Effectiveness of Video-Based Flipped Classroom on Students' English Achievements:
A Meta-Analysis

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Abstract
Today, flipped classrooms (FC) effectively blend traditional education with social networks, encompassing both in-class and out-of-class environments. The popularity of FC increased its research numbers in many particular contexts and medium. The study specifically focusses on video usage as FC' medium of learning. Therefore, the present study aims to evaluate the impact of using the video-based flipped classroom on EFL students' outcome of their English Language learning. Through a meta-analysis, the selected 41 research papers from 2019 to 2023, involving 988 students were analyzed. Employing a quantitative approach, the analysis examines various moderators, including subject, object, duration, context, tools, and interaction. Findings reveal that a medium-sized sample (21-40 students), two teaching models, and multiple tools enhance the impact of video-based flipped classrooms on English learning outcomes. The video-based flipped classrooms significantly improve English learning achievement (effect size = 0.552) in both productive and receptive skills. The duration of the video has no significant effect. Furthermore, FC with video proves suitable for secondary, high school, and university-level students. The study suggests further exploration of theoretical and practical implications for supporting students' English achievement in video-based flipped classrooms.

Keywords: Flipped Classroom, Flipped Learning, Video-Based Learning, ELT

Introduction

Flip Classroom (FC) pedagogy leads the growing educational shift through technology due to its contribution to suiting 21st-century education needs. FC concept, which characterizes learner autonomy, allows students to study new material through watching online videos, reading passages, and fulfilling online quizzes using technological aids (computer, mobile phone, tab, etc.) outside the classroom (Han, 2022; Lee & Wallace, 2018). In this concept, the classroom form encourages the teacher to design hands-on activities to activate the student's knowledge gained from online teaching. The records from previous studies mentioned that the new paradigm Flipped Classroom (FC) Model is slightly different from conventional education.

The process of FC directs the two-design learning process. Teachers transfer material, theory, and knowledge from home online through various media. Following the process, the students receive the material online. In the classroom section, they were invited to confirm their knowledge with peers and teachers and forced to do some exercises to get an optimal understanding of the material. FC has recognized its valuable benefits, such as letting students study materials whenever and wherever they want (Bishop & Verleger, 2013), helping students learn more about the course material (Gaughan, 2014), improving students' critical thinking and problem-solving skills (Fautch, 2015), making sure students are ready for class (McCallum et al., 2015), and using class time for active learning and getting students more involved in the class.

In the context of FC, studies claimed that the use of flipped classes in the educational process implementation has a beneficial effect on the learning process, such as enhancing a lively learning environment and raising student achievement levels in the classroom (Hew et al., et al. 2021; Hew et al., et al. 2021; Shahnama, 2021). However, numerous studies have documented the FC shortcomings. Discovered that the students' lack of preparation affected their efficacy. They are quickly irritated when watching videos or other content (Nguyen et al., 2019). Additionally, the student's motivation is more important in creating an exciting environment for FC (Wang, 2017). Monitoring students' understanding and comprehension while they engage in learning activities outside the classroom and providing feedback that meets their needs is another factor contributing to FC's reduced efficacy (Milman, 2012). Nonetheless, numerous types of research have documented the FC's shortcomings.

One of the suggested learning materials to make online learning more effective, especially in the flipped classroom, is integrating video lectures or video-based material before in-class activities (Naffi et al., 2020). According to Hwang et al. (2015), the video can help students engage in self-learning. For example, these videos can be created independently or accessed through social media by the teacher. Further, video-based learning serves as a medium that activates both students' auditory and visual senses (Amer, 2022). The essential aspect of implementing flipped classrooms lies in developing video-based learning materials intended for students' engagement outside the traditional classroom or in a class setting. Thus, video-based learning entails capturing live visuals to effectively deliver educational content, enabling students to attain their learning objectives, especially in fostering students' achievement.

In the k12 education context, FC has encouraged many researchers to examine its practice effectiveness. Prior meta-analysis studies are addressed (Hew et al., et al. 2021; Hew et al., 2021; Njie-Carr et al., 2017; Santhanasamy & Yunus, 2022), but there are two key findings

from those studies. First, few studies have compared the effectiveness of FC, specifically that video was used in the outside classroom to traditional classes in learning new languages, particularly English. It becomes significant because giving students plenty of exposure and practice time while they are learning English is crucial. This approach can help students receive more in class.

