

Flipped Classroom Approaches in Language Teaching and Learning in Malaysia – A Meta-analytic Review

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Abstract

E-learning gained significant popularity and recognition in recent years due to advances in technology and the widespread availability of internet access. In line with the recommendation from the Ministry of Education Malaysia, it is crucial to emphasize the integration of information and communications technology (ICT) in education to effectively address the demands of the 21st century. Previous research has proved that the application of new teaching approaches involving technology yielded favorable outcomes. The flipped classroom is a blended learning approach combining online and offline technology-based learning to help teachers transition from traditional to active teaching methods. This article aims to systematically review current issues about the effects of flipped classrooms on students by reviewing the trend of 24 empirical studies from 2017 to 2023. The meta-analysis is conducted by collecting data from electronic databases such as Google Scholar, Freefullpdf, ResearchGate, MyCite, Scopus, Sage, and various local university journal pages. The main findings of the previous studies are presented in tables to enhance comprehension. The findings of previous studies, which were systematically analyzed through this meta-analysis, demonstrate that the use of the flipped classroom approach has a positive impact on students' language learning.

Keywords: Flipped Classroom, Approach, Language, Meta-Analysis, Technology

Introduction

In this era of globalization, information and communications technology (ICT) has influenced the world toward modernization. The insistence on the development of ICT in education continues to positively affect students and educators. In an endeavor to boost the standard of education in Malaysia and align it with developed nations across the globe, there is a concerted effort to harness the power of ICT. The quality of education can be elevated to new heights by leveraging this innovative approach. This desire is expressed in the 7th Shift of the Malaysian Education Blueprint 2013–2025, which states that ICT can improve the quality of learning in Malaysia. It proves that ICT elements are very important in today's world of

education and will continue to be widely used without limitations. Consistent with the growing sophistication of technology, interest in internet-based technology in education is also increasing. An atmosphere of electronic learning and online courses was generated, where educational institutions in Malaysia began to use the internet, websites, and computer-mediated communication. Learning and facilitation (PDPc) processes have emerged as online classroom content delivery. The younger generation, which has grown accustomed to e-learning, has readily adopted a combination of both classroom-based delivery and online teaching, termed blended learning. Blended learning refers to an educational approach centered around the student, allowing for independence, flexibility, and multimodal learning experiences (NSW Country Areas Program, 2010). Blended learning is an educational approach that merges traditional face-to-face modes with web-based learning (Embi et al., 2014). The flipped classroom is an emerging educational approach that incorporates technology into teaching, falling under the umbrella of blended learning (Sun & Lin, 2022). The flipped classroom is also called reversed instruction or inverted (Bergmann & Sams, 2012).

Flipped Classroom

The flipped classroom is a teaching model that focuses on students using internet resources such as audio and video to deliver teaching contents at home as homework and devoting class time to an interaction between teachers and students to solve problems known as homework in teaching and traditional learning. In the flipped classroom approach, the teacher is the facilitator, while the students are responsible for their own learning process (Lai & Hwang, 2016). The concept of the flipped class model involves teachers providing teaching materials that be accessed whenever and wherever appropriate for the students, for example, at home, in the classroom, in the reading room, on the bus, or from a hospital bed. Teachers can deliver the lessons by recording and presenting to students by creating videos or adopting and compiling relevant video recordings from trusted internet sites. Students can watch the videos or screencasts multiple times, enhancing their productivity in the classroom. As teaching is conducted outside the classroom, teachers could actively engage students in the learning process during class time (Bergmann & Sams, 2012). According to Baker (2000), students should first master the knowledge and information provided by watching lecture recordings, podcasts, or reading materials outside class. This approach differs from traditional teaching methods, where students only fully master knowledge in class.

Research Questions

The meta-analysis reviews previous studies to identify the effectiveness of the flipped classroom approach based on the research questions constructed. Among them are:

- a) What are the trends or patterns of past studies in the practice of the flipped classroom approach in language teaching and learning from 2017 to 2023 in terms of i) field of study, ii) research topic, iii) level of study, iv) approach, v) instrument, and vi) sample?
- b) What variables are involved in the practice of the flipped classroom approach in language teaching and learning?
- c) Is the flipped classroom approach effective in language teaching and learning?

