KAJIAN RINTIS PERSEPSI GURU SEKOLAH BERASRAMA MALAYSIA TERHADAP PERSEKITARAN PEMBELAJARAN FLIPPED YANG MENGGUNAKAN PENGUASAAN DAN PEMBELAJARAN BERASASKAN MASALAH

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Abstrak

Apabila menggunakan persekitaran pembelajaran dengan platform elektronik, pengajar sering berjuang untuk menerapkan pelajaran dan konsep walaupun strategi pembelajaran flipped learning adalah penting untuk pendidikan berkualiti tinggi. Dalam kajian ini, guru Reka Bentuk dan Teknologi di Sekolah Berasrama Penuh Malaysia telah ditemu bual tentang cara strategi pengajaran mereka berbanding dengan persekitaran flipped learning. Kajian ini melihat penerimaan flipped learning, kaedah pengajaran yang digunakan oleh guru, dan pendapat mereka. Kaji selidik itu melibatkan 17 tenaga pengajar dari pelbagai wilayah di Malaysia. Dalam kajian ini, sembilan soalan dari "Soal Selidik Persekitaran Pembelajaran" telah digunakan. Peratusan digunakan untuk memeriksa data yang dikumpulkan. 80% guru di Sekolah Berasrama Penuh di Malaysia mempunyai sikap positif terhadap pembelajaran flipped learning dan memberikan penilaian yang tinggi terhadap pendekatan kreatif. Guru-guru di Sekolah Berasrama Penuh Malaysia perlu sedar akan pendekatan pembelajaran yang terbaik, seperti penguasaan dan penyelesaian masalah pembelajaran, memandangkan ciri-ciri kognitif, emosi, dan tingkah laku pelajar mereka. Akhirnya, kebanyakkan guru mengatakan bahawa menjalankan persekitaran seperti ini adalah penting untuk mendapatkan prestasi pembelajaran dan keseronokan.

Kata Kunci: Persekitaran Pembelajaran Flipped, strategi pembelajaran, Sekolah Berasrama Penuh Malaysia

A PILOT STUDY OF MALAYSIAN BOARDING SCHOOLS' TEACHER PERCEPTION OF FLIPPED LEARNING ENVIRONMENTS THAT EMPLOY MASTERY AND PROBLEM-BASED LEARNING

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Abstract

Even though flipped learning tactics are crucial for top-notch education, teachers typically struggle to apply the lessons and concepts when using a learning environment with an electronic platform. In this study, instructors of Design and Skills at Malaysian boarding schools were asked to discuss how their methods of instruction related to the flipped classroom. The acceptance of flipped classrooms, instructors' teaching strategies, and their views were all examined in this study. 17 teachers from various parts of Malaysia took part in the study. Nine items from the "Learning Environment Questionnaire" were applied in this study. The data that was gathered was analysed using percentages. In general, 80% of instructors at Malaysian boarding schools have good attitudes about flipped learning and give the method high marks for the novel approach. Due to the cognitive, emotional, and behavioural characteristics of their pupils, Malaysian Boarding School teachers have to recognise the right learning methodologies, such as mastery and problem-solving learning. According to the guideline, doing this was essential to achieving both learning performance and enjoyment.

Keywords: Flipped Learning Environment, learning strategies, Malaysian

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1.0 Introduction

Malaysian boarding schools urgently need a flexible learning environment due to a lack of face-to-face approaches and teacher training processes prior to the post-Covid-19 outbreak period (Hebebci et al., 2020). Flipped learning is the creation of a flexible learning environment that helps teachers adapt teaching to students' self-learning, save money on education, and address lack of acceptability and appropriateness in terms of instruction strategy, class schedule, and class time (Al-Husban, 2020). (Albalawi, 2018). Hifza et al. (2020) researched the challenges of a flexible learning environment before the post-Covid-19 pandemic. According to a different research, teachers lacked knowledge of their own instructional strategies and self-learning training (Rapanta et al., 2020).

