The New Educational Norm in Malaysian Universities is Online Education Worthwhile

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ABSTRACT

This paper investigates factors that influence of online learning classes participating and students' academic performance amidst the Covid-19 pandemic in Malaysian public universities. The study, involving 439 students, examines the relationship between the utilization of online learning platforms and students' educational outcomes. Specifically concentrating on a public university in Malaysia, the research underscores the pivotal role of online learning modalities during the pandemic. The findings offer valuable insights into the determinants that shape students' academic achievements through their engagement with online learning tools during this global health crisis. This study marks a pioneering effort in exploring the nexus between online learning adoption and academic performance during the Covid-19 pandemic.

Keywords: Online Learning, Universities, COVID-19, Students' Academic Performance, Malaysia

INTRODUCTION

Due to the fatal virus's rapid growth and intensity around the globe, WHO's Director-General discovered Covid-19, a pandemic in March 2020, along with the announcement of social distancing as a measure of stopping the pandemic's spread. Hence,on March 24, India and many other countries like Malaysia declared a country-wide lockdown of schools and colleges to prevent coronavirus transmission amongst the students (Adnan, 2020;Elengoe; 2020; Norzaidi, 2023). UNESCO recommends distance learning programs and open educational applications during a school closure caused by COVID-19 so that schools and teachers can teach their pupils and limit the interruption of education. Therefore, many institutes go for online classes (Baczek et al., 2021; Norzaidi, 2023). Due to the Covid-19 pandemic, the mobility of human activities has been affected, including activities in education. However, before the pandemic, the usage of online learning classes has been practised. According to (Putra et al., 2020), online learning means learning activities are carried out with online media, and face-to-face meetings are replaced with internet-based virtual. Also, one major challenge of online learning is how to help students learn autonomously, persistently, and actively (Lin et al., 2017).

Despite several advantages of online learning such as improving access to education and training, improving the quality of learning, reducing the cost and improving the cost-effectiveness of education, retaining students in such platforms is a crucial challenge with a high attrition rate (Panigrahi et al., 2018). Several strategies such as briefing, buddying, and providing feedback on the platform are proposed to retain and engage students (Norzaidi, 2023). It is also noted that more self-discipline is required by students in online education, unlike traditional classroom education. Keeping users enrolled and engaged is a challenging job as a personal touch by the instructor is missing or limited. The learning engagement, an essential antecedent for learning outcome, is lower for technology-mediated learning than face-to-face learning.

Many comparative studies have been carried out to prove the point to explore whether face-to-face or traditional teaching methods are more productive than online or whether online or hybrid learning is better. In the past, several research studies had been carried out on online learning to explore student satisfaction, acceptance of e-learning, distance learning success factors, and learning efficiency (Nguyen, 2017). However, a scant amount of literature is available on the factors that affect the students' satisfaction and performance in online classes during the pandemic of Covid-19 (Putra et al., 2020). If well planned, course design increases students' satisfaction with the system (Norzaidi, 2023). A practical course design will help improve learners' knowledge and skills (Khan and Yildiz, 2020). However, if the course is not designed effectively, it might lead to low e-learning platforms by the teachers and students. On the other hand, if the course is designed effectively, it will lead to higher acceptance of the e-learning system by the students, and their performance also increases (Norzaidi, 2024).

Moreover, Martin (2018) noted that student engagement increases student satisfaction, enhances student motivation to learn, reduces the sense of isolation, and improves student performance in online courses. Hence why student engagement in online learning is significant for a student's performance. This situation is because online learners seem to have fewer opportunities to be engaged with the institution. Therefore, it is essential to create multiple opportunities for student engagement in the online environment.

In this study, the main of objective is to examine the factors that contribute to the participation of online learning class and students' academic performance.Based on the previous discussion thus, here are the specific objectives of the study.

1. to determine a relationship between level of students' motivation and participation in online learning class
2. to examine a relationship between students' perception and participation in online learning class
3. to investigate a relationship between level of students' discipline and participation in online learning class
4. to examine a relationship between participation in online learning class and students' academic performance

The following section will discuss on the literature review.