Study Methodology

A meta-analysis is a collection of previous studies within the same research scope that are systematically analyzed. The Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) 2020 checklist guide was used in this study.

Access or Search Strategy

Previous studies on the flipped classroom approach in language teaching and learning in Malaysia have been extensively researched and accessed through electronic databases such as Google Scholar, Freefullpdf, ResearchGate, MyCite, Scopus, Sage, and various local university journal pages.

Inclusion and Exclusion Criteria

A total of 24 journals from 2017 to 2023 were randomly chosen based on the study scope within universities, colleges, and schools in Malaysia. The articles and journals were selected based on studies conducted by researchers in Malaysia. Specifically, studies related to flipped classroom-based language teaching have been selected for this study.

Findings of the Study

The meta-study systematically analyzes and combines past studies on language teaching in flipped classrooms. The research findings pertaining to the research questions will contribute to the achievement of the objectives of this meta-study.

RQ 1: What are the trends or patterns of past studies in the practice of the flipped classroom approach in language teaching and learning from 2017 to 2023 in terms of i) field of study, ii) research topic, iii) level of study, iv) approach, v) instrument and vi) sample?

The data involving the author/year, the field of study, and the research topic are listed in Table 1.

Table 1

List of Collected Articles

No.	Authors/Year	Field of Study	Research Topic
1	Osman, Noor, Hat, Rouyan, and Saad (2023)	Arabic language	<i>Refleksi pelajar mengikuti pembelajaran berbalik berasaskan aplikasi Google</i>
2	Yau and Ayub (2022)	English as Second Language (ESL)	The impact of flipped classroom instructional model in teaching English as a Second Language (ESL) among lower secondary pupils
3	Baatinathan, Halili, and Razak (2022)	Tamil language	<i>Penerimaan murid Bahasa Tamil terhadap kaedah pembelajaran berbalik</i>
4	Santhanasamy and Yunus (2022)	English speaking skills	The flipped learning and Blendspace to improve pupils' speaking skills
5	Baatinathan, Halili, and Razak (2021)	Tamil language	<i>Persepsi guru Bahasa Tamil terhadap penerimaan program pembelajaran flip</i>
6	Idrus and Nasri (2021)	Malay language	<i>Keberkesanan kaedah flipped classroom terhadap kemahiran mengolah perenggan mudah dalam kalangan pelajar Tahun 1 luar bandar</i>
7	Shaari, Shaari, and Abdullah (2021)	English grammar	Investigating the impact of flipped classroom on dual language learners' perceptions and grammatical performance
8	Rahman, Yunus, and Hashim (2021)	English as Second Language (ESL)	Applying UTAUT in predicting ESL lecturer's intention to use flipped learning
9	Stanley (2021)	English as Second Language (ESL)	Flipped classroom integration in English language courses at Sabah's tertiary institutions, Malaysia

