACK," Educ Inf Technol (Dordr), vol. 27, no. 8, pp. 10757–10783, 2022, doi: 10.1007/s10639-022-11059-8.
- [2] K. Wang and C. Zhu, "MOOC-based flipped learning in higher education: students' participation, experience and learning performance," International Journal of Educational Technology in Higher Education, vol. 16, no. 1, Dec. 2019, doi: 10.1186/s41239-019-0163-0.
- [3] L. Tomas, N. (Snowy) Evans, T. Doyle, and K. Skamp, "Are first year students ready for a flipped classroom? A case for a flipped learning continuum," International Journal of Educational Technology in Higher Education, vol. 16, no. 1, Dec. 2019, doi: 10.1186/s41239-019-0135-4.
- [4] M. Güler, M. Kokoç, and S. Önder Bütüner, "Does a flipped classroom model work in mathematics education? A meta-analysis," Educ Inf Technol (Dordr), vol. 28, no. 1, pp. 57–79, 2023, doi: 10.1007/s10639-022-11143-z.
- [5] P. Bachiller and G. Badía, "The flip teaching as tool to improving students' sustainable learning performance in a financial course," Sustainability (Switzerland), vol. 12, no. 23, pp. 1–11, Dec. 2020, doi: 10.3390/su12239998.
- [6] A. Y. Q. Huang, O. H. T. Lu, and S. J. H. Yang, "Effects of artificial Intelligence-Enabled personalized recommendations on learners' learning engagement, motivation, and outcomes in a flipped classroom," Comput Educ, vol. 194, p. 104684, 2023, doi: https://doi.org/10.1016/j.compedu.2022.104684.
- [7] N. Karjanto and M. J. Acelajado, "Sustainable Learning, Cognitive Gains, and Improved Attitudes in College Algebra Flipped Classrooms," Sustainability (Switzerland), vol. 14, no. 19, Oct. 2022, doi: 10.3390/su141912500.
- [8] W. W. L. C. C. K. S. L. Michael Yi-chao Jiang Morris Siu-yung Jong and M. Park, "A scoping review on flipped classroom approach in language education: challenges, implications and an interaction model," Comput Assist Lang Learn, vol. 35, no. 5–6, pp. 1218–1249, 2022, doi: 10.1080/09588221.2020.1789171.
- [9] S. M. Mardiha, G. Alibakhshi, M. Mazloum, and R. Javaheri, "Electronic Flipped Classrooms as a Solution to Educational Problems Caused by COVID 19: A Case Study of a Research Course in Iran Higher Education," vol. 21, no. 1, pp. 26–35, 2023, [Online]. Available: www.ejel.org
- [10] H. Torío, "Teaching as coaching: Experiences with a video-based flipped classroom combined with project-based approach in technology and physics higher education," J Technol Sci Educ, vol. 9, no. 3, pp. 404-419, 2019, doi: 10.3926/JOTSE.554.
- [11] H.-W. Huang, D. Li, D. McCusker, B. Whitfield, and T.-S. Chang, "Exploring Reflective Practices in Modified EFL Flipped Videoconferences," Proceedings of the 9th International Conference on Education and Training Technologies, 2023, [Online]. Available: https://api.semanticscholar.org/CorpusID:264039188

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 8, No. 5: 2447-2461, 2024 DOI: 10.55214/25768484.v8i5.2017 © 2024 by the authors; licensee Learning Gate

- [12] B. Zou, S. Liviero, M. Hao, and C. Wei, "Artificial Intelligence Technology for EAP Speaking Skills: Student Perceptions of Opportunities and Challenges," Technology and the Psychology of Second Language Learners and Users, 2020, [Online]. Available: https://api.semanticscholar.org/CorpusID:216251716
- [13] L. Zhao, W. He, and Y. S. Su, "Innovative Pedagogy and Design-Based Research on Flipped Learning in Higher Education," Front Psychol, vol. 12, Feb. 2021, doi: 10.3389/fpsyg.2021.577002.
- [14] L. K. Ng and C. K. Lo, "Flipped Classroom and Gamification Approach: Its Impact on Performance and Academic Commitment on Sustainable Learning in Education," Sustainability (Switzerland), vol. 14, no. 9, May 2022, doi: 10.3390/su14095428.
- [15] R. Castedo, L. M. López, M. Chiquito, J. Navarro, J. D. Cabrera, and M. F. Ortega, "Flipped classroom—comparative case study in engineering higher education," Computer Applications in Engineering Education, vol. 27, no. 1, pp. 206–216, Jan. 2019, doi: 10.1002/cae.22069.
