Exploring the Perspectives and Challenges of Flipped Learning in Malaysia: A Narrative Review

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ABSTRACT

This study critically examines the complexities of flipped classroom implementation within the Malaysian educational context, highlighting both its potential and the persistent challenges that hinder its effectiveness. Through a narrative literature review of 28 studies, the analysis reveals that while educators and students recognize three key benefits—enhanced active and independent learning, increased engagement and motivation, and improved academic performance—these advantages are often overshadowed by significant obstacles. The findings expose critical gaps, including educators' insufficient technological expertise and resources, time constraints, and the unsustainable workload required for content creation and delivery. The study underscores the urgent need for systematic teacher training, stronger institutional and parental support, and sustained research to bridge these gaps. Furthermore, it argues that existing discussions on flipped learning remain fragmented, often overlooking the broader structural and socio-cultural barriers that influence its success. A more integrated, multi-stakeholder approach—encompassing administrative, parental, and societal perspectives—is essential to developing a more effective and contextually relevant flipped classroom model in Malaysia.

Keywords: Flipped Learning, Flipped Classroom, Active Learning

INTRODUCTION

The 7th shift of the Malaysian Education Development Plan (2013-2025) prioritises the utilisation of Information and Communication Technology (ICT) to enhance the standard of education in Malaysia. The swift advancement of technology has sparked revolutions in the realm of education, as the utilisation and incorporation of ICT has commenced to be used in the educational institutions. The transition phase has resulted in the restructuring of teaching in the classroom, with the exploration of different teaching methods to guarantee that teaching and learning remain enjoyable and fulfilling (Halili & Sulaiman, 2018). Mustafa and Salleh (2019) suggest that a technology-based teaching strategy can be used as an alternative to traditional teaching methods, and it has been found to have a good impact on the teaching and learning process. One of the current trends in the educational landscape is flipped classroom.

Figure 1: The comparisons between traditional classroom and flipped classroom
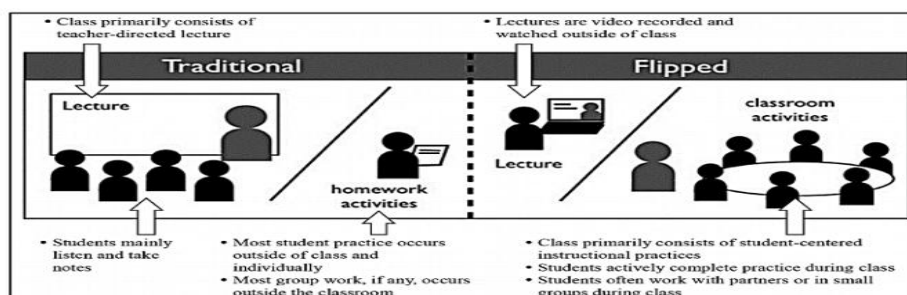
Source: (Dove and Dove, 2015, p. 169) https://www.researchgate.net/figure/A-comparison-of-the-traditional-classroom-and-the-flipped-classroom-approaches-Dove_fig3_337113856

The concept of flipped classroom was made famous by Bergmann and Sams in which online resources were utilised for the purpose of reviewing. These two Chemistry educators from Colorado utilised podcasts as a means of recording instructional content for their students who were unable to attend class or were experiencing difficulties in keeping pace with the lessons. The classroom was transformed into a space that encouraged collaborative learning, investigated advanced themes and facilitated problem-solving (Tucker, 2012). This method is inverted from the traditional instructional approach, which involves students listening to a lecture during class and subsequently addressing issues outside of class. In contrast, flipped classroom requires learners to study the materials prepared by the teachers before coming to class for instance online materials and the time in the classroom is dedicated to more meaningful learning activities such as discussion, presentation and case studies. Thus, it is recommended that the technical infrastructure, notably high-speed Internet, be strengthened in order to effectively adopt flipped learning. Additionally, students should be encouraged and motivated to study using a variety of sources and course contents that are given online. Given the nature of today's generation, which has grown up in a technologically dominated society, this new class setting is thought to be relevant and pedagogically practical to students' behavioural patterns, mindsets and expectations horizon.

Flipped classroom has been gaining traction in many countries, therefore many researchers have explored teachers' and students' perceptions towards this model. Abdelrahman et al., (2017) and Goedhart et al., (2019) studied the outcome of flipped classroom respectively in Sudan and Netherlands and both studies show it enabled students to have better understanding of the lesson. When it comes to the implementation of flipped classroom strategies, comparing the findings of worldwide studies with the context of Malaysia might be helpful in identifying best practices and potential problems. However, according to Rahman et al., (2020), the studies conducted on flipped learning in Malaysia are relatively low compared to the studies conducted around the globe. Below is the number of flipped learning classroom studies published by countries, considering only the nationality of the primary author of each publication (Hwang, 2019). The figure illustrated shows that United States (433) was leading and followed by China (106), Taiwan (65), Australia (57) and South Korea (45) respectively. Malaysia was ranked at 10th place with 27 studies reported. However, it is essential to keep in mind that these statistics are from 2019 and changes have occurred since then. Furthermore, additional research has been carried out on this subject, which would provide additional perspectives and insights with regard to the subject matter.