Moreover, video use has been proven to give students more exposure and motivation to learn. Second, some moderator variables in the application of FC should have been addressed in previous studies. It results in a need for more thoroughness. More variables will be used in the current meta-analysis, including all studies conducted from 2019 to 2023.

According to Sung, Yang, & Lee (2017), student achievement usually utilizes standardized tests to assess how well students have learned or applied their knowledge, typically used to gauge learning achievement. In English language teaching, the student's language achievements focus on language proficiency and mastery of receptive and productive language skills. The standardized examination can be in several forms: performance evaluations, oral interviews, writing assignments, and classroom observations can assess language achievement, including students' listening, speaking, reading, writing, grammar, vocabulary, and pronunciation skills.

This meta-analysis study aims to synthesize the impacts of video-based flipped classes in an ELT context. The study seeks to address the following research questions: (a) In the context of English Language Teaching, what is the overall impact of the video-based flipped classroom approach? (b) What outcome variables most impact the size of the measurable flipped classroom effect? Moreover, (c) Are there any effects of the flipped classroom technique influenced by the characteristics or factors of the research? The current research is significant in discovering the capability and areas of video-based flipped learning in ELT, which draws theoretical significance for lecturers, higher education stakeholders, and other educators.

Literature Review

The Trend of Video-Based Flipped Classroom (FC)

To gain the meaning of literature of video-based FC, the term of Flipped Classroom (FC) approach should be discussed first. FC is a model of learning inverts the traditional classroom by including pre-class time, then followed by in-class section that promote students' active, innovative, practical learning activities. Abeysekera & Dawson (2015) pointed out that FC is a "set of instructional methods that (1) shift most information-transmission teaching outside of class; (2) use class time for learning activities that are active and social; and (3) demand students to finish pre- and/or post-class activities for maximum benefit from in-class work".

In the outside class activities, many teachers preferred to utilize video or other media (Han 2022; Lee and Wallace 2018; Öztürk and Çakıroğlu 2021). Their decision is in line with several favor of FC model, such as improving student academic performance and other beneficial elements of education. Despite its advantages, several weaknesses on using FC in pedagogical context are found, such as lack of access to recourses, technological issue, self-regulation and motivation, students' workload.

Videos used in outside-class FC are proven effective tools for learners, providing a comprehensive understanding and the ability to apply acquired knowledge in various contexts. To promote interactive learning, teachers can supplement traditional resources with video materials, enabling students to engage at their own pace and enhance face-to-face interactions (Onojah et al., 2019). Therefore, incorporating self-learning video lectures in the FC setting, have shown positive learning outcomes, in which allowing students autonomy and a solid foundation for in-class activities (DeLozier & Rhodes, 2017). Moreover, videos also contribute to student engagement, especially when combined with in-person teaching (Brame, 2016; Noetel et al., 2021). Active learning through videos encourages critical thinking and problem-solving (Niemi, 2002), optimizing class time for interactive discussions (Sams & Bergmann, 2013).

English Language Achievement

The term "English Language Achievement" describes a person's level of achievement or skill in using the English language. It includes a variety of abilities such English speaking, writing, listening, and reading. English language proficiency is usually assessed by tests, evaluations, or assessments that gauge a person's language proficiency and mastery of English grammar, vocabulary, comprehension, and communication skills. It is frequently used to assess someone's proficiency in English as a second language or as a foreign language and may be crucial in a variety of contexts, including social, professional, and educational ones (Kintan, 2022). In this study, the language skills are delivered in the form of flipped learning where students can could enhance the skill both inside or out class activities with various mode that utilized by their English teachers, especially video.

Meta-Analysis

Meta-analysis refers to a statistical technique used to combine and analyze the results of multiple independent studies on a particular research query or topic. In ber book, Retnawati et al. (2018) cited that meta-analysis involves meticulously reviewing and synthesizing data from multiple studies in order to draw broader conclusions and more precise and reliable estimates of the investigated effects or relationships. The primary purpose of meta-analysis is to provide a comprehensive and objective summary of previously conducted research. It allows researchers to increase the sample size, which enables the identification of consistent patterns and trends across studies. It also aids in revealing the extent, direction, and consistency of effects. The last, meta-analysis can resolve controversies and inconsistencies: when individual studies produce contradictory or inconsistent results. Thus, since numerous studies existed in the context flipped classroom, the researcher intended to find the precise and reliable finding the effectiveness video-based on English Language Achievement.