- [16] J. Rodríguez-Chueca, A. Molina-García, C. García-Aranda, J. Pérez, and E. Rodríguez, "Understanding sustainability and the circular economy through flipped classroom and challenge-based learning: an innovative experience in engineering education in Spain," Environ Educ Res, vol. 26, no. 2, pp. 238–252, Feb. 2020, doi: 10.1080/13504622.2019.1705965.
- [17] V. Sevillano-Monje, Á. Martín-Gutiérrez, and C. Hervás-Gómez, "The Flipped Classroom and the Development of Competences: A Teaching Innovation Experience in Higher Education," Educ Sci (Basel), vol. 12, no. 4, Apr. 2022, doi: 10.3390/educsci12040248.
- [18] Jarutas Pattanaphanchai, "An Investigation of Students' Learning Achievement and Perception using Flipped Classroom in an Introductory Programming course: A Case Study of Thailand Higher Education," Journal of University Teaching and Learning Practice (JUTLP), vol. 16, no. 4, 2019.
- [19] M. S. H. Khan and B. O. Abdou, "Flipped classroom: How higher education institutions (HEIs) of Bangladesh could move forward during COVID-19 pandemic," Social Sciences and Humanities Open, vol. 4, no. 1, Jan. 2021, doi: 10.1016/j.ssaho.2021.100187.
- [20] S. F. S. F. Lopes, L. M. B. Gouveia, and P. A. da C. Reis, "The Flipped Classroom and Higher Education -Experiences with Computer Science Students," International Journal of Advanced Engineering Research and Science, vol. 6, no. 10, pp. 13–18, 2019, doi: 10.22161/ijaers.610.3.
- [21] L. P. Galway, K. K. Corbett, T. K. Takaro, K. Tairyan, and E. Frank, "A novel integration of online and flipped classroom instructional models in public health higher education," BMC Med Educ, vol. 14, no. 1, Aug. 2014, doi: 10.1186/1472-6920-14-181.
- [22] S. McLean and S. M. Attardi, "Sage or guide? Student perceptions of the role of the instructor in a flipped classroom," Active Learning in Higher Education, vol. 24, no. 1, pp. 49–61, Mar. 2023, doi: 10.1177/1469787418793725.
- [23]E. Namaziandost and F. Çakmak, "An account of EFL learners' self-efficacy and gender in the Flipped Classroom
Model," Educ Inf Technol (Dordr), vol. 25, no. 5, pp. 4041–4055, Sep. 2020, doi: 10.1007/s10639-020-10167-7.
- [24] T. W. Apoko, I. F. Hanif, and S. A. Putri, "The Utilization of Flipgrid in Learning English Speaking Skill for EFL Teachers in Muhammadiyah Schools," Jurnal Pengabdian UNDIKMA, vol. 3, no. 3, p. 371, Nov. 2022, doi: 10.33394/jpu.v3i3.5687.
- [25] J. Bergmann and A. Sams, Flip Your Classroom: Reach Every Student in Every Class Every Day. Washington DC: International Society for Technology in Education, 2012.
- [26] J.; S. Bergmann, Flip Your Classroom Reach Every Student in Every Class Every Day. ISTE and ASCD, 2012.
- [27] J. S. Chen Hsieh, W. C. V. Wu, and M. W. Marek, "Using the flipped classroom to enhance EFL learning," Comput Assist Lang Learn, vol. 30, no. 1–2, pp. 1–21, Feb. 2017, doi: 10.1080/09588221.2015.1111910.
- [28] J. S. Chen Hsieh, W.-C. V. Wu, and M. W. Marek, "Using the flipped classroom to enhance EFL learning," Comput Assist Lang Learn, vol. 30, no. 1–2, pp. 1–21, Feb. 2017, doi: 10.1080/09588221.2015.1111910.
- [29] M. G. Senali, M. Iranmanesh, M. Ghobakhloo, D. Gengatharen, M. L. Tseng, and M. Nilsashi, "Flipped classroom in business and entrepreneurship education: A systematic review and future research agenda," International Journal of Management Education, vol. 20, no. 1, Mar. 2022, doi: 10.1016/j.ijme.2022.100614.
- [30] B. Divjak, B. Rienties, F. Iniesto, P. Vondra, and M. Žižak, "Flipped classrooms in higher education during the COVID-19 pandemic: findings and future research recommendations," Dec. 01, 2022, Springer Science and Business Media Deutschland GmbH. doi: 10.1186/s41239-021-00316-4.