Figure 2: The number of flipped learning studies published by individual countries or regions

Source: https://www.tandfonline.com/doi/full/10.1080/10494820.2019.1667150
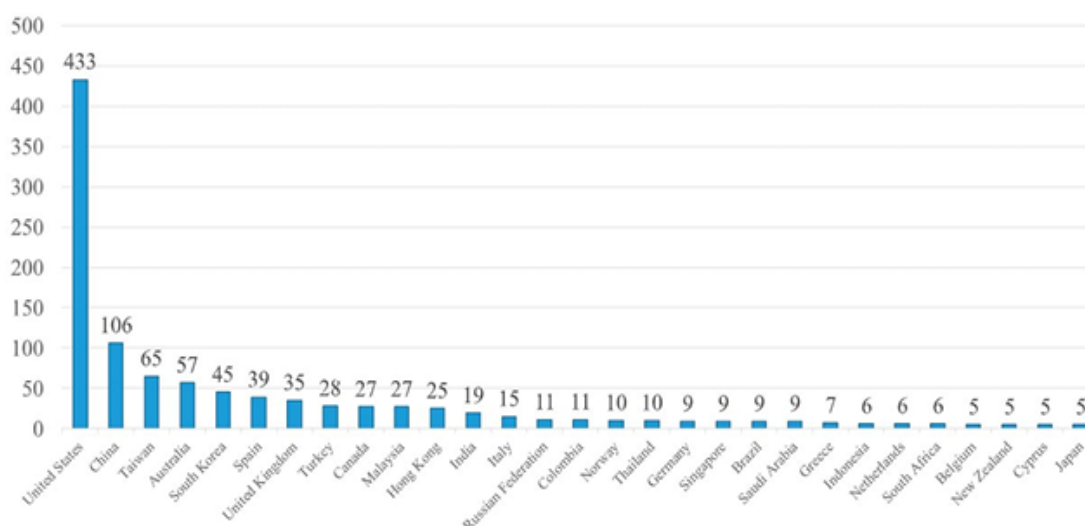
Gaining insights from both instructors and students is essential for a full assessment of the success and practicality of flipped classroom implementations. The challenges, if not addressed, will impede the efficiency of the teaching and learning process. This paper provides valuable insights for educators and policymakers, enabling them to make informed decisions and develop customised strategies to enhance the integration of flipped learning in Malaysian education.

METHODOLOGY

A narrative review was conducted in this study, focusing on studies published between 2016 and 2023, as this was the period during which flipped classroom became widely implemented in practice in Malaysia. The primary aim was to explores the dual perceptions from both teachers and students' point of view regarding flipped classroom in Malaysia, encompassing the benefits and also the obstacles faced in implementing. Relevant studies were identified through keyword searches in databases such as SCOPUS, Clarivate, Google Scholar, and My CITE. The search terms included 'flipped classroom', 'flipped learning', and 'flipped'. Among these, 135 studies were gained, but only 28 studies were included for meeting the inclusion criteria.

FINDINGS

This section looks into the subtleties of flipped classroom within the context of Malaysia, analysing both the viewpoints of educators and students, as well as the problems that are experienced in the process of executing it. Through the data analysed, it was found that teachers and students each attributed three major themes to the benefits of flipped classroom, and two major themes associated with challenges of implementing flipped classroom.

Flipped classroom in Malaysian context

Malaysia has traditionally utilised blackboards and textbooks as instructional tools in classrooms for a significant period of time. With the increasing prevalence of technology at both local and global levels, numerous educational institutions in Malaysia have begun incorporating ICT into the classroom environment, in accordance with 21st century learning. This integration aims to foster students' engagement and enthusiasm during lessons. In order to cater to the demand of the Ministry of Education which has been strongly advocating the implementation of 21st century learning since 2013, teachers nowadays must adopt a new framework for teaching and learning that is very different from what they are accustomed to. The teachers must acquire new skills such as effectively using technology to enhance learning, fostering students' critical thinking abilities and promoting collaborative and self-directed learning. The teaching of key subjects in the 21st century requires a clear combination of learning methodologies, digital competences and job abilities (Fandino, 2013; Begum & Liton, 2018). The flipped classroom approach is a critical initiative that is designed to address the revolution of the educational landscape. This pedagogical shift represents a departure from conventional teaching methods, as it encourages learners to interact with instructional content outside of regular class hours, frequently through digital platforms, and to reserve in-class time for interactive and application-oriented activities. According to Chun and Sathappan (2020), the flipped classroom is characterised by a change in the roles of learners and teachers. In this approach, learners take responsibility for their own learning, while teachers offer advice and support to the learners. Even though flipped classroom is now implemented across Malaysia including primary, secondary and tertiary educational institutions, continuous assessment and studies regarding this need to be conducted in order to gather the views of the stakeholders and combat the issues that arise to ensure maximum effectiveness in both short and long run of its implementation. A study on the flipped learning was conducted by Danker (2015) in order to explore the concept of deep learning in extensive classroom settings of Performing Arts students at Sunway University, Malaysia. The participants were presented with a video to watch as part of their assignment. For the duration of the class, the lecturer was present to provide assistance to the students. According to the finding's, flipped learning was able to convert a huge classroom into a single setting that is conducive to active learning for the tertiary education students. Furthermore, students were provided with the opportunity to receive individualised feedback while they are in the classroom. Speaking from the point of view of primary school and given the tender age of primary students, how effectively can they benefit from the flipped classroom approach? Despite their young age, research suggests that even primary school children can gain advantages from this method. As flipped classroom is applicable regardless of varying disciplinary and education levels, primary school teachers across Malaysia also adopted this approach, even though it is not heavily used compared to the university levels. Research by Yunus and Santhanasamy (2022) shows that through the use of Blend space as the medium of flipped classroom, Year 3 primary school students' English-speaking skills were improved and they were more motivated to practise speaking inside and outside of the classroom. The figure below shows that by creating a welcoming space, the flipped learning method encourages students to speak English even when they aren't fluent in the language.