10	Ngo and Yunus (2021)	English as a second language (ESL)	What do Malaysian ESL teachers think about flipped classroom?
11	Masri and Mahamod (2020)	Malay language	<i>Keberkesanan kaedah flipped classroom dalam meningkatkan kemahiran mengolah isi karangan murid-murid sekolah rendah</i>
12	Teo and Sathappan (2020)	English	Using flipped classroom approach to teach adjectives for Malaysian Year 4 Chinese ESL learners
13	Hilmi Zakaria, and Fuad (2020)	Arabic language	<i>Tahap pengetahuan guru Bahasa Arab dalam melaksanakan kelas berbalik</i>
15	Su Ping, Verezub, Adi Badiozaman, and Chen (2020)	English as a Foreign Language (EFL)	Tracing EFL students' flipped classroom journey in a writing class: Lessons from Malaysia
16	Emparan, Said, and Baki (2019)	Malay language	<i>Meneroka penggunaan teknik flipped classroom dalam pengajaran kemahiran menulis</i>
17	Yap and Yasin (2019)	German language	<i>Keberkesanan modul flipped classroom terhadap pencapaian Bahasa Jerman dan keterlibatan pelajar</i>
18	Ali, Yunus, Hashim, Rahim, and Khamis (2019)	English as Second Language (ESL)	Strategic development of flipped framework on educators and learning constructs for ESL context: The experts' agreement
19	Rahman, Yunus, and Hashim (2019)	English as Second Language (ESL)	A Technology Acceptance Model (TAM): Malaysian ESL lecturers' attitude in adapting flipped learning
20	Halili and Ramas (2018)	Tamil language	<i>Penerimaan guru sekolah rendah terhadap pendekatan kelas berbalik dalam mata pelajaran Bahasa Tamil</i>
21	Jaswant Singh (2018)	English as Second Language (ESL)	Development of a flipped professional module for ESL primary school teachers
22	Ishak and Abu (2018)	English as Second Language (ESL)	Exploring TPACK domains of Malaysian non-option ESL teachers in an online flipped learning course through Blendspace
23	Tazijan, Abdullah, Zainol, Noor, and Johari (2017)	English as Second Language (ESL)	Building communication skills through flipped classroom
24	Danuri, Dwee, Jamari, and Samad (2017)	English for Specific Purposes (ESP) course	Exploring student engagement in writing using the flipped classroom approach

In this comprehensive meta-analysis study, 24 empirical studies were selected and examined. The breakdown of these studies by field is as follows: 15 (62.50%) from the field of English, 3 (12.50%) from the field of Malay, 3 (12.50%) from the field of Tamil, 2 (8.33%) from Arabic, and 1 (4.17%) from German. The diverse language range underscores the broad scope and inclusivity of the research findings. Table 2 summarizes the study levels, groups, research approaches, instruments, and samples.

Table 2

Summary of Study Level, Group, Research Approach, Instrument, and Sample

	Level of Study			Sample			Approach			Instrument								
	PS	SS	HE	T	S	EL	QN	QL	MM	Q	I	O	PP	QE	ES	DA	RF	C
Osman et al. (2023)			/		/			/									/	
Yau and Ayub (2022)		/			/		/						/	/				
Baatinathan et al. (2022)	/				/			/			/	/						
Santhanasamy and Yunus (2022)	/				/				/	/	/		/					
Baatinathan et al. (2021)	/			/			/			/								
Idrus and Nasri (2021)	/				/			/			/	/						
Shaari et al. (2021)			/		/				/	/	/		/		/			
Rahman et al. (2021)			/			/	/			/								
Stanley (2021)			/					/								/		
Ngo and Yunus (2021)	/			/					/	/	/							
Masri and Mahamod (2020)	/				/		/						/	/				/
Teo and Sathappan (2020)	/				/		/			/			/	/				
Hilmi et al. (2020)		/		/				/								/		
Zakaria and Yunus (2020)	/				/		/			/								
Su Ping et al. (2020)			/		/			/			/							
Emparan et al. (2019)		/		/				/			/							
Yap and Yasin (2019)			/		/		/						/	/				
Ali et al. (2019)			/			/	/			/								
Rahman et al. (2019)			/			/	/			/								
Halili and Ramas (2018)	/			/			/			/								

Jaswant Singh (2018)	/			/					/	/	/							
Ishak and Abu (2018)	/			/				/								/		
Tazijan et al. (2017)			/		/				/		/	/						
Danuri et al. (2017)			/		/		/			/								
Jumlah	11	3	10	7	13	3	11	8	5	12	9	3	6	4	1	3	1	1

Keywords					
PS	Primary School	QN	Quantitative	PP	Pre-post Test
SS	Secondary School	QL	Qualitative	QE	Quasi Experiment
HE	Higher Education	MM	Mixed Methods	ES	Experimental Study
T	Teacher	Q	Questionnaire	DA	Document Analysis
S	Student	I	Interview	RF	Reflection Form
EL	Expert / Lecturer	O	Observation	C	Checklist