- [31] Tefvik Dariyemez, "TEACHING SPEAKING SKILLS THROUGH FLIPPED CLASSROOM MODEL: EFL STUDENTS' AUTONOMY, WILLINGNESS TO COMMUNICATE, AND ANXIETY," 2023.
- [32] C. Herzog, D. Hook, and S. Konkiel, "Dimensions: Bringing down barriers between scientometricians and data," Quantitative Science Studies, vol. 1, no. 1, pp. 387–395, Feb. 2020, doi: 10.1162/qss_a_00020.
- [33] Z. Li and J. Li, "Using the Flipped Classroom to Promote Learner Engagement for the Sustainable Development of Language Skills: A Mixed-Methods Study," Sustainability (Switzerland), vol. 14, no. 10, May 2022, doi: 10.3390/su14105983.
- [34]B. Kitchenham, Kitchenham, B.: Guidelines for performing Systematic Literature Reviews in software engineering.EBSETechnicalReportEBSE-2007-01,2.3.2007.[Online].Available:https://www.researchgate.net/publication/258968007

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 8, No. 5: 2447-2461, 2024 DOI: 10.55214/25768484.v8i5.2017 © 2024 by the authors; licensee Learning Gate

- [35] S. Jin, "The effects of using flipped learning in an EFL speaking class on Korean EFL undergraduate students' speaking anxiety and speaking skills," Studies in English Education, vol. 26, no. 4, pp. 597–625, 2021, doi: 10.22275/see.26.4.04.
- [36] M. Amiryousefi, "The incorporation of flipped learning into conventional classes to enhance EFL learners' L2 speaking, L2 listening, and engagement," Innovation in Language Learning and Teaching, vol. 13, no. 2, pp. 147–161, 2017, doi: 10.1080/17501229.2017.1394307.
- [37] M. A. Chen and G. Hwang, "Effects of a concept mapping-based flipped learning approach on EFL students' English speaking performance, critical thinking awareness and speaking anxiety," British Journal of Educational Technology, vol. 51, no. 3, pp. 817–834, 2019, doi: 10.1111/bjet.12887.
- [38] R. Bezzazi, "The effect of flipped learning on EFL learners' public speaking in Taiwan," Journal on English as a Foreign Language (JEFL), vol. 9, no. 1, pp. 1–19, 2019, doi: 10.23971/jefl.v9i1.1035.
- [39] S. Kim and M.-H. Choe, "Applying the Flipped Learning Model in an EFL Speaking Class for Adult Learners," Korean Association For Learner-Centered Curriculum And Instruction, vol. 20, no. 4, pp. 343–362, 2020, doi: 10.22251/jlcci.2020.20.4.343.
- [40] M. F. Teng, "Flip Your Classroom to Improve EFL Students' Speaking Skills," in Innovations in Flipping the Language Classroom, 2017, pp. 113–122. doi: 10.1007/978-981-10-6968-0_9.
- [41] H. Yoon, "A Study of English Dialogue Activity Based on Flipped Learning," The Korean Society of Culture and Convergence, vol. 45, no. 1, pp. 717–731, 2023, doi: 10.33645/cnc.2023.01.45.01.717.
- [42] Y. Ishikawa et al., "Japanese EFL Learners' Speaking Practice Utilizing Text-to-Speech Technology Within a Team-Based Flipped Learning Framework," in Learning and Collaboration Technologies: New Challenges and Learning Experiences, 2021, pp. 283–291. doi: 10.1007/978-3-030-77889-7_19.
- [43] L. Luan, Y. Yi, G.-J. Hwang, Y. Dong, B. Jing, and J. Liu, "Facilitating EFL learners' willingness to communicate amidst the pandemic: a digital storytelling-based online flipped learning approach," Innovation in Language Learning and Teaching, vol. 18, no. 2, pp. 139–154, 2023, doi: 10.1080/17501229.2023.2241436.
- [44] D. Tevfik, "Teaching speaking skills through flipped classroom model: EFL students' autonomy, willingness to communicate, and anxiety," i-manager's Journal on English Language Teaching, vol. 13, no. 2, p. 35, 2023, doi: 10.26634/jelt.13.2.19444.
- [45] H.-W. Huang, D. Li, D. McCusker, B. Whitfield, and T.-S. Chang, "Exploring Reflective Practices in Modified EFL Flipped Videoconferences," in Proceedings of the 9th International Conference on Education and Training Technologies, 2023, pp. 1–6. doi: 10.1145/3599640.3599653.
- [46] K. Aghaei, M. Rajabi, K. Y. Lie, and F. Ajam, "Flipped learning as situated practice: A contrastive narrative inquiry in an EFL classroom," Educ Inf Technol (Dordr), vol. 25, no. 3, pp. 1607–1623, 2019, doi: 10.1007/s10639-019-10039-9.