Figure 3: Mean scores and the standard deviation of pupils' interaction through flipped learning

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Interpretation
Flipped learning increases my interest to speak in English	0	3 7.5	4 10	21 52.5	12 30	4.0500	Agree
I can practice speaking skills at my own pace.	0	1 2.5	11 27.5	20 50	8 20	3.8750	Agree
I can interact more with my friends	0	1 2.5	14 35	12 30	13 32.5	3.9250	Agree
I am more confident to speak in English	0	0	17 42.5	11 27.5	12 30	3.8750	Agree
Total						3.931	Agree

Source: https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.866270/full

Bar chart of the data is created to further ease the understanding, as followed:

Figure 4: Percentages of the pupils' responses
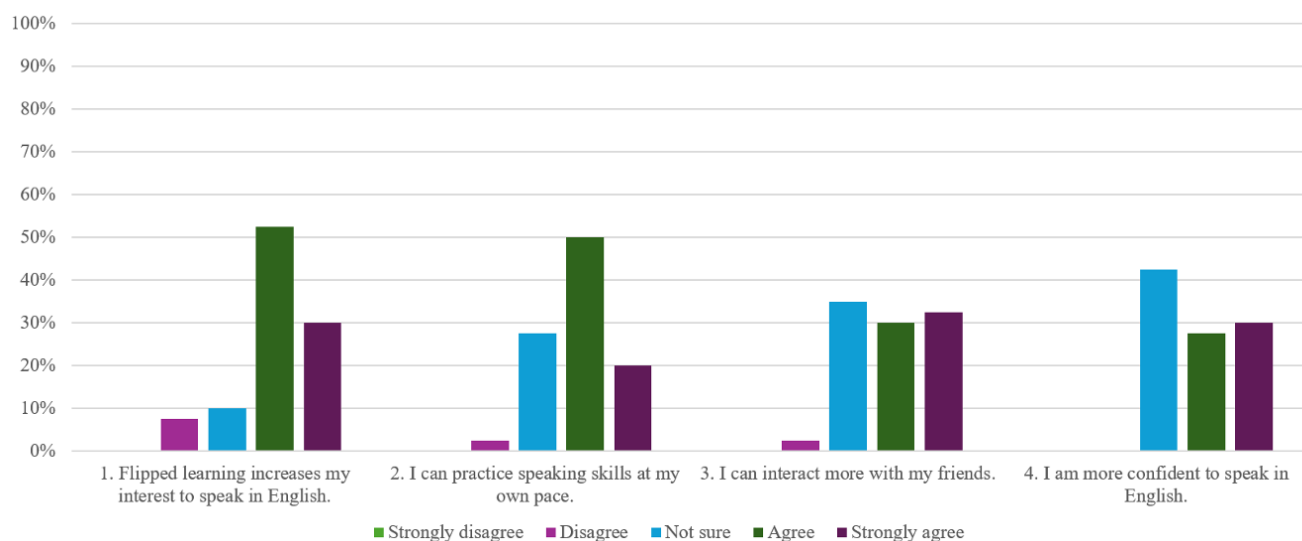
Teachers' Perceptions of Flipped Classroom

What is the significance of understanding teachers' perceptions regarding specific classroom approaches? Will it result in any differences? Understanding educators' perceptions of flipped learning is crucial for informing policy decisions and directing educational reform efforts. Experienced teachers offer a wealth of practical knowledge and expertise, which can greatly contribute to the establishment of policies and practices that are firmly rooted in the realities of classroom instruction. By seeking input from professionals in the field, policymakers and educational leaders can develop a comprehensive understanding of the benefits and obstacles of implementing flipped learning. This knowledge will empower them to make well-informed choices regarding the allocation of resources, curriculum design and priorities for professional development. In addition, the way educators perceive things can act as an indicator of larger patterns and changes in educational methods. This helps to make sure that policy efforts are adaptable to the changing needs and priorities of both educators and learners. Essentially, the insights of teachers are a valuable asset for guiding decision-making processes and catalysing significant transformations in education systems worldwide. In the following section of this paper, we delve into the valuable insights and perceptions of teachers on the implementation of the flipped classroom in Malaysia. These insights have been gathered through an in-depth review of existing literature.

Flipped Classroom Promotes Active Learning

Discussion and collaboration among learners are key elements of flipped classroom and due to this, it promotes active learning. A mixed-method study by Kiang and Yunus (2021) consisting of 78 primary ESL teachers in a district in Malaysia shows positive perceptions and the respondents believe that flipped classroom allows the students to be active participants in class. Presented below are the charts illustrating the collected responses pertaining to active learning through flipped classroom.