Methods

This study utilizes a quantitative research approach with a meta-analysis design to achieve its objectives. The main goal is to determine the significance of the average impact of the Video-based flipped classroom (FC) on English learning achievements. Meta-analysis allows for an overall examination of the effect size of FC on English learning achievements by analyzing the results of previous studies using statistical methods.

The research data for this study was obtained from Publish or Perish, a software that provides relevant references. This application aids researchers in retrieving and analyzing relevant

studies in a comprehensive and concise manner, offering a systematic approach to literature review. In Publish or Perish, the researcher selected Google Scholar, and Scopus as filtering sources due to their accessibility. These two platforms were chosen because the researcher could open and access them.

Inclusion and Exclusion Criteria

In this meta-analysis, a thorough set of inclusion and exclusion criteria was created. According to Table 1, each publication in this study focused on using flipped classroom approaches to teach English in any skills. All of the articles were authored in English and published between 2019 and 2023. The studies also compared the flipped classroom with traditional teaching strategies using quasi-experimental and experimental study designs. Both between- and within-subject comparisons were used to quantify the student learning outcomes. Articles that provided thorough data (mean, standard deviations (SD), sample size, and associated inferential statistical test values like t-value) to compute effect sizes were also taken into account. Studies were considered as valid if the learning or behavioral outcomes for the experimental or observational groups were quantified and precisely described.

Table 1: Studies Criteria

Criteria	
Learning content	Flipped Classroom (FC) for English Language Teaching
Language	English
Timeframe	Published between 2019-2023
Literature type	Peer-reviewed articles & conferences and proceedings
Research design	Experimental, quasi-experimental
Implementation	Flipped classroom
Accessibility	Both open access articles and library repositories offer full texts.
Research outcomes/results	Clearly stated educational results

Identification and Selection of Articles

There are three phases in the stage of identification and selections of the articles. Firstly, to make sure they were pertinent to flipped classroom in English Language Teaching (ELT) context, the titles and abstracts were screened by the researcher. Secondly, review articles, thesis/dissertation, and the articles that reported other discipline beside ELT were excluded. Therefore, all selected studies move in to Microsoft Excel spreadsheet. Thirdly, duplicates studies were also excluded (See Figure 1).
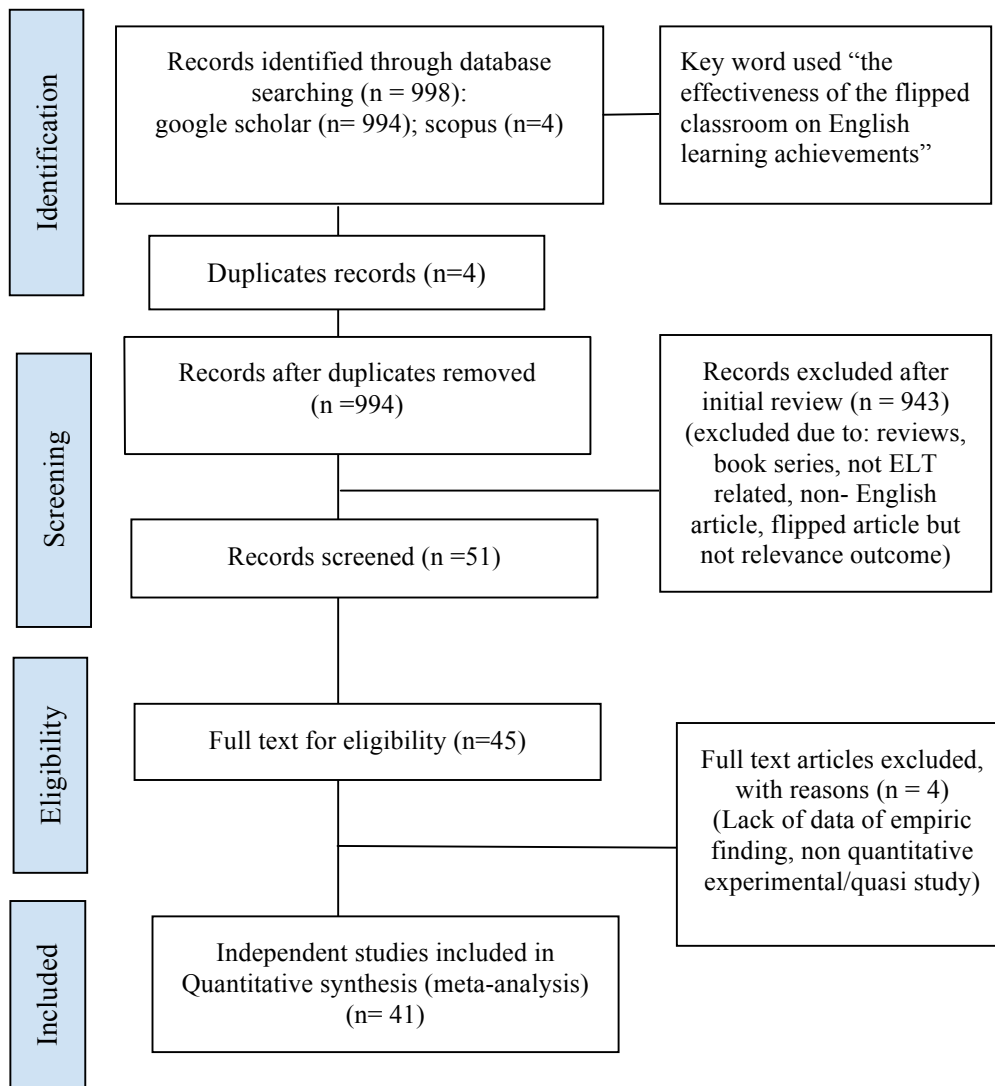
Figure 1: Prisma Data Selection