- [47] A. Leis, "Content-Based Language Teaching and the Flipped Classroom: A Case Study in the Japanese EFL Environment," in Innovations in Flipping the Language Classroom, 2017, pp. 221–230. doi: 10.1007/978-981-10-6968-0_15.
- [48] Y. A. Alkhoudary and J. A. AlKhoudary, "THE EFFECTIVENESS OF FLIPPING CLASSROOM MODEL ON EFL SECONDARY SCHOOL SPEAKING SKILLS," Indonesian EFL Journal, vol. 5, no. 2, p. 1, 2019, doi: 10.25134/ieflj.v5i2.1811.
- [49] S. McCarty, T. Sato, and H. Obari, "Aoyama Gakuin University Case Study: Blended Learning and Flipped Classrooms Utilizing Mobile Devices," in Implementing Mobile Language Learning Technologies in Japan, 2016, pp. 71-92. doi: 10.1007/978-981-10-2451-1_5.
- [50] M. Öztürk and Ü. Çakıroğlu, "Flipped learning design in EFL classrooms: implementing self-regulated learning strategies to develop language skills," Smart Learning Environments, vol. 8, no. 1, p. 2, 2021, doi: 10.1186/s40561-021-00146-x.
- [51] M. Tadayonifar and M. Entezari, "Does flipped learning affect language skills and learning styles differently?," E-Learning and Digital Media, vol. 17, no. 4, pp. 324–340, 2020, doi: 10.1177/2042753020931776.
- [52] S. Lambacher, H. Kikuchi, and H. Obari, "Exploring the impact of AI on EFL teaching in Japan," in Proceedings of the XXIst International CALL Research Conference, 2022, pp. 163–168. doi: 10.29140/9781914291050-23.
- [53]Z. Li and J. Li, "Using the Flipped Classroom to Promote Learner Engagement for the Sustainable Development of
Language Skills: A Mixed-Methods Study," Sustainability, vol. 14, no. 10, p. 5983, 2022, doi: 10.3390/su14105983.
- [54] E.-M. Lan, "Unveiling the silent struggle: Investigating the effects of flipped classroom instruction models on business English oral presentation development through online learning: A case of learner engagement, emotions, and anxiety," Educ Inf Technol (Dordr), pp. 1–30, 2024, doi: 10.1007/s10639-024-12746-4.
- [55] N. J. van Eck and L. Waltman, "Software survey: VOSviewer, a computer program for bibliometric mapping," Scientometrics, vol. 84, no. 2, pp. 523–538, Aug. 2010, doi: 10.1007/s11192-009-0146-3.
- [56] C. Herzog, D. Hook, and S. Konkiel, "Dimensions: Bringing down barriers between scientometricians and data," Quantitative Science Studies, vol. 1, no. 1, pp. 387–395, Feb. 2020, doi: 10.1162/qss_a_00020.
- [57] T. J. A. Busebaia and B. John, "Can flipped classroom enhance class engagement and academic performance among undergraduate pediatric nursing students? A mixed-methods study," Res Pract Technol Enhanc Learn, vol. 15, no. 1, Dec. 2020, doi: 10.1186/s41039-020-0124-1.

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 8, No. 5: 2447-2461, 2024 DOI: 10.55214/25768484.v8i5.2017 © 2024 by the authors; licensee Learning Gate

- [58] John Haggerty, "MULTILINGUAL UNDERGRADUATE WRITERS' DISCOURSE SOCIALIZATION IN A SHELTERED ACADEMIC ENGLISH PROGRAM," 2019.
- [59] N. J. van Eck and L. Waltman, "Software survey: VOSviewer, a computer program for bibliometric mapping," Scientometrics, vol. 84, no. 2, pp. 523–538, 2010, doi: 10.1007/s11192-009-0146-3.
- [60] P. Hiver, S. Mercer, and A. H. Al-Hoorie, Student Engagement in the Language Classroom. Channel View Publications, 2020. doi: 10.21832/HIVER3606.
- [61] D. J. Young, "An Investigation of Students' Perspectives on Anxiety and Speaking," Foreign Lang Ann, vol. 23, no. 6, pp. 539–553, 1990, doi: 10.1111/j.1944-9720.1990.tb00424.x.
- [62] Y. R. Tsai, "Promotion of learner autonomy within the framework of a flipped EFL instructional model: perception and perspectives," Comput Assist Lang Learn, vol. 34, no. 7, pp. 979–1011, 2021, doi: 10.1080/09588221.2019.1650779.