Figure 5: Flipped classroom approach reverses the role of the students from passive observers to active participants
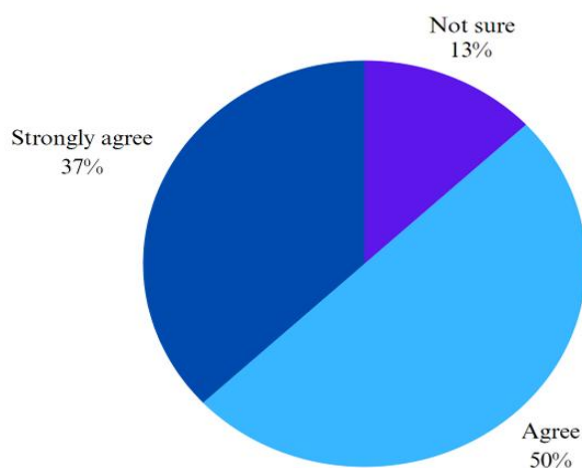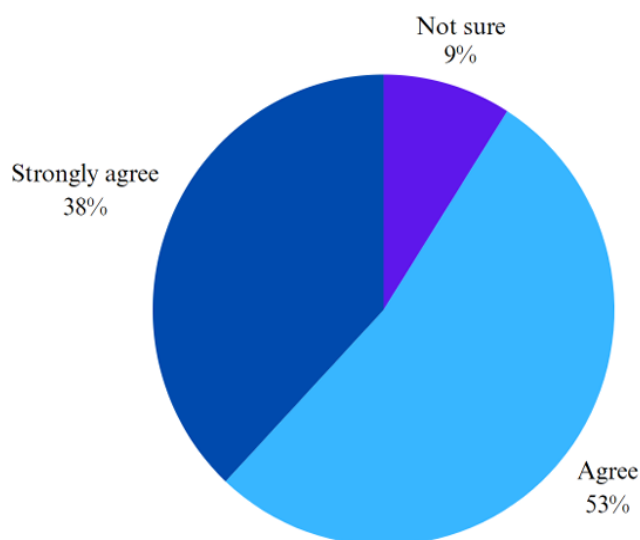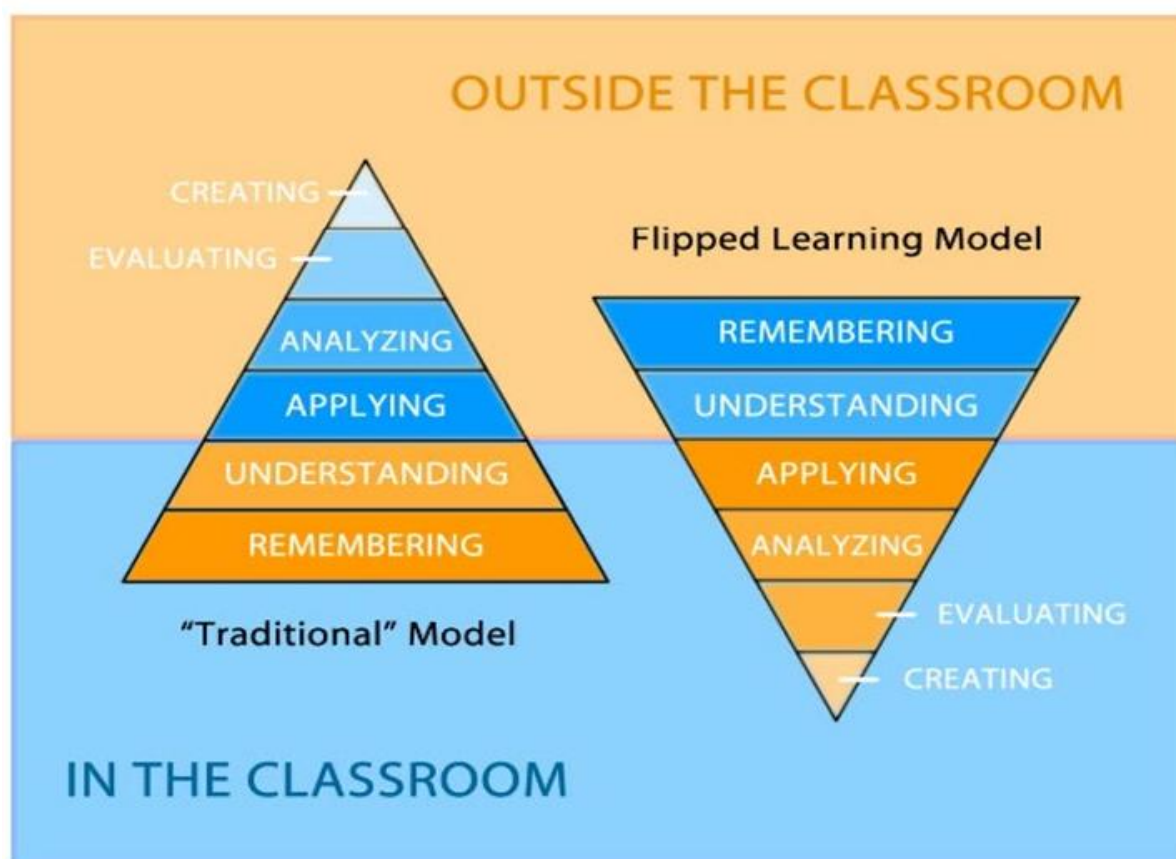

Figure 6: Flipped classroom approach has the potential to facilitate active learning during the lesson.

According to the aforementioned findings, none of the respondents expressed disagreement or strong disagreement for any of the items, indicating that they viewed the implementation of the flipped classroom in a positive manner as it helps students to be more active. These findings resonate with a quantitative study by Abu Bakar et al., (2018) in which the findings collected from 51 teachers from three districts in Pahang implies that flipped classroom plays a significant role to engage the students in the activities conducted and enhance the learning of grammar. 70.6% of the respondents generally agreed that their students could actively participate in the in-class activities conducted. Furthermore, similar results have been observed in studies conducted outside of Malaysia (Dweikat & Raba, 2019; Nguyen et al., 2016; Yang & Chen, 2020) showing the widespread agreement on the positive impact of flipped classroom and underscores its universal efficacy.

In addition to emphasising its effectiveness in promoting active learning among students, from the point of view of the author of this paper, the results also emphasise its compatibility with the reversal of Bloom's taxonomy. Sharma (2018) asserted that the traditional method of instruction consistently emphasises the lower levels of Bloom's taxonomy in the classroom, while students are required to autonomously develop the higher levels' abilities through homework or additional exercises. However, in flipped classroom, lower-order cognitive processes, such as understanding and remembering were strategically addressed through pre-lesson activities where students study the materials provided by the teacher on their own. In this reversal paradigm, students are motivated to apply, analyse, evaluate and synthesise information in collaborative and problem-solving activities in class, thereby fostering a more profound comprehension of the subject matter and promoting higher-order thinking skills. Through this pedagogical approach, students assume the role of knowledge constructors rather than passive recipients of information, thereby becoming active participants in their learning voyage. A flipped classroom gives students more time and opportunities to enhance their performance in higher-level cognitive activities (Kiang & Yunus, 2018).