According to Kolb's theory, the best learning occurs when a teacher applies the learning process using real-world experience, practical observation, abstract concepts, and active experimentation (Fernando, 2018). Flexible learning settings, such as flipped learning, must be combined with mastery and problem-based learning strategies to provide students real-world experience (El Miedany, 2019). Additionally, Bandura's theory of mastering learning objectives through self-learning is applied in master's learning techniques for knowledge and comprehension levels. This is due to the fact that this study's findings indicate that Malaysian boarding schools underutilize their students' higher cognitive capacities, which are associated with in-class activities, workshop projects, and homework (Creely et al., 2021).

When students work together to solve their learning obstacles, problem-based learning approaches include Piaget and Vygotsky's strategy of fusing the use of senses and social interactions (Piaget, 1980). (Hodson & Hodson, 1998). According to Xie and Yang's (2020) study, students' opinions of acceptance and adaptation to self-learning, which requires learning techniques, time management, and initiative, are positive. This, however, cannot be proven in the context of the Malaysian Boarding School as the present educational environment has not determined the suitability and acceptance of the master's learning strategies and technologically assisted problem-solving to be more engaging and provide evidence that can serve as an example to others (DeWitt et al., 2016; Singh et al., 2017). According to Rapanta et al, (2020) using a learning strategy to develop learning activities has a particular student character or attitude and is a combination of social, cognitive, and behavioural factors (2020).

1.1 Flipped Learning

Students from boarding schools, traditional secondary schools, colleges, and even universities were drawn to the cutting-edge learning environment known as "flipped learning," which is a model for a flipped classroom approach, after the Malaysian government closed all schools in Malaysia due to the Covid-19 pandemic (Roslan, 2020). However, because professors are regarded to prefer conventional tactics (speaking in Youtube videos or Facebook live forms), and regrettably, most students are unable to understand or grasp the concepts, flipped learning is not well-liked by students as an online platform. The phrase "flipped learning" describes a teaching strategy in which the conventional notion of learning is based on a flipped classroom, in which the teacher introduces the learning materials to the students before class and the classroom time is then used to deepen understanding and mastery through peer discussion and problem-solving activities (El Miedany, 2019). the enhancement of cognitive, behavioural, and emotional results through the use of a flipped learning environment that incorporates problem-based learning techniques and mastery learning strategies as well as elements like personalisation, engagement, creativity, and organisation (Treagust, 1986).

There are three main approaches to problem-based learning: developing cognitive discussions that stimulate learning and knowledge in order to develop collaborative processes; understanding derived from the interaction of problem scenarios in the learning environment; and relationship with problems in the process of inquiry problems (Schmidt, 1993).The issue with the master's learning method is that, when used in practise, it becomes flipped learning's primary drawback: teachers find it difficult to design activities for further classroom assistance or evening prep (Choi & Choi, 2021). Due to their lack of interest and excitement for learning, students find it difficult to adapt to and embrace the adoption of flipped learning (Choi & Choi, 2021).

2.0   Problem Statement

According to previous research, factors in the learning and teaching environment as well as instructors' and students' perspectives of themselves as members of the educational institution may be used to explain the bulk of the reasons why flipped learning in Malaysia has failed (Rahman et al, 2019). Using an electronic learning platform, teachers have difficulty putting the courses and concepts into practise (Tucker, 2012). In addition, students can benefit from video-based lectures and mastery strategies (Missildine, 2013). However, while some educators believe that the flipped learning approach is difficult because it is inconvenient (Osman et al., 2011) and takes a long time to develop (Hunley, 2016), others assert that the biggest barrier to using technology in the classroom is the teacher's own attitude, beliefs, and level of knowledge and skills. Teachers cite the lack of educational resources as a barrier to the adoption of flipped learning in the classroom (Kabaharnup, 2010). Additionally, they talk about the issue of each pupil not receiving enough required instructional time. They also talk about the issue of each pupil not obtaining the required instructional time. According to Bergman's (2012) study on teacher issues with the flipped learning approach, athletes or students participating in school sports are not present in class, teachers are unable to provide understanding to students due to a lack of understanding, they have not mastered the art of learning, and both teachers and students are excessively focused on exams. There is evidence that students from Malaysian boarding schools who struggled to adjust to the flipped classroom during the Covid-19 pandemic did so because of their attitudes, learning styles, and other poor learning habits. These students are known for criticising and blaming their instructors, not understanding what is being taught, and not mastering the learning standard because they are more exam-focused (Eumalai et al, 2021).