The flipped classroom approach is widely used in language teaching and learning, particularly in primary schools (11, 45.83%) and higher education institutions (10, 41.67%) than secondary schools (3, 12.50%). The study samples consisted of teachers (7, 30.43%), students (13, 56.52%), and lecturers (3, 13.04%). Most researchers, accounting for 45.83% or 11 of 24 articles, utilized the quantitative methods. It indicates a focus on data-driven approaches in their studies. Moreover, the research approaches used in previous studies were qualitative, accounting for approximately 33.33% or 8 of the total studies conducted. Meanwhile, the utilization of mixed methods was relatively less common, i.e., 5 of 24 articles, at 20.83%. The most widely used research instrument was questionnaires, accounting for 12 of 24 articles (50%), followed by interviews, with 9 of 24 articles representing 37.50%. Other research instruments used include observation (3, 12.50%), pre-post-test (6, 25%), quasi-experiment (4, 16.67%), experimental study (1, 4.17%), analysis of documents (3, 12.50%), reflection forms (1, 4.17%), and checklists (1, 4.17%).

RQ 2: Which variables are involved in the practice of the flipped classroom approach in language teaching and learning?

The variables/dimensions involved in the practice of the flipped classroom approach in language teaching and learning are summarized in Table 3.

Table 3

Flipped Classroom Study Variables in Language Teaching and Learning

	R	E	M	SI	SS	TSA	TSP	PI	BC	TK	AB	EA	EM	C
Osman et al. (2023)	/													
Yau and Ayub (2022)		/	/	/	/									
Baatinathan et al. (2022)						/								
Santhanasamy and Yunus (2022)		/												
Baatinathan et al. (2021)						/								
Idrus and Nasri (2021)		/												
Shaari et al. (2021)		/					/							
Rahman et al. (2021)								/						
Stanley (2021)									/					
Ngo and Yunus (2021)							/							
Masri and Mahamod (2020)		/												
Teo and Sathappan (2020)		/					/							
Hilmi et al. (2020)										/	/			
Zakaria and Yunus (2020)							/							
Su Ping et al. (2020)	/													
Emparan et al. (2019)							/							
Yap and Yasin (2019)		/												
Ali et al. (2019)												/		
Rahman et al. (2019)											/			
Halili & Ramas (2018)						/								
Jaswant Singh (2018)						/								
Ishak and Abu (2018)										/				
Tazijan et al. (2017)		/					/							
Danuri et al. (2017)				/							/		/	/
Jumlah	2	8	1	2	1	4	6	1	1	2	3	1	1	1

Keywords					
R	Reflection	TSA	Teacher/Students Acceptance	AB	Attitude/Behaviour of Teacher/Students
E	Effectiveness	TSP	Teacher/Student Perception	EA	Expert Agreement
M	Motivation	PI	Predicting Intentions	EM	Emotions
SI	Students' involvement	BC	Benefit & Challenges	C	Cognitive
SS	Students Satisfaction	TK	Teachers' knowledge		

Among the variables involved in the studies are reflection, effectiveness, motivation, student involvement, student satisfaction, teacher's or student's acceptance, teacher's or student's perception, predicting intentions, benefits and challenges, teacher's knowledge, attitude or behavior of the teacher or student, expert agreement, emotion, and cognitive. Eight researchers have studied the effectiveness of flipped classrooms in language acquisition. Furthermore, six articles explored teachers' or students' perceptions of the approach, while four assessed their acceptance. Three articles discussed the attitudes or behavior of teachers or students. Moreover, variables such as reflection, student involvement, and teacher's knowledge were discussed in two articles. Other variables, such as motivation, student satisfaction, predicting intentions, benefits and challenges, expert agreement, emotion, and cognitive factors, were discussed in a single article.

The analysis also included the aim of each study, the findings, and the willingness of teachers and students to adopt the flipped classroom approach. The summarized results of the data analysis are presented in Table 4.