Figure 7: Comparison of Bloom's Taxonomy in traditional classroom and flipped classroom

Source: https://academics.cehd.umn.edu/digital-education/wp_content/uploads/2017/05/CEHD-DEI-Flipped-Learning-Guide.pdf

Flipped classroom promotes independent and individual learning

The teachers are also of the opinion that flipped learning allows students to learn independently and is more convenient for them to learn at any time and in any location. Additionally, the students are better equipped to absorb the material that will be covered in class, which in turn piques their inquiry and interest in the classroom. The flipped classroom provides students with greater flexibility in determining the manner, timing and approach to each learning challenge. This is a prime example of self-pacing and individual learning, which enables students to regulate the pace at which they progress through and complete each lesson component. Bergmann and Sams (2012) observed that the model enables students who, for example, experience difficulty paying attention to re-watch instructional videos as frequently as necessary, in the environment that is most conducive

to their learning. The materials are recorded by teachers and made accessible to students. Students who are challenged may need to rewind the video multiple times in order to fully comprehend the material. Conversely, students who learn at a rapid pace may view materials and progress to more intricate concepts.

A quantitative study conducted by Hashim & Shaari (2020) consisting of 9 males and 41 female ESL teacher in Malaysia shows that flipped classroom helps teachers to be more active in the teaching process and push the students to be more independent and student centred, aligned with the teaching of 21st century learning. These findings resonate with the studies by Fauzan and Ngabut (2018) in which flipped classroom is beneficial as it prevents teacher-centred lessons by allowing educators to allocate classroom time to a variety of student-centred activities and allows for self-pacing. The findings of a study by Ishak et al. (2021) also indicated that teachers recognise students' ability to be independent and having the autonomy of their own learning. Below are some of the excerpts gathered from the teachers:

"I believe that flipped classroom allows students to learn in their own pace. Teachers can plan and share the content according to the level of their students, but this requires more preparation time."

"I believe that flipped classroom is actually the most suitable tool for low performance students because they can learn the lesson repeatedly on their own time."

Since 2019, the Ministry of Education (MOE) in Malaysia has advocated for the abolition of the streaming system in order to ensure that education is equitable, in accordance with the Malaysia Education Blueprint and the 21st-century learning environment (Mohd Ikhwan & Azlina, 2019). As a result, there are gaps between high-achieving and low achieving students in class, which subsequently causes inequality and teachers are challenged to teach large and heterogeneous mixed ability students. Thus, flipped learning can be seen as one of the solutions to this challenge as it establishes a more equitable and inclusive learning environment by fostering students' engagement and autonomy, accommodating diverse learning requirements, and providing opportunities for individual instruction.

The writer does, however, contend that while flipped classroom approach offers multiple advantages, such as improved engagement, flexibility and personalised learning, student participation and effort are crucial to the approach's success. It is predicated on students accepting responsibility for their education, exhibiting self-control and actively seeking knowledge both outside of and inside of the classroom. Should students fail to participate in the pre-class materials and use class time for purposeful collaboration and sharing, the flipped approach's potential advantages can go unfulfilled. As a result, although teachers may foster a supportive environment through flipped learning, students' motivation and commitment to devote their time and effort to the process will ultimately determine flipped classroom's actual effectiveness. Their lack of self-discipline becomes a hindrance to the approach's successful execution (McLaughlin et al., 2016).

The shift of teachers' role as facilitator of dynamic classroom discourse

The flipped classroom offers advantages to teachers, giving them a new role in the dynamic classroom environment. Since students acquire technical knowledge from online videos prior to class, teachers can allocate less time to presenting technical content. This allows for more class time to be devoted to exercises and problem solving (Velegol et al., 2015). This shift enables educators to prioritise facilitating deeper understanding and critical thinking skills rather than solely delivering content, proving their role as a facilitator instead of a total knowledge provider. During in-class activities, the teacher takes the role of a facilitator or guider by supporting students as they engage in interactive tasks and offering assistance when requested (Herried & Schiller, 2013; Velegol et al., 2015). Teachers foster an environment where students are empowered to engage in discussions and explore topics on their own, promoting peer learning and the exchange of knowledge.

In addition, the flipped classroom model allows teachers to offer personalised support to students who need extra help. Through engaging with different groups or offering personalised guidance, teachers have the ability to cater to individual learning needs and provide instant and specific feedback (Velegol et al., 2015). Compared to the traditional classroom where students' complete enrichment or remedial exercises as homework, having teachers readily available to answer questions and provide feedback improves the effectiveness of the task.

Maharam and Abusa'aleek (2022) analysed twenty classes to explore how teacher's feedback affects students' performance and findings revealed that it improves students' achievement. This approach, developed through extensive research and experience, not only improves student learning outcomes but also cultivates a strong rapport between teachers and students. It creates a healthy learning environment where students are valued and seen.

Students' perceptions of flipped classroom

According to Male and Lumbantoruan (2021), perception refers to individuals' perspective, opinions or attitudes towards something and can also be regarded as the reactions and it requires experience and prior information. Research have shown that students are more likely to perform better when they have positive perception towards their studies. Research have been conducted across the globe to explore students' perception towards the implementation of the flipped classroom (Aljaraideh, 2019; Pham, 2021; Strohmeyer, 2016) and most of the findings show that the perceptions were generally positive. Pham (2021) found that students are satisfied with their lecturers in the flipped learning classes and Oyola (2016) also reported that students are more confident to participate in class discussion. This could be attributed to their prior familiarity with the materials prior to attending the class. Now, shifting the focus to the Malaysian context, where a variety of linguistic and cultural backgrounds influence the educational landscape, it is crucial to gain insight into students' perspectives on flipped learning within this specific setting.