The keyword used in the search was "the effectiveness of the flipped classroom on English learning achievements". In the initial search, a total of 994 articles were downloaded from Google Scholar, and 4 articles were obtained from Scopus, within a limit of 1000 articles. After excluding irrelevant articles, duplicates, papers lacking conceptual similarity, and studies that did not report English language achievement, subject, objectives, rules and context, interactions, and tools, as well as those without sufficient statistical information, a final selection of 41 studies were made for this meta-analysis research. These articles specifically addressed English learning achievements in the flipped classroom setting and implemented experimental methodologies.

Statistical Analysis: Meta-Analysis

A meta-analysis study must follow certain procedures in order to produce the evidence needed to respond to the study's research questions. The impact of flipped classrooms (FC) in enhancing students' English learning achievement is examined in this meta-analysis. In order to establish the explanation for the significance, the support of variable moderators in each study included in this analysis is important.

The procedures of conducting a meta-analysis are clearly discussed by When conducting a meta-analysis that employs study parameters in the form of means, researchers must consider whether each study measures variables on the same scale. The standard error of the effect size for the same size across studies and different formulas. The application utilized in this stage is software. This study's meta-analysis utilizes artifacts or studies on variables with the same scale. The effect size—the average score of certain variables that are the focus of each study—is taken as the mean in this meta-analysis. In this study, the effect size calculation that will be used is Hedges'g because it has an inbuilt correction for bias when the sample size is small.

Results and Discussion

In this section, the findings of the study including effect size & standard error, overall effect size, forest plot, heterogeneity test, and variable moderators are presented.

Effect Size and Standard Error

The first result analysis in the openMEE analysis is the result display standard error (SE) and effect size (ES) calculation. The two calculations are presented below:

Table 2: Study Identity, Effect Size and Standard Error

	Study Identity	ES	SE		Study Identity	ES	SE
1	(Al-Jarrah et al. 2021)	1.405	0.100	22	(Vaezi 2019)	0.014	0.051
2	(Al-Jarrah et al. 2021)	0.064	0.080	23	(Alkhoudary and AlKhoudary 2019)	0.027	0.080
3	(Daulay 2021)	2.882	0.102	24	(Alkhoudary and AlKhoudary 2019)	-1.351	0.123
4	(Etemadfar, Soozandehfar, and Namaziandost 2020)	1.668	0.135	25	(Alsamadani 2022)	1.174	0.107
5	(Lin and Hwang 2018)	0.593	0.080	26	(Ahmed et al. 2022)	2.156	0.105
6	(Liu, Sands-Meyer, and Audran 2019)	-0.797	0.086	27	(Jalili, Khalaji, and Ahmadi 2020)	0.011	0.155
7	(Khadjieva, I., 2019)	-0.031	0.067	28	(Khabir, Fazilatfar, and Razmi 2022)	1.582	0.115
8	(Shooli 2022)	1.612	0.066	29	(Khooban et al., n.d.,2022)	0.005	0.133
9	(D Umutlu and Akpinar 2020)	0.623	0.128	30	(Nhac 2022)	-4.152	0.210
10	(D Umutlu and Akpinar 2020)	0.786	0.120	31	(Singh and Harun 2021)	1.287	0.060
11	(D Umutlu and Akpinar 2020)	1.105	0.122	32	(Singh and Harun 2021)	1.749	0.069
12	(Umutlu& Akpinar, 2020a)	0.950	0.127	33	(Mubarok, Cahyono, and Astuti 2019)	0.642	0.073
13	(D Umutlu and Akpinar 2020)	0.729	0.111	34	(Mubarok et al. 2019)	1.315	0.157
14	(Duygu Umutlu and Akpinar 2020)	0.714	0.118	35	(Mubarok et al. 2019)	1.144	0.173
15	(Duygu Umutlu and Akpinar 2020)	0.655	0.129	36	(Abedi, Keshmirshekan, and ... 2019)	0.031	0.125
16	(D Umutlu and Akpinar 2020)	1.403	0.138	37	(Öztürk and Çakıroğlu 2021)	0.447	0.084
17	(Umutlu & Akpinar, 2020)	0.787	0.114	38	(Öztürk and Çakıroğlu 2021)	1.015	0.092
18	(Umutlu & Akpinar, 2020)	0.291	0.116	39	(Öztürk and Çakıroğlu 2021)	0.625	0.086
19	(D Umutlu and Akpinar 2020)	0.474	0.106	40	(Öztürk and Çakıroğlu 2021)	0.737	0.087
20	(D Umutlu and Akpinar 2020)	0.415	0.114	41	(Öztürk and Çakıroğlu 2021)	0.976	0.091
21	(Vaezi 2019)	0.019	0.051				

Mean Effect Size

In this present study, a random test of effect model was utilized to calculate the mean effect size of the forty-one studies.

Table 3: Coefficients or Mean Effect Size

Coefficients

	Estimate	Standard Error	z	p	95% Confidence Interval	
					Lower	Upper
intercept	0.552	0.169	3.265	0.001	0.221	0.884

Note. Wald test.
*r=0.1 (low); r=0.3 (medium); r=0.5 (high) (Cohen, 1988)

The outcome of the video-based FC paradigm on English learning achievement may be evaluated from Table 3. 0.552 is the estimated coefficient. For a learning process to be successful, a score of 75 is required (Candra & Retnawati, 2020; Retnawati, 2014). We can infer that the estimate coefficient has not gotten to the required level. It is not 75 or more. This indicates that the flipped classroom approach is not having a significant influence on the English model (Candra & Retnawati, 2020; Retnawati, 2014).