Table 4

Summary of Objectives and Findings of Past Studies

No	Author/Year	Aim of the Study	Findings
1	Osman et al. (2023)	This study aimed to acquire students' feedback on the flipped classroom learning approach based on the Google application.	Students acknowledged that learning through flipped learning via Google applications can improve their knowledge. Better technology handling skills by the students. Students acquired creative and critical thinking skills from the flipped classroom program. The flipped classroom approach utilized group activities to facilitate student engagement and foster peer-to-peer discussions.
2	Yau and Ayub (2022)	This study aimed to compare the effectiveness of the flipped classroom approach with traditional classroom teaching in enhancing the overall English language proficiency of secondary school students. Additionally, the study aimed to evaluate the perceptions of lower secondary pupils towards the flipped learning experience in learning English as a Second Language (ESL).	The experimental group showed higher scores after applying flipped classroom approach than the control group in learning grammar. Students responded positively, stating they had a great learning experience with the flipped classroom approach.
3	Baatinathan et al. (2022)	The objective of this study is to identify the acceptance of the flipped classroom learning approach for the Tamil language subject in national schools (BTSK).	The results indicate that the flipped classroom learning program has been positively received and increased the interest of Year 3 students from various racial backgrounds.
4	Santhanasamy and Yunus (2022)	This study explored the use of the flipped classroom approach in enhancing the speaking skills of primary school students.	The utilization of Blendspace in the flipped classroom learning approach is a highly effective pedagogical method aimed at enhancing students' speaking abilities.
5	Baatinathan et al. (2021)	This study ascertained the level of acceptance among teachers regarding the implementation of the flipped classroom approach in teaching the Tamil language (BTSK), specifically in National Schools (<i>Sekolah Kebangsaan</i>).	Most respondents (75.6%) accepted the approach. On average, most Tamil teachers in national schools accept the program well.
6	Idrus and Nasri (2021)	This study identified the effectiveness of the flipped classroom method in improving the performance of Year 1 students.	The flipped classroom approach improved students' abilities to process paragraphs. It allowed students to enhance their mastery of organizing and processing essay content.
7	Shaari et al. (2021)	This study examined the perspectives of dual language learners on the flipped classroom model for learning English tenses.	The students reached a consensus that the teacher's explanation, along with the feedback received from others prior to the commencement of the class,

		Additionally, it aimed to evaluate their progress in acquiring English tenses through this instructional method.	greatly facilitated their comprehension of the grammar lesson. Students widely acknowledged that group discussions in class and collaborative group work have enhanced their learning experience. The results indicate a significant improvement in post-test results following the implementation of the flipped classroom-based intervention program.
8	Rahman et al. (2021)	This research examined the correlation between computer self-efficacy and anxiety, i.e., two components of TAM3 (Technology Acceptance Model 3). Furthermore, it investigated the attitude of Malaysian English as a Second Language (ESL) lecturers toward integrating the flipped learning approach.	The research findings indicated that the influence of colleagues plays a crucial role in determining the adoption of flipped learning by ESL lecturers. This factor is the most significant predictor influencing their decision-making process regarding the implementation of this teaching and learning method.
9	Stanley (2021)	The purpose of this study is to shed light on the advantages of implementing flipped classroom strategies in English Language courses for educators and students, besides exploring the challenges that arise when incorporating the strategy into tertiary institutions in Sabah, Malaysia.	The findings of the study demonstrated multiple benefits of implementing this 21st century teaching approach in language courses, but challenges arise when implementing such modern teaching tactics over an extended time.
10	Ngo and Yunus (2021)	This study investigated the perception of English as a Second Language (ESL) teachers in Malaysian primary schools regarding the integration of the flipped classroom model.	Despite the obstacles, such as the lack of ICT device resources in rural areas, they hold a favorable view of the flipped classroom method.
11	Masri and Mahamod (2020)	This study assessed the efficacy of the flipped classroom approach in improving the skill of processing the content of Malay language essays in Year 6 students.	The flipped classroom approach helps students improve their mastery and achievement in writing skills. It also contributes to improved achievement by enhancing the way students process the contents of their essays.
12	Teo and Sathappan (2020)	This study examined the effectiveness of using the flipped classroom approach to teach adjectives to Year 4 Chinese ESL students in Malaysia. Additionally, it investigated the perception of the program among Malaysian Year 4 Chinese ESL students.	The findings revealed a notable disparity in test scores between the participants in the experimental group who acquired knowledge of adjectives through the implementation of the flipped classroom approach and those who were instructed using the conventional teaching approach. The teaching of adjectives based on the flipped classroom approach is perceived positively by the study participants.
13	Hilmi et al. (2020)	This study assessed the knowledge Arabic language teachers need to master to effectively implement the flipped classroom approach.	Teachers must master essential knowledge, including content knowledge, pedagogy, technology, and more.
14	Zakaria and Yunus (2020)	The study examined the perception of Year 3 primary students learning English as a Second Language (ESL) in	The results of this study showed that a most students displayed a favorable inclination towards acquiring grammar knowledge through the flipped