3.0   Objectives

In this pilot research design, this study aim will be utilised to gauge how well the flipped learning environment is working.

Ascertain the instructors at Malaysian Boarding Schools' opinions of flipped learning environments that employ master's learning approaches and problem-based learning methodologies.

4.0   Literature Review

Lesson and learning plans that provide each student more autonomy and control over their own learning, schedule, and activities will be more widely disseminated. A variety of developing student kinds and novel teaching concepts under situational situations have been made possible by flipped learning in electronic design topic areas (Steeples, Goodyear, and Mellar, 1994). The educational environment is evolving, and this includes collaborative and interactive classrooms, online and hybrid learning, and more (Johnson, 2013). If students want

to improve their learning accomplishment and mastery, it's critical that they have access to their own devices whenever and wherever they choose (Johnson et al., 2014).

Many educators think that using technology can provide novel solutions to the challenges the educational sector is confronting in light of budgetary constraints, the expanding globalisation of education, and shifting paradigms (Palmer & Devitt, 2014; Carnoy and Rhoten, 2002) However, despite the usage of technology, such as iPad application devices, there are other aspects that influence flexibility, such as the instructor's role (Gordon et al, 2014). In order to personalise student learning and "engage pupils on a deeper level," innovative pedagogy approaches and technologies must be used.

4.1 Learning Environment Theory

According to Fraser, teacher-student connection is crucial for the growth of student accomplishment since the majority of students who study in a classroom do so for a long period (1987). As a consequence, it is shown that the learning environment is more reliable and accurate when the student's perception is used in the measurement and investigation of the learning environment's components, particularly personal development, self-learning, and cooperation.

4.2 Flipped Learning Environment

If the teacher uses technology to convey the subject's knowledge before providing a range of learning activities in the classroom, the learning environment will be significantly altered (Strayer, 2007). Since each student has a unique identity and receives homework in a variety of methods, it is quite possible that they are unfamiliar with the subject matter and teaching techniques. The concept-based framework for the learning environment will investigate how flipped learning alterations impact the dynamic nature of learning in an effort to supplement this study (Strayer, 2007). In terms of the classroom, Moos was a pioneer in the study of human sociology (1974). In order to be examined and used within the context of technological learning environments, the three categories are split into seven components. Complicity and personalization are both included in the relationship category. Tasks, creativity, and self-improvement all contribute to personal progress. The categories of maintenance and system reform also contain the concepts of individualization and student happiness. According to multiple student perception studies by Treagust, teaching strategy that targets changes in students' conceptual framework requires a supportive learning environment (2004). The Nisbet and Shucksmith (2017) study discovered that learning requires supportive, cosy, and stress-free surroundings. Treagust (2004) asserts that personalization, engagement, creativity, and organisation are qualities or components of an effective learning environment that improve cognitive and emotional outcomes. According to Walberg & Haertel (1980), effective and enjoyable student learning involves unproductive and contentious features despite having components of student satisfaction, teamwork, and task direction in the classroom. Therefore, it is suggested in this study that teachers must establish an environment where students feel comfortable expressing and discussing their thoughts on their own in order to create a good learning environment (Treagust, 2004). Studies on the usage of these gadgets need the help of teachers and school administrators to improve the working and learning environments. According to Fraser's (1987) research, students who experience a positive learning environment do better than those who do not. After all, by learning about how students feel about their courses, researchers might anticipate students' cognitive and affective outcomes. Fisher and Fraser (1983), using a questionnaire approach, found that a genuine, controlled learning environment with coordinated