Forest Plot

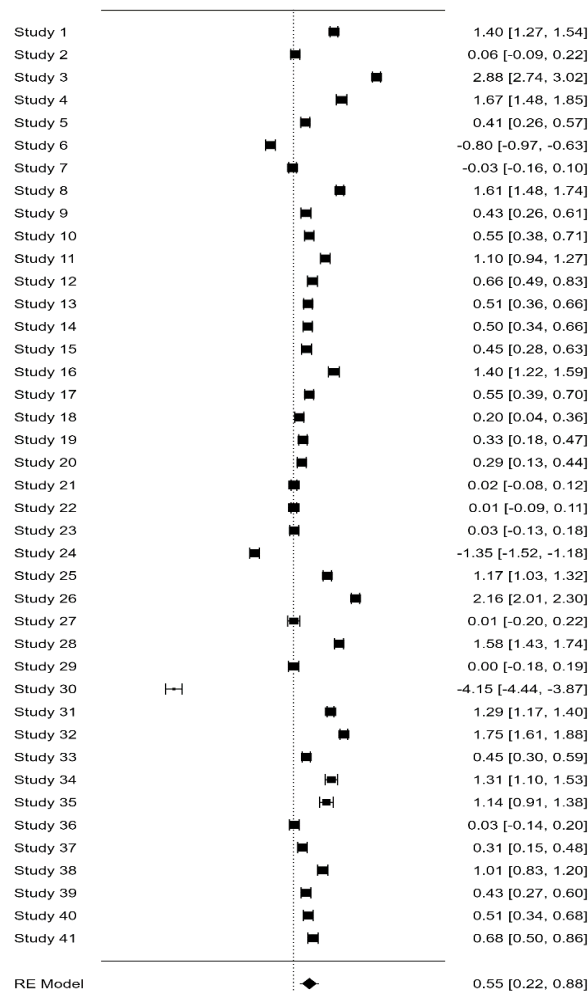|	
Study 1	1.40 [1.27, 1.54]
Study 2	0.06 [-0.09, 0.22]
Study 3	2.88 [2.74, 3.02]
Study 4	1.67 [1.48, 1.85]
Study 5	0.41 [0.26, 0.57]
Study 6	-0.80 [-0.97, -0.63]
Study 7	-0.03 [-0.16, 0.10]
Study 8	1.61 [1.48, 1.74]
Study 9	0.43 [0.26, 0.61]
Study 10	0.55 [0.38, 0.71]
Study 11	1.10 [0.94, 1.27]
Study 12	0.66 [0.49, 0.83]
Study 13	0.51 [0.36, 0.66]
Study 14	0.50 [0.34, 0.66]
Study 15	0.45 [0.28, 0.63]
Study 16	1.40 [1.22, 1.59]
Study 17	0.55 [0.39, 0.70]
Study 18	0.20 [0.04, 0.36]
Study 19	0.33 [0.18, 0.47]
Study 20	0.29 [0.13, 0.44]
Study 21	0.02 [-0.08, 0.12]
Study 22	0.01 [-0.09, 0.11]
Study 23	0.03 [-0.13, 0.18]
Study 24	-1.35 [-1.52, -1.18]
Study 25	1.17 [1.03, 1.32]
Study 26	2.16 [2.01, 2.30]
Study 27	0.01 [-0.20, 0.22]
Study 28	1.58 [1.43, 1.74]
Study 29	0.00 [-0.18, 0.19]
Study 30	-4.15 [-4.44, -3.87]
Study 31	1.29 [1.17, 1.40]
Study 32	1.75 [1.61, 1.88]
Study 33	0.45 [0.30, 0.59]
Study 34	1.31 [1.10, 1.53]
Study 35	1.14 [0.91, 1.38]
Study 36	0.03 [-0.14, 0.20]
Study 37	0.31 [0.15, 0.48]
Study 38	1.01 [0.83, 1.20]
Study 39	0.43 [0.27, 0.60]
Study 40	0.51 [0.34, 0.68]
Study 41	0.68 [0.50, 0.86]
RE Model	0.55 [0.22, 0.88]

Figure 2: Forest Plot

The size of the effect size aggregation is shown by the location of the diamond at the bottom, whose area represents the whole area of the total weight of each study (Retnawati, H.; Apino, E.; Kartianom; Djidu, H.; Anazifa, 2018). From the forest plot of the present study, the study no 2 is the largest confidence, it is the study from Al-Jarrah et al. (2021). The study no 2 analyzed secondary students' grammar using FC setting. Furthermore, the smallest confident interval is the study number 30 from Nhac (2022)' experiment which utilized 15 minutes video to teach students vocabulary using video-based FC.

Heterogeneity Test

Table 4: Heterogenity Test

Fixed and Random Effects			
	Q	**df**	**p**
Omnibus test of Model Coefficients	10.657	1	0.001
Test of Residual Heterogeneity	5291.055	40	< .001

Note. p -values are approximate.
Note. The model was estimated using Hedges method.

The Q statistics value obtained for the Residual Heterogeneity test from Table 3 is 5291.055 with df (k - 1) = 40 and p-value < 0.001. This outcome invalidates the H0 hypothesis that the data is homogeneous. Retnawati, H.; Apino, E.; Kartianom; Djidu, H.; Anazifa (2018) based it on the crucial criteria for the rejection area; H0 is rejected if the p-value 0.05 with a significance level of 95% (=0.05). The data is heterogeneous because H0 is discarded.