		tenses using a flipped classroom approach.	classroom approach instead of the traditional learning methods. Even individuals who initially held a negative perception of this approach eventually acknowledged its ability to improve comprehension.
15	Su Ping et al. (2020)	The study investigated the reflections and experiences of low-proficiency students learning English as a Foreign Language (EFL) in a structured flipped writing program at a foreign university branch campus in Malaysia.	The study findings indicate that most participants had favorable experiences using the flipped classroom approach. They reported several benefits, including increased time for pre-class preparation, enhanced engagement and interaction during class, heightened motivation, immediate feedback during class sessions, and elevated self-efficacy after class.
16	Emparan et al. (2019)	This study investigated the perspectives of educators regarding the implementation of the flipped classroom approach in teaching Malay essay writing abilities.	The teachers unanimously agreed that the flipped classroom approach is suitable for teaching students' writing skills and positively affects their writing abilities. The flipped classroom approach was found to be beneficial by research participants, particularly teachers, as they agreed that it enhances students' comprehension when composing their written work.
17	Yap and Yasin (2019)	This study aimed to review the effectiveness of learning German using the flipped classroom module, which transformed the traditional classroom with physical boundaries into a borderless learning environment.	Despite the findings of the study failing to prove a significant positive effect on German language achievement, students who followed the flipped classroom module showed a good improvement. A notable increase was observed in the participation of students actively engaged in the flipped classroom module.
18	Ali et al. (2019)	This paper identified the essential components for developing a framework for implementing a flipped classroom approach in an ESL learning environment.	Six items were rejected based on the Fuzzy Delphi Method (FDM) analysis. Hence, the final framework comprised 36 items.
19	Rahman et al. (2019)	This research explored the correlation between computer self-efficacy and anxiety, as components of TAM3, and the attitudes of Malaysian English as a Second Language (ESL) lecturers towards incorporating a flipped learning approach.	The feedback indicates that Malaysian ESL lecturers are proficient in handling fundamental computer skills without encountering difficulties.