Flipped classroom enhances learning performance

In terms of theoretical underpinnings, Vygotsky (1978) established the notion of the Zone of Proximal Development (ZPD) through Social Constructivism theory, which suggests that learners, given the right assistance and support, can successfully tackle activities that would be difficult for them to accomplish independently. This idea posits that learners actively participate in problem-solving tasks that extend beyond their current knowledge, with the assistance and encouragement of both educators and fellow students, also known as More Knowledgeable Other (MKO). The flipped classroom method seamlessly incorporates a social constructivist approach to learning by employing collaborative group activities to comprehend intricate subjects. This approach enables learners to collaborate in groups, creating a conducive environment for the exchange of diverse viewpoints within a student-centred context. As a result, learners actively engage and take on the role of creators in the learning process, especially when they are fully involved in the flipped classroom approach.

This is evident from a quantitative study (Ying & Ayub, 2022) conducted on 50 ESL students. Their perception was assessed using a series of questionnaires consisting of 14 items related to the flipped classroom approach. The study focused on four key areas: motivation, effectiveness, engagement, and satisfaction. The average mean score for each question in the effectiveness section surpasses 4.00, providing indication that students perceive this strategy as beneficial to their learning. This perception can be ascribed to the lifestyle and preferences of the modern generation, who have been raised in the digital age where learning is possible at anytime and anywhere, not exclusively within the walls of a classroom.

Flipped classroom increases motivation and interest

The attitude and motivation towards the subject matters are vital elements in optimising knowledge acquisition during the learning process. According to Ceylan (2021), motivation is a key factor that influences the extent to which learners are ready to learn autonomously. Through an interview conducted for students, Wang & Reeves (2006) found that technology is one of the sources to boost students' motivation in learning. In the same vein, Hoffman (2022) mentioned that differentiated instruction that is offered through the integration of student-centred technology resulted in heightened student motivation. The issue of lack of students' motivation is not uncommon in the educational landscape. In Malaysia, this attitude is obvious especially towards science, mathematics, engineering and mathematics (STEM) subjects. A study by Phang et al., (2014) concluded that low engagement shown by students when learning STEM subjects due is to a combination of their lack of motivation, ineffective teaching techniques and limited awareness of metacognition. Teachers, as the key figures in the classroom, must fulfil their job in order to ensure students' motivation in learning, as it significantly impacts their academic success.

Many studies conducted have shown a positive relationship between students' motivation and their academic achievement in various educational fields and levels (Chafai et al., 2023; Liu et al., 2022; Sivrikaya, A.H., 2019). After analysing various sources, it has been found that flipped classroom approach successfully arouses students' curiosity, resulting in a notable increase in their motivation. Studies examining students' perceptions have consistently shown favourable outcomes. Through flipped classroom approach, students are not pressured to follow the pace of their class members and are given enough time to understand the lesson that teachers deliver, offering an autonomous, personalised and individualised learning. This helps them to strengthen their competence and eventually promotes the development of their intrinsic motivation as according to self-efficacy theory, students' motivations are divided into two which are intrinsic and extrinsic (Abeysekera and Dawson 2019).

Maidin & Shukor (2021) conducted quantitative research on a group of students in Taiping Community College, Malaysia with the aim of investigating students' perceptions of using flipped classroom in Communicative English classroom and the results indicated that a significant number of students held positive views towards this approach and exhibited high levels of motivation to learn. Their motivation is attributed to how flipped classroom allows them greater chance to communicate confidently with their lecturers and friends as this approach fosters deeper understanding and chances to delve deeper into topics that require more attention.

This corroborates the findings of Abdullah and Mamat (2018) in which the researchers conducted a comparative analysis of two groups of students; a treatment group and a control group, forming a total of 70 students from Bachok, Kelantan. Two teaching methods which are traditional classroom and flipped classroom were compared. Prior to the implementation of flipped classroom, the students' motivation in the algebraic component was similar for both groups. However, the survey conducted revealed that individuals in the flipped classroom demonstrated elevated levels of motivation, attention, confidence and satisfaction due to the flexibility and activities conducted. This data parallels to quantitative research conducted by Abidin et al., (2023) who explored 76 students from Polytechnic Kuala Lumpur regarding their views on flipped classroom. The result shows that this approach indeed increases their motivation level and ultimately improves their learning performance, resulting in higher level of students' satisfaction. The students unequivocally endorsed the assertions pertaining to the motivation and efficacy of the flipped classroom approach, emphasising their contentment with the course, the instructors' performance and their learning achievements.

Challenges of flipped classroom implementation

While multiple studies have yielded favourable results, others have found no significant difference in student performance when comparing the traditional and flipped classroom approaches (Shiau et al., 2018; Sezer & Esenay, 2022; Sourg et al., 2023) though the respondents mentioned that they were more motivated to learn in flipped classroom settings and allows for greater flexibility. There could potentially be various contributing factors including students' receptiveness and preparedness for a new learning strategy, the level of teaching expertise of the educators and the effort exerted by the teachers as the flipped method requires a substantial workload to ensure that its objectives are achieved. The stakeholders need to explore the challenges to implement flipped classroom in Malaysia as to improve the effectiveness and realising the goal stated in the Malaysian Blueprint, which is to leverage ICT. This section will discuss some obstacles in the implication of flipped classroom in Malaysian context.

Lack of technological knowledge

According to Hamid (2011), while many educators acknowledge that ICT is a valuable tool for teaching and learning, it is not fully translated into their classroom practices. In the context of flipped classroom, teachers' lack of technological knowledge restrains them from adopting this approach as it requires a high demand on teachers' proficiency in technology. This can be discussed through a prominent comprehensive knowledge component known as Technological Pedagogical Content Knowledge (TPACK). Koehler & Mishra (2006) mentioned that the 3 main elements of TPACK are content, pedagogy and technology. TPACK encompasses instructors' expertise in incorporating technology into pedagogical practices within a certain subject area, a crucial skill set for effectively implementing flipped learning.