Variable Moderators

The results of the data analysis in the heterogeneity test are caused by variable moderators. There five variables in this study: subject, objectives, rules, context, sources. The research gathered are categorized using the variable moderators. The variable moderators and their inclusion in the current meta-analysis are detailed in greater detail in Table 4. The heterogeneous studies included in this meta-analysis are due to several sub-dimensions typically included in video-based FC, which the variable moderators cause. These are the potential moderator variables that could be utilized to distinguish between each finding of FD on the video-based flipped classroom investigation. Additionally, that data is necessary to investigate the precise impact of FC in a meta-analysis study.

Table 5: Variables Moderator

Dimension	Sub dimension	Coding Scheme	n/Percentage
Subject	Sample size	Small 1-20	46.3
		Medium 21-40	53.7
		Big 41-60	0
	Level	Primary	4.9%
		Secondary	9.8%
		Varsity	85.4%
Objectives	Result of Learning domain	Integrated	13.9%
		Per-skill/component	86.1%
	Skills Type	Recitative skill	40.5%
		Productive skill	42.9%
		Recitative & Productive skills	16.7%
Rules	Video duration	Short (1'-10')	7.3%
		Medium (10'-30')	48.8%
		Long (30'-50')	2.4%
		Unidentified	41.5%
	Video play tool	Social Media	19.5%
		CD/FD	7.3%
		LMS/ Web-based	43.9%
		Unidentified	29.3%
	Video sources	YouTube	48.4%
		Self-Produced	16.1%
		Other Sources	19.3%
		Self-Produce &YouTube	9.7%
Context	Country	Asian	97.6%
		Europe	2.4%
Sources	Publication Type	Scopus	7,14%

The high confidence interval was a medium sample size to deal with the subject variable. Studies with a smaller sample size demonstrate a stronger effect than those with a larger sample size. This may be because relatively few studies have used small sample sizes. This study also discovered that the biggest impact size was associated with a medium sample size. The fundamental explanation is that fewer sources of variation are present in a small sample size, which results in a greater effect size (Slavin et al., 2009). Then the varsity subject also got the strongest effect.

This table presents the distribution of data across different dimensions and sub-dimensions, along with the corresponding coding schemes and percentages. The discussion for each dimension and sub-dimension:

In term of subject, the sub-dimension namely sample size found that the majority of the sample size falls within the medium range (21-40), accounting for 53.7% of the total, while a smaller portion falls within the small range (1-20) at 46.3%. There are no cases in the big range (41-60).

For the level dimension, its data indicates that the Varsity level dominates with 85.4%, followed by Secondary with 9.8% and Primary with 4.9%.

In addition, the objectives dimension, particularly result of learning domain: the distribution shows that 86.1% of the data is related to per-skill/component, while the rest (13.9%) is

integrated learning domain. In the same dimension, the skills type data is divided into recitative skill (40.5%), productive skill (42.9%), and a combination of both recitative and productive skills (16.7%). Regarding objective variables, teaching English per skill, not integrated skills, was determined as the largest effect size. This result may be caused by the fact that the appropriate implementation of the flipped classroom will be effective in each domain of learning outcomes, whether viewed as a whole or by skill/competency.

Next is about the rules used in the studies. First sub-dimension is the video duration in FC classroom data, which indicates that the majority of the video duration falls within the medium range (10'-30') at 48.8%, followed by short (1'-10') at 7.3%. A significant portion is unidentified (41.5%). In sub-dimension video play tool, the LMS/Web-based is the most commonly used video play tool, accounting for 43.9%, followed by Social Media (19.5%), and CD/FD (7.3%). A considerable portion is unidentified (29.3%). Further the video Sources data found that YouTube is the predominant video source at 48.4%, followed by self-produced sources at 16%. Therefore, the medium-length video duration that utilizes a web-based Learning Management System (LMS) as the media and YouTube as a video resource statistically got their highest interval confidence in each category.

The findings also indicate that the video-based FC method for teaching English has the greatest effect size in Asia. This is because Asian countries must adopt student-centred learning for teaching English as a foreign language. In line with the findings of Zheng, Bhagat, Zhen, and Zhang's meta-analysis (Zheng et al., 2020), the meta-analysis is more significant in some developing countries because it can facilitate learning in these nations.