pupils and a good setting can be a predictor of student performance. They contend that assessment performance may be increased by altering the actual learning environment to one that is more in accordance with the student's preferences. The learning process is significantly impacted, in accordance with Walberg, by the learning environment (1980). The learning environment model analyses student performance by taking into account a variety of factors, including age, learning capacity, motivation, the quantity and quality of instruction, the learning environment at home or outside of class, peer interaction, and media resources. The model asserts that learning environment characteristics are the most precise indicators of students' academic success and attitudes, notwithstanding the existence of other variables (Fraser, 1998). It is evident from the conversation surrounding this research at Malaysian boarding schools that it is staying true to its initial objective of enhancing instruction.

4.3 Mastery Learnings' Strategy

Master's learning is a behavioural teaching technique that, according to Aviles (2001), makes better use of   extra learning time and repeated test chances. Carroll's model states that the length of time needed for study and the quantity of study time allowed determine master's learning (Carroll, 1963). In other words, rather than being limited to a single period of time (such as a semester), accomplishment is constant and time is permitted within a range of limits, allowing students to succeed in a variety of ways (Carroll, 1963). For master's studies, flexible scheduling is employed to improve performance and learning (Aviles, 2001).

For instance, students are typically given time to retake assessments, examinations, or mastery exercises until they reach the required level of mastery (Aviles, 2001).Students are given additional time to deepen their grasp of the topic before the test is repeated. Formative assessments often consist of ungraded quizzes that are just called ordinary quizzes (Aviles, 2001). Since its goal is to monitor learning progress, the quiz does not affect the final grade (Bloom, 1971). Regardless of whether it is objective or not, the summative evaluation score is utilised to determine learning progress (Aviles, 2001). The following phase of the feedback is where the teacher updates the students on their learning progress (Aviles, 2001). By retaking the exam, developing corrective materials, or using other strategies, correction is the process of correcting a student's mistakes (Aviles, 2001). A repeat test is a method that typically uses the same number of questions and question structure but different question paragraphs and response choices (Aviles, 2001). The repeat exam has to be harder or more difficult for student success to increase (Aviles, 2001). Master's learning uses criterion reference for assessment stacking in place of the conventional measuring reference (Bloom, 1971). Reference criteria is a measurement of the degree of competence to the typical evaluation (normal curve) to compare student progress (Aviles, 2001). Measuring criteria might lead to a score distribution that is at odds with the normal distribution since it can be attained by all students and fulfils its requirements (Grolund, 1990). Measurement criteria are consistent with master's learning, assuming that students may reach higher levels by setting more precise learning objectives and by utilising time, feedback, and correction (Aviles, 2001).

4.4 Problem-based Learning Strategy

The learning method known as "problem-based learning" uses real, important, and challenging situations as a teaching tool (Boehrer & Linsky, 1990). Students in this study utilised problem-based learning techniques to address issues or settings by seeking out answers or suggestions through newspapers, textbooks, journals,

organisations, and device apps (Gomez, 2007). Teachers just act as facilitators for the students in problem-based learning techniques that are supported by a flipped learning environment (Zhang, 2018). Through problem-solving that combines critical and creative thinking, as well as through identifying the strengths and limitations of effective group cooperation, students are capable of adjusting to modern developments (Boehrer & Linsky, 1990). Consequently when combined with flipped learning, problem-based learning can aid students in learning more effectively (Karabulut-Ilgu et al., 2018). Problem-based learning approaches emphasise an active, hands-on approach where teachers help students meet learning objectives based on actual issues. Due to its active educational style, it places a strong focus on learning settings like participation and teamwork while confronting electronic design difficulties. Students acquire skills like these when teachers allow them the opportunity to conduct research and find answers to problems in the real world. Along with emphasising self-reliance, self-reliance inquiry, cooperation, and working in groups, it also encourages students to build 21st century skills, such as self-learning in the classroom (Bogusevschi et al, 2020).