Figure 8: TPACK Framework (Koehler and Mishra, 2006).
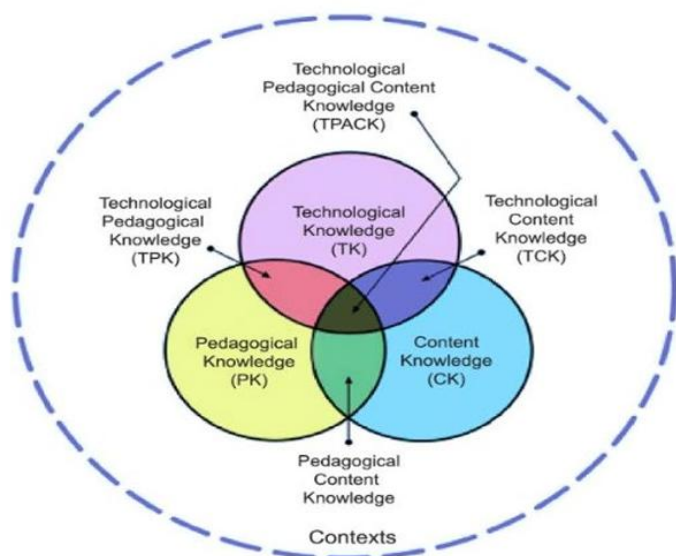
Source: https://www.researchgate.net/figure/TPACK-framework-Mishra-Koehler 2006_fig1_282437472

Nevertheless, completed study has revealed that certain educators continue to face challenges when it comes to utilising technology. Zulkarnain et al. (2021) found that content knowledge and pedagogical knowledge among respondents consisting of national secondary school teachers in Kuala Lumpur Federal territory were at high level, proving that the teachers portray high knowledge in content and pedagogical knowledge. However, it was discovered that the sub-dimension of teachers' Technological Content Knowledge (TCK) was at a low level, thereby affecting their Technological Pedagogical Content Knowledge (TPACK) as well. Based on these findings, it can be inferred that the respondents have not fully acquired expertise in the knowledge sub-dimensions related to technology. This is undoubtedly one of the obstacles to implementing the flipped classroom approach in the teaching and learning process. Skills in technology is really sought after since the materials provided to students sometimes cannot be simply taken from online platforms for instance YouTube as there are times the criteria do not fit students' preferences for instance the duration is too long making the students disengaged (Lo & Hew, 2017), the content does not suit students' level and visuals used does not pique students' interest. As a result, teachers have to come out with their own materials, reflecting the necessity of having technology skills to conduct flipped classroom.

This issue can also be discussed through the lens of self-efficacy. The self-efficacy theory posits that when individuals experience uncertainty or a perceived lack of competence within their environment, they may develop reluctance to change (Bandura, 2016). Concerning this paper, self-efficacy of the educators is demonstrated by their preparedness and confidence in their professional abilities to deliver educational activities such as flipped classroom using the appropriate technological tools. Inadequate confidence in teachers' technological skills hinders their capacity to produce an effective flipped classroom due to the negative impact stemmed from their self-efficacy (Aziz et al., 2022). Ming et al. (2010) found that more than 60% of the teachers that have negative perception towards their technological competence resulted in affecting their motivation to use the tools.

Bernauer (2020) made a point that teachers frequently encounter difficulties in finding suitable technological resources to employ in flipped classrooms, which hinders student learning and contributes to teacher exhaustion. Thus, to overcome this matter, educators should have comprehensive training in practical classroom instruction, while students should be acquainted with and have confidence in adopting this innovative technique (Embi, 2014). In accordance with Mazur et al. (2015), institutes can provide chances for educators to discuss their experiences regarding implementing flipped classrooms and to obtain feedback from their colleagues or other members of the professional community. Pre-service teachers on the other hand should be given thorough exposure and adequate experiences to properly prepare them as they step into teacher career later on. Inadequate

training will lead to subpar performance and have a detrimental effect on teaching, as a significant portion of the flipped classroom model relies on the utilisation of technology. Professional training programmes allow teachers to delve deeper into the understanding of pedagogical principles underlying the flipped classroom model, navigate online platforms, create engaging and effective digital content as well as equip teachers in designing meaningful assessments and timely feedback.

However, one issue that arise when discussing about the trainings of educators in Malaysia, especially in schools is not all teachers get the opportunity to attend the training as only selected teachers from each school are involved, who in turn are expected to share the information to their colleagues through Professional Learning Communities (PLC). Marzaini et al. (2023) reported that teachers believed the existing training is not a proper cascading technique in helping them to assimilate the current practices in implementing new approaches due to the impediment of knowledge transfer during the knowledge sharing. This issue also echoed in a study conducted by Napisah et al., (2012) which found that the train-the-trainer model which is used to train teachers are problematic. As the information is passed down from one stage to another through different sets of people, by the time it reaches the teachers, it becomes altered due to individuals' perceptions of the training received. Thus, in conducting training, the responsible authorities need to engage if not all, as many teachers as possible so they are not relying on the second-hand information passed down from the attending teachers only.