This breakdown provides a detailed insight into the distribution and percentages within each dimension and sub-dimension, offering valuable information for analysis and decision-making.

Bias Publication

This test is carried out to determine whether the data that has been collected can be used as a representative sample of its population or not by looking at representative sample of the population or not by looking at whether the funnel plot shows a symmetrical or asymmetrical shape, whether the funnel plot shows a symmetrical or asymmetrical shape. The test publication bias test is carried out with the funnel plot in the following figure.
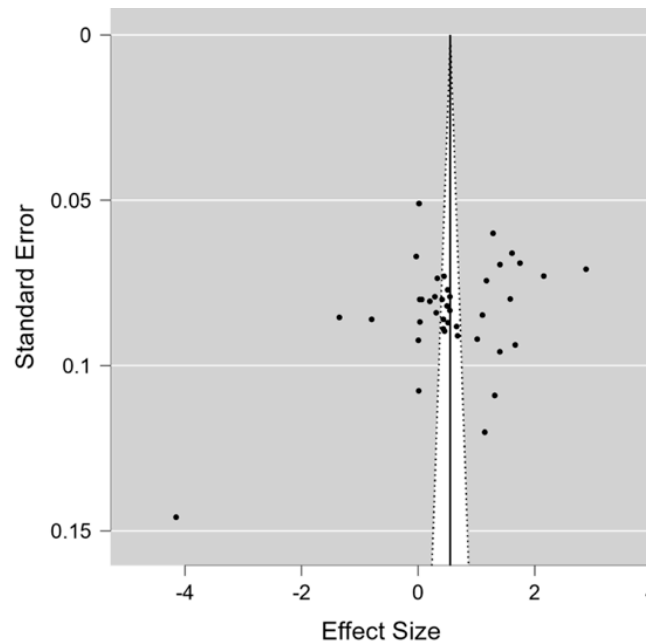
Figure 3: Effect Size

From figure 2, it can be seen that the distribution of the data was even. Therefore, it may be said that this publication is impartial. In other word, funnel plot result shows that the 41 studies are not biased, or in other words, that they are valid, based on the results of several tests designed to detect biased publications. Providing English learning inclusion strengthens the conclusion of the meta-analysis that the flipped classroom is demonstrably effective for enhancing students' English learning achievement.

Conclusion and Suggestion

The present meta-analysis study provides evidence of substantial gain in the effectiveness of video-based flipped classrooms on English learning achievement. The achievement found comes from the positive effect of the video-based flipped classrooms and several moderator variables. This study found that 41 studies included argued that the video-based flipped classroom model has a high effect size on English learning achievement for g = 0.552, in terms of all English skills, both productive and receipted skills. The data also show that the success of flipped classrooms is affected by seven moderator variables from activity theories. The moderators found that Video FC is effective when the class have a medium sample size and teaches productive and component skill. It is also argued that using videos formed in medium length, utilising web-based or social media in playing and taking from YouTube as a resource to learn are factors with moderated effect sizes.

The results of this study provide insight that can be implemented in the following English-learning flipped classroom, especially regarding video material. The findings also strengthen and validate the learning activities during online or hybrid forms, which halted all academic pursuits. This model can be used as a learning method for English lessons. This opportunity can be used to instruct students to master material before the actual class, in-class, or online applications due to students' greater access to technology and information at home. Implementing a reversed classroom will inevitably result in more efficient time spent learning material. This model aids in the process of learning. In addition, English is a subject that requires extensive practice. The benefits of flexible classrooms encourage English language acquisition.

Recommendations are made for the next researcher to increase the years covered to obtain more complex findings and analyses. The moderator variables may differ according to the requirements of each researcher. Further, for future studies, it is suggested to explore more theoretical and practical implications of video-based flipped classrooms supporting students' English achievement. Additionally, the study recommends testing other variables' influence on the success of the flipped classroom and addressing the shortcomings of the flipped classroom, such as students' lack of preparation, motivation, and understanding while engaging in learning activities outside the classroom. Furthermore, future research could compare the effectiveness of the flipped classroom with traditional classes in learning new languages, particularly English, and address the need for more thoroughness in addressing moderator variables in the application of the flipped classroom. The study's findings provide valuable insights for educators, researchers, and policymakers, and future research in this area could contribute to the ongoing development of effective teaching methods in English language education.

Acknowledgements

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