The use of technology, such as device apps in formal and informal education, may also promote flipped learning, electronic workshops, and virtual pedagogy. Teachers may provide students more time for more practical assignments, problem-solving in the real world, and establishing connections between what they learn in the classroom and what they experience every day thanks to the flipped learning environment. Learning activities will be more enjoyable and acceptable if the teacher shifts from being a teacher to being a facilitator and aid. Additionally, while using wireless mobile devices in the classroom, it is more enjoyable to incorporate field excursions to benefit from the variety of experiences and foster dialogue (Hwang et al, 2015).

5.0 Methodologies

The success of the research is significantly influenced by the often employed methodology. All pertinent and related elements have been identified in order to ensure that the study paper created might satisfy the aims and objectives mentioned in this research. The organisation of the samples, sampling strategies, and equipment all adhere to the research design's stated method.

5.1 Research Design

A quantitative analytic approach was used to collect the data for this study. The data was acquired by the researcher in accordance with the study questions listed in the introductory section. The primary emphasis of this study was on instructors' perceptions of the appropriateness and acceptability of using flipped learning approaches. The researcher additionally made the online questionnaire available to the responders in order to fulfil the research's objectives. The analysis made use of descriptive statistics. The examination of the data was followed by a presentation of the findings. To investigate the instructors' impressions of the applicability and acceptability of the usage of flipped learning methodologies, information was acquired using a questionnaire and entered into SPSS for statistical analysis. Data analysis was done using descriptive statistics on the information that was gathered.

5.2 Sampling

Malaysian teachers at Malaysia Boarding School make up the study's sample. A validated questionnaire was given to seventeen teachers via purposive sampling.

These sampling techniques are employed because the respondents have some things in common.

5.3   Instrument

The assessment was made using the tool for the flipped learning environment developed by Andujar (Andujar, 2020). A structured online survey was updated to ask instructors their opinions on the efficacy and applicability of the flipped learning approach. Regarding how flipped learning is used, there are five questions.

6.0   Limitation of Study

First, this survey includes instructors from boarding schools in Malaysia. Only those participants in the selected participant samples who are exclusively involved in the teaching and learning of the flipped classroom methodology are eligible for this study. As a result, the research's findings cannot be applied to the whole study population. The researchers chose the group that was easiest to contact using the convenience sampling strategy in order to save time and money. Another issue with this study is that the researcher used a questionnaire, which is a constrained research method.

7.0   Result and Discussion

As indicated in Table 1, the descriptive statistics for each item produced the following results.

Table 1: Pilot research on teachers' opinions on flipped classrooms that use mastery and problem-based learning methodologies in Malaysian boarding schools

(Source: Hu *et al*, 2019)

No	Teachers Perceptions' item	Scale and Instrument Percentages			
		Yes	No		
1	Flipped Learning Knowledge	76.5	23.5		
		A methodology that helps teachers to prioritize active learning during class time by assigning students lecture materials and presentations to be viewed at home or outside of class	A method of teaching that integrates technology and media with traditional instructor-led classroom activities, giving students more flexibility to customize their learning experiences.		
2	Flipped	76.5	23.5		