REVIEW OF LITERATURE

Level of Students' Motivation and Online Learning Class

Everaert et al. (2017) stated that motivation is the number of influences and powers that determine the characteristics of future behaviour. Intrinsic motivation refers to the willpower to accomplish a particular assignment and gain pleasure from it.

It reflects a personal goal and derives from interest in the subject. At the same time, extrinsic motivation indicates finishing a task only as a means for achieving an external goal, for example, one's grades. It will be strongly influenced by external rewards and pressures Students are more likely to become motivated and more aware of how they are being evaluated and are more likely to take a deep approach to their learning (Adnan et al, 2020).

H1: There is a relationship between students' motivation and participation in online learning classes

Level of Students' Perception and Online Learning Class

Analyzingthe students' perceptions towards the online class during the Covid-19 lockdown period(Mahat, 2021). E-learning offers the convenience, flexibility and ability to access classes remotely on the participant's own time; participants may feel isolated. With the outbreak of COVID-19, educational institutions of the affected countries have stopped taking classes physically and shifted to online mode to contain the spread of the virus (Mahat, 2021).

Moreover, online learning developments based on changes to traditional pedagogy evoke the most inconsistencies in student perceptions, and it is here that individual differences emerge as possible success factors. The implementation of learning and technology is best viewed from the students' perception because they have direct experience (Nur Agung et al., 2020).

It has long been acknowledged that online instructional methods are an efficient tool for learning. However, online learning can be challenging for students because of the limited non-verbal communication (Norzaidi, 2023)

H2: There is a relationship between the level of students' perception and participation inonline learning class

Level of Students' Discipline and Online Learning Class

A little research has also found the differences in students' academic performance in online learning class is also relatable with students' discipline (Dumford and Miller, 2018). Self-discipline is "the ability to make yourself do things you know you should do even when you do not want to" (Cambridge Dictionaries Online, 2016), "the ability to control one's feelings and overcome one's weaknesses" (Oxford Dictionaries, 2016).

It is emphasized that "self-discipline appears in various forms, such as perseverance, restraint, endurance, thinking before acting, finishing what you start doing, and can carry out one's decisions and plans, despite the inconvenience, hardships or obstacles. Self-discipline also means self-control, the ability to avoid unhealthy excess of anything that could lead to negative consequences" (Sasson, 2016).

It is also found that student achievements in university might be better predicted based on their self-discipline level rather than scores shown in a school diploma (Gorbunovs et al., 2016). E-learning offers more freedom for learners but also requires planning of their self-development and high self-discipline.

It means that self-discipline becomes highly important to ensure learners' accomplishments and allow them to achieve learning goals (Gorbunovs et al., 2016). Students should be more disciplined in online learning than traditional classroom education (Panigrahi et al., 2018).

H3: There is a relationship between the level of students' discipline and participation in online learning classes

Online Learning Class and Students' Academic Performance

Online learning platforms develop online learning skills all of those things and provide a tool for students and teachers to keep a record of progress made. (Ingresqr, 2020). The flexible and interactive nature of online learning makes it highly efficient in career advancement, increasing the employability of many students and making faculty members better qualified to work in the digital age.

Neisle (2020) found that college students' satisfaction dropped sharply after schools shifted to all-online courses during the COVID-19 pandemic. Significant numbers of students had problems with their internet connections, software, or computing devices—severe enough to impede their participation in their courses. Still, most students did not attribute their struggles to poor instructor preparation or limitations inherent in online learning. (Means, 2020).

Student engagement improves student performance, increases student satisfaction, reduces the sense of isolation and enhances student motivation to learn in online courses (Martin and Bolliger, 2018).

Gonzalez et al. (2020) found that online classes during confinement caused by this pandemic had a major positive impact on student's academic success, allowing them to refine their learning techniques into a more consistent habit, thereby increasing their productivity.

However, students' perspectives showed that, in developing countries such as Pakistan, online classes could

not achieve desired academic results because most students do not have access to the Internet.

Also, the most significant findings are that 59.5 per cent of students believe that face-to-face contact is essential in improving their academic performance, and 55.5 per cent believe that the number of e-learning assignments leads to confusion, frustration, and poor performance. (Haider and Al-Salman, 2020).