20	Halili and Ramas (2018)	This study identified the level of acceptance among educators about the implementation of the flipped classroom methodology in teaching Tamil.	<p>The findings showed that the flipped classroom fostered an easily understandable interaction among students.</p> <p>Tamil language teachers embraced the flipped classroom approach, enabling them to perform tasks more efficiently and effortlessly.</p> <p>Research findings demonstrate that using the flipped classroom approach enhances teachers' work performance and increases teaching productivity.</p>
21	Jaswant Singh (2018)	This study assessed the acceptance of ESL teachers of the reverse teacher professional development module and evaluated their acceptance of the flipped teacher professional development module.	ESL teachers exhibited resistance to the flipped classroom approach due to their inability to handle and manage professional development effectively.
22	Ishak and Abu (2018)	This paper investigated the Technological Pedagogical and Content Knowledge (TPACK) domains of teachers when designing activities utilizing digital tools.	The findings demonstrated that the introduction of new input had improved the existing Technological Knowledge (TK) domain and contributed to its developmental progress.
23	Tazijan et al. (2017)	This study examined the efficacy of the flipped classroom approach in enhancing students' communication skills and abilities.	<p>The findings indicated that flipped learning positively impacted second language learners.</p> <p>The integration of in-class and out-of-class activities in education promoted student-centered learning, leading to the development of a positive attitude and behavior among students.</p> <p>The flipped classroom approach promoted active learning.</p> <p>Flipped learning has been shown to enhance students' verbal communication abilities.</p>
24	Danuri et al. (2017)	This study analyzed student engagement in writing instruction using the flipped classroom approach.	<p>The students expressed agreement that the flipped classroom approach motivated and encouraged them. The program inspired students to delve into various online materials, such as Padlet and Blendspace, to enhance their understanding and use them as valuable sources of reference.</p> <p>The flipped classroom approach offers an interactive way for students to complete writing assignments.</p> <p>The implementation of the flipped classroom approach has shown promise in actively involving students in the writing process, addressing their behavioral, emotional, and cognitive needs.</p>

RQ 3: Is the flipped classroom approach effective in language teaching and learning?

Table 5 presents a compilation of studies that specifically examined the effectiveness of implementing the flipped classroom approach in language teaching in Malaysia's schools and higher education settings.

Table 5

Effectiveness of Implementing the Flipped Classroom Approach in Language Teaching

No	Authors/Year	Dimension/ variable	Research Topic
1	Yau and Ayub (2022)	Effectiveness	The impact of flipped classroom instructional model in teaching English as a Second Language (ESL) among lower secondary pupils
2	Santhanasamy and Yunus (2022)	Effectiveness	The flipped learning and Blendspace to improve pupils' speaking skills
3	Idrus and Nasri (2021)	Effectiveness	<i>Keberkesanan kaedah flipped classroom terhadap kemahiran mengolah perenggan mudah dalam kalangan pelajar Tahun 1 luar bandar</i>
4	Shaari et al. (2021)	Effectiveness	Investigating the impact of flipped classroom on dual language learners' perceptions and grammatical performance
5	Masri and Mahamod (2020)	Effectiveness	<i>Keberkesanan kaedah flipped classroom dalam meningkatkan kemahiran mengolah isi karangan murid-murid sekolah rendah.</i>
6	Teo and Sathappan (2020)	Effectiveness	Using flipped classroom approach to teach adjectives for Malaysian Year 4 Chinese ESL learners
7	Yap and Yasin (2019)	Effectiveness	<i>Keberkesanan modul flipped classroom terhadap pencapaian Bahasa Jerman dan keterlibatan pelajar</i>
8	Tazijan et al. (2017)	Effectiveness	Building communication skills through flipped classroom

Yau and Ayub (2022) compared the effectiveness of the flipped classroom approach with traditional classroom teaching in enhancing the overall English language proficiency of secondary school students and to assess the perspectives of lower secondary students regarding their experience with flipped learning in ESL education. The findings indicated that the group that underwent the flipped classroom approach demonstrated higher scores than the control group in grammar, reading, and writing. Respondents expressed positive feedback regarding their learning experience with this approach.

Santhanasamy and Yunus (2022) also studied the use of the flipped classroom approach for teaching speaking skills in English to primary school students. Blendspace was utilized in this research to facilitate the implementation of the flipped learning technique, with the explicit goal of enhancing students' speaking abilities. The results demonstrated that employing Blendspace within a flipped classroom framework yields favorable outcomes in terms of pedagogy and significantly improves students' speaking skills.

Idrus and Nasri (2021) revealed that the flipped classroom approach helped first-year students improve their paragraph-processing abilities. The study demonstrated the effectiveness of implementing the flipped classroom approach for first-year students in enhancing their proficiency in organizing and processing Malay language essays. It is also in line with the study by Masri and Mahamod (2020), which examined the effectiveness of the flipped classroom method in developing mastery and performance in processing the content of Malay language essays. The study suggests that implementing the flipped classroom approach could effectively enhance students' mastery and achievement in writing skills. Furthermore, it positively contributes to improved academic outcomes by fostering a more advanced cognitive processing of the content within their essays.