Time constraint and workload

When it comes to efficiently implementing and engaging in flipped classroom, one of the key problems that both teachers and students encounter is the limitation of time due to the daunting workload. According to Fulgueras & Bautista (2020); Low et al., (2018), an excessive amount of time is needed to be allotted for the pre-class preparation of flipped classroom. Akcayir & Akcayir (2018) reported the same thing in which the pre-recording process of the video lectures as well as preparing the other flipped model materials is time consuming for teachers as it requires more time and effort. Teachers are oftentimes burdened with never-ending duties, including battling with unnecessary administrative workload beyond the primary task of imparting knowledge like recording and reporting the assessment data. This concern is not something new in the educational field, in fact many research has been done on the workload issues of teachers. Unfortunately, we do not see many significant changes until this day. As a result, teachers struggle to find the necessary time to plan, develop as well as review the flipped classroom.

Through their research, Othman et al. (2024) found that experienced English teachers working at a university in Sepang, Malaysia had difficulty managing their time in order to prepare materials for courses that were delivered in a flipped classroom setting. This finding is consistent with the findings of the research conducted by Al-Naabi (2022), in which the author indicated that the process of designing and gathering materials required a significant amount of time due to the fact that it required the modification of educational resources that were initially developed for a conventional classroom setting. Based on the excerpts, educators are also struggling to manage time in providing feedback to the learners. Initially grappling with the workload in preparing the class materials and recording the video for the lecture, teachers were eventually left with limited time and resources to evaluate the work of the students and provide individualised feedback. Furthermore, Mohamed (2017) through qualitative research reported that teachers' heavy workload negatively impacts students' academic performance and called for Ministry of Education to combat this issue.

Not only teachers, students' engagement in flipped classroom is also affected by their workload. Multiple studies have repeatedly demonstrated that students perceive pre-class activities as being both time-consuming and overwhelming. (Snyder et al. 2014; Wang, 2016). The decline in the pre-class preparedness and in class activities such as discussion may be attributed to their time constraint due to an influx of work that is expected to be done as they struggle to find time and energy to fully engage. According to Paristiowati et al. (2019), the discussion process at school cannot be carried out efficiently if not all of the students watch the pre-class video that is provided by the teacher. It is essential for them to participate in the in-class activities at school because it allows teachers to clarify any points that may have been misunderstood in relation to the content of the pre-class video and provide feedback for the questions that students have during the discussion process (Sarah & Yousif, 2016).Consequently, teachers should use the time allotted for certain topics in its traditional format as a reference when designing their pre-class activities and videos. This would avoid students from being overwhelmed by the

task. Research conducted in higher education has indicated that videos shorter than 5 minutes lead to significantly higher English proficiency, student engagements and satisfaction in flipped English classroom compared to videos with 10-20 minutes duration (Yu & Gao, 2022). Unfortunately, previous reviews report that some students did not familiarise themselves with this new learning approach and skipped the pre-class activities. This could also be attributed to the factor of limited internet access. Without reliable access, students may struggle to prepare for the upcoming in-class activities as they have difficulty to view the materials provided by the teachers. On the other hand, some students have the access to the internet but not consistent access to the devices. This will also indirectly affect their engagement. Thus, teachers need to accommodate to these varying access levels and offer flexible options to mitigate the impact of technology disparities and upholding the equity in education.

DISCUSSION

Moving forward, it is vital for all stakeholders in education to actively get involved to further advance the implementation of the flipped classroom model in Malaysia. School administrators have a crucial role in providing the essential support, backed by the resources and facilities provided by the government to enhance this practice in the educational institutions across the country. This encompasses not only the tangible facilities but also allocating mediums to upgrade the skills and knowledge of the educators. Teachers can contribute to the improvement of flipped classroom approaches by sharing the best practices, exchanging insights and addressing the challenges as well as the plausible solutions. Consistent with Seaboyer's suggestion (2013, as cited in Abd Rahman et al., 2019), it is recommended that faculty members collaborate in flipping a course by sharing materials and using co-teaching techniques. This collaboration helps reduce unnecessary stress and improves the implementation of the flipped classroom (Jain & Kaur, 2022).

On the other hand, parents also need to play their role in providing support for the progress of their children' education, especially in embracing and upholding the ideas of flipped learning. Playing the most crucial role in the implementation and effectiveness of this approach, students need to recognise the responsibility placed upon them to take ownership of their own learning. Despite the best intentions and support by the teachers, parents and also the school administrators, this classroom model can indeed be rendered ineffective without the proactive effort of the students. This includes demonstrating their willingness to explore and deepen their understanding, managing time effectively and engage actively in their learning. Continuous research pertaining to flipped classroom also need to be carried out to always be updated with the current scenarios happening in the educational landscape of Malaysia. The writer realised that while the current studies are heavily focused on the students and teachers, it can also be explored from various other angles for instance the administrative perspective, the impact of parental involvement in flipped learning, the effects of flipped learning on educational equity, the practice of assessment and evaluation in flipped classroom as well as the cultural and societal implications. By exploring these additional perspectives, researchers and educators can gain more comprehensive insights on flipped learning and eventually maximise its effectiveness.

CONCLUSION

Finally, to answer the main question posed in the initial part of this paper, apparently, this approach appears to be a powerful tool to enhance learning performance and cultivate a more profound understanding among the students. By employing collaborative group activities, rooted in Vygotsky's Social Constructivism Theory, it fosters active engagement and development of knowledge. The review of various literature sources also clearly indicates the positive perceptions from both teachers and students, owing to the concrete advantages that this approach has got to offer for instance heightened confidence and motivation, offers self-paced learning process, transformation of students' role from passive to active and enhancement of their overall learning outcomes. Nevertheless, it is crucial to acknowledge that traditional methods remain pertinent in certain contexts. Ultimately, although the flipped classroom shows potential advantages in improving student engagement and learning results, it is essential to address obstacles concerning accessibility, preparation, and support to fully optimise its value to students. Through the allocation of resources, provision of training and establishment of supportive frameworks, educators have the ability to construct an inclusive and dynamic learning environment that effectively utilises the complete potential of the flipped classroom model.

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