H4: There is a relationship between the participating in online learning classes and students' academic performance.
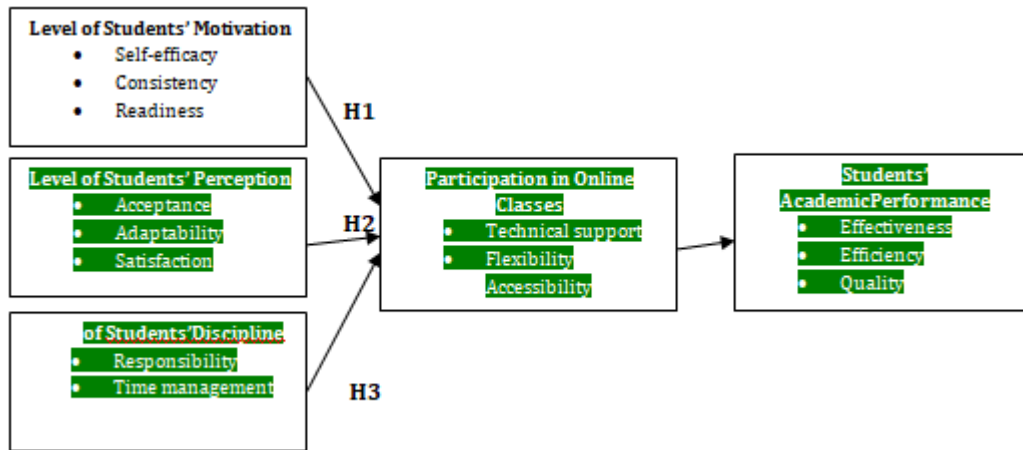

Figure 3: Conceptual Framework of the current study

In the above example, the proposed a conceptual framework in Figure 4 illustrates specifically how students' motivation, level of students' perception, level of students' discipline and level of students' learning engagement are significantly related to students' academic performance. The reason is that the usage of online learning classes creates a relationship between the students and how it can influence their academic performance. The framework was adapted from the literature review of students' motivation, students' perception, students' discipline, students' learning engagement and the usage of online learning classes as independent variables and the impacts towards students' academic performance as the dependent variable and by cooperating the usage of online learning class as the mediator.

METHODOLOGY

Sampling

The sampling frame of this study consisted of all students from a public university that experienced online learning classes in Malaysia. The targeted populations are students from public universities in Malaysia.The respondents for this research are the students who study in public universities of any branch in Malaysia who have the experience of using online learning classes for the previous semester. The population of this research is students from a public university in Malaysia. A total of 189,008 sampling frames were taken into this research. Using the Morgan and Krejchie table, the number of sample sizes to be chosen is 380 respondents. In this research, we gathered 439 respondents; thus, the number of respondents is more significant than the actual sample size.

The Instrument

The questionnaire is divided into seven sections to address the four hypotheses formulated in the study specifically. The first section contains seven questions capturing the respondents' demographic information such as gender, age, marital status, faculty, programme, semester and educational background. The remaining sections comprise of three items measuring the respondents' responses on the usage of online learning class; three items on level of students' motivation; three items on level of students' perception; three items on level of

students' discipline; and three items on level of students' academic performance. All the Sections 2-7 were measured using a seven-point Likert scale from 1=strongly disagree to 7=strongly agree (You, 2016; Norzaidi, 2023).

Sample characteristics

Table I shows the demographic profiles of the respondents surveyed. The majority of them are female (72.9 %). Most of them fall between the age cohort of 17-26 years old (99.1 %), followed by 27-36 years old (0.7%) and those between 36-45 years old (0.2%). The majority of them are single (99.3%) while married (0.7%). Most of the respondents are from the Business and Management Group (86.6%), followed by Science and Technology Group (10%) and Social Sciences and Humanities Group (2.1%). Most respondents are from Semester 5 (67%), and the least are from Semester 1 (0.5%). Besides that, the education background is mostly from Diploma/Certificate from other institutions (84.3%), followed by STPM (11.2%), Matriculation Certificate (3.6%) and Foundation Studies (0.9%).