Shaari et al. (2021) investigated the perceptions of dual language learners of the flipped classroom model for learning English tenses. The study evaluated their progress in acquiring English tenses through the instructional method. The results revealed that the respondents concurred that incorporating new information before, during, and after instruction helps students better understand English grammar. The survey participants also agreed that receiving thorough explanations from the teacher and obtaining feedback from their peers before the start of the class significantly improved their understanding of grammar acquisition. Furthermore, respondents indicated that engaging in group discussion activities contributed to their enhanced level of learning. The results also demonstrate a notable improvement in post-test scores following the implementation of the flipped classroom-based intervention program.

Meanwhile, Yap and Yasin (2019) studied the flipped classroom approach for university students learning German. Their research examined the impact and student involvement in using this approach. Students who followed the flipped classroom module showed a notable improvement in German language achievement. However, the findings of the study did not demonstrate a significant positive effect on German language achievement.

Teo and Sathappan (2020) examined the effectiveness of using the flipped classroom approach to teach adjectives to Year 4 Chinese ESL students in Malaysia. They investigated the perception of the flipped classroom approach among Malaysian Year 4 Chinese ESL students. The findings revealed a notable disparity in test scores between the participants in the experimental group who acquired knowledge of adjectives through the implementation of the flipped classroom approach and those who were instructed using the conventional teaching approach. According to the results of the post-test, the implementation of the flipped classroom method played a significant role in enhancing individuals' understanding and knowledge of adjectives. Research findings unequivocally demonstrate that the teaching of adjectives based on the flipped classroom approach is perceived positively by the study participants. Likewise, Tazijan et al. (2017) assessed the effectiveness of the flipped classroom approach on English communication skills among UiTM community students. The results indicate that students become more active speakers in the classroom after participating in flipped classroom-based teaching.

Discussion

Overall, past studies have found that the flipped classroom approach has been explored in various dimensions and has shown positive effectiveness in language teaching and learning. The meta-analysis data also indicate that while studies on the use of the flipped classroom approach are widely conducted in the context of Malaysian education, its implementation in the teaching of Malay, Tamil, and Chinese is comparatively lower than in teaching English.

Furthermore, the data also indicates that the use of flipped classrooms in language teaching is more commonly implemented in primary schools and at the higher education level, as opposed to secondary schools.

Conclusion

This meta-analysis reviewed trends, patterns, and variables involved in the practice of the flipped classroom approach in language teaching and learning. Furthermore, the analysis focused on the effectiveness of flipped classroom approaches in language teaching and learning. The findings revealed that flipped classroom method is effective and has positive implications for enhancing students' mastery of language learning. Research findings also indicate a significant difference in academic performance between flipped classroom learning and traditional classroom learning in several studies that investigate the effectiveness of implementing flipped classroom to enhance students' achievement in language learning. The flipped classroom model promotes student engagement, collaboration, and critical thinking by shifting the focus from passive instruction to active application and practice. However, it is crucial to acknowledge and overcome specific challenges to effectively execute the flipped classroom approach. Teachers should carefully plan and organize the flipped classroom model, ensuring that high-quality instructional materials are available to students outside the classroom. Besides, teachers may benefit from professional development opportunities to enhance their understanding of the flipped classroom approach and gain practical strategies for implementation. Attending workshops, conferences, and online courses focused on flipped learning can provide valuable insights and resources. The flipped classroom approach is not a one-size-fits-all solution and may require adaptation to suit language learners' specific needs and context. It is crucial to consider the diverse learning style and preferences of students and ensure that the flipped classroom model aligns with the overall language learning goals and objectives. By implementing the flipped classroom approach effectively and carefully, language educators can create a dynamic and engaging learning environment that fosters language acquisition and proficiency development.

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