	Learning Definitions' Knowledge				
		Yes, simple class. I am talking and student listening	Yes, complex class integrated with technology and active class	Yes, simple class integrated with technology and student listening	Yes, complex class with no technology and student listening
3	Flipped Learnings' Grading Assessment	17.6	52.9	29.4	0
		To obtain grade A in exam	To assist me in class process	To assist student in mastery learning	To gain new knowledge
4	Ipads' used expectation	0	35.3	41.2	23.5
		Quickly and solve the problem	Hear the students' problem and solve it in classroom	Allow student to communicate and collaborate to solve the problem	Never hear about students' problem
5	Teachers' instruction strategy	0.8	0.8	88.2	0
		Yes	No		
6	Mastery Learning Topic Movement Knowledge	37.5	62.5		
		Yes	No		
7	Teachers' strategy before teaching	88.2	11.8		
		Student achieve of mastery in prerequisite knowledge before moving forward to learn subsequent information	A student-centered approach in which students learn about a subject by working in groups to solve an open ended problem		
8	Mastery Learnings' Knowledge	76.5	23.5		
		A student-centred	Students must achieve a		

		approach in which students learn about a subject by working in groups to solve an open-ended problem	level of mastery in prerequisite knowledge before moving forward to learn subsequent information
9	Problem based learnings' knowledge	94.1	0.59

The survey's findings are applied. The first, second, fourth, and sixth items—all of which had values of at least 80%—show that the majority of respondents were in favour of the flipped learning approach. In particular, respondents generally concurred that they believe their students can benefit from active learning once the flipped learning approach has been implemented, that they should have a plan in place before receiving instruction, that they should achieve 90% mastery before moving on to the next level of learning, and that they should use a student-centered app. Further research revealed that the percentage values for the third, fourth, and sixth questions ranged from 60 to 70 percent, indicating that the respondents either agreed somewhat or were unsure about the answers. Respondents were particularly unsure about their ability to distinguish between integrated technology and an active class, if their students would benefit from a flipped learning strategy, and whether their students needed to move on after learning a new topic. All (seven) of the positive points are present in this section as a whole. All of the affirmative replies' percentage values ranged from 80 to 90 percent, indicating that respondents think favourably of the flipped learning strategy.

8.0   Recommendations

If stakeholders, teachers, and students want to employ flipped learning, they should think about the following ideas:

a. The flipped learning structure could be more effective if students are allowed to communicate with one another outside of   class in accordance with their preferences (Huang et al, 2019)

b. The flipped learning framework must be quick to complete, adaptable, and based on a sequential process in order to   provide students more time to explore and gather knowledge. It suggests that such a method of education must be supported   by   the flipped learning framework. A longer learning period is necessary to achieve competency if the flipped learning   structure is objective. 2017 (McLaughlin & Persky).

c. The instructor must place a major focus on student reflection in the flipped learning strategy in order for the students to be   more stable and able to respond to their different learning styles. Additionally,   reflection by students can aid them in   understanding their learning preferences and mindsets, comprehending the challenges they face, and receiving support from   teachers. (2015) Hwang et al.

d. The flipped learning structure for the main class must provide 30 minutes for teacher preparation and additional 30 minutes   for applying learning strategies. Depending on whether the learning format is acceptable, this time may also change.

he difficulty of utilising an application device, doing homework, or interacting with other students when learning flipped   learning. This can be resolved by offering a separate class schedule that alternates between student engagement time and   the time the student watches the video on the app device (Altemueller & Lindquist, 2017).

9.0   Conclusion

Despite possible implementation challenges, the majority of instructors believed the flipped learning method to be an effective   teaching tool. The learning strategy is important and practical because it can help teachers learn more and advance their   proficiency   in instructing the tech-savvy alpha generation. Additionally, this method can promote instructors' involvement in the classroom while promoting student independence and focus. The flipped learning technique enables interactive learning in the   classroom with help from teachers and peer conversations, as opposed to traditional lectures where students learn from the teacher and finish their assignments on their own. Teachers and students were able to readily communicate and discuss the   themes before and after the classroom courses because of the online platform. Based on the positive feedback from instructors,   the   flipped   learning approach is regarded as an effective teaching strategy for 21st-century learning. Furthermore, there are additional opportunities for teachers to discuss and provide timely feedback on class activities. It is strongly advised   that administrators adopt the flipped learning approach and ensure enough facilities and educational resources are accessible.

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