Table 1: Demographic Profile

Gender	Percentage
Male	27.1
Female	72.9
Age (years)	
17 – 26	99.1
27-36	0.7
36-45	0.2
Marital Status	
Single	99.3
Married	0.7
Group	
Science and Technology	10
Business and Management	86.6
Social Sciences and Humanities	2.1
Education Background	
Matriculation Certificate	3.6
STPM	11.2
Diploma/ Certificate from other institution	84.3
Foundation Studies	0.9

Assessing validity and reliability

In determining the instrument's reliability, a general rule is that the indicators should have a Cronbach's of 0.6 or more (Nunnally, 1978).

With the range of a score between 0.60 and 0.90 obtained in this study (shown in Table 2), we can conclude that the questionnaire is reliable, and the data can be applied for the analysis.

Table 2: Internal consistency

Constructs/scale	Mean	Standard Deviation	Cronbach's alpha
Participation Online Learning Classes			0.827
Technical Support	5.90	0.998	
Flexibility	5.02	1.342	
Accessibility	3.67	1.665	

Level of Students' Motivation			0.796
Self- Efficacy	4.76	1.399	
Consistency	4.94	1.373	
Readiness	4.85	1.322	
Level of Students' Perception			0.796
Acceptance	5.15	1.266	
Adaptability	5.32	1.195	
Satisfaction	4.71	1.360	
Level of Students' Discipline			0.796
Responsibility	5.65	1.199	
Time Management	5.08	1.387	
Students' Academic Performance			0.821
Effectiveness	5.36	1.396	
Efficiency	5.31	1.397	
Quality	4.84	1.408	

Table 3 presents the correlation matrix illustrating the relationships between various variables. The analysis reveals several significant findings: firstly, there exists a low positive correlation (r = 0.439) between students' motivation levels and their participation in online learning classes. Secondly, a moderate positive correlation (r = 0.523) is observed between students' perception of online learning and both their participation in these classes and their motivation levels (r = 0.613). Additionally, there is a low positive correlation (r = 0.405) between students' discipline levels and their participation in online learning classes.

Lastly, there is a low positive correlation (r = 0.429) between students' participation in online learning classes and their academic performance levels. In summary, these findings indicate that the factors influencing students' participation in online classes exhibit moderate to low correlations. Consequently, students engaged in online learning may experience reduced motivation possibly due to issues such as poor internet connectivity (Norzaidi, 2023) or the perceived monotony of online classes, which could negatively impact their health, causing issues such as eye strain and ergonomic concerns (Norzaidi, 2023).

Table 3: Correlations among the subscales

	Participation	Motivation	Perception	Discipline	Academic Performance
Participation	1				
Motivation	0.439[**]	1			
Perception	0.523[**]	0.613**	1		
Discipline	0.405[**]	0.669**	0.646**	1	
Academic Performance	0.429**	0.503**	0.518**	0.482**	1

Notes: *Correlation is significant at the 0.05 level: ** correlation is significant at 0.01 level.

FINDINGS

Table 4 presents the findings pertaining to the four hypotheses formulated. According to the Multiple Linear

Regression analysis, the level of students' motivation was found not to predict their participation in online classes (p = 0.544). In contrast, the level of students' perception significantly predicts their participation in online classes (p = 0.000). Conversely, the analysis did not establish a significant relationship between the level of students' discipline and their participation in online classes (p = 0.059). Moreover, the results indicate that participation in online classes significantly predicts students' academic performance (p = 0.000).

In summary, this study suggests that the level of students' motivation may not be the primary determinants influencing students' participation in online classes during the Covid-19 pandemic. It is possible that compulsory attendance policies, where non-compliance could affect final examination eligibility, compel all students to participate. Furthermore, the slightly higher than accepted significance level (p = 0.059) for students' discipline implies that students generally exhibit positive attitudes towards attending online classes, possibly due to parental supervision at home ensuring compliance.

Table 4: Hypotheses Results

Hypothesis	Causal Relationship		Factor	Beta	Sig.	Result
H1	Level of Students' Motivation	→	Participation Online Learning Classes	0.035	0.544	Reject
H2	Level of Students' Perception	→	Participation Online Learning Classes	0.214	0.000	Do not reject
H3	Level of Students' Discipline	→	Participation Online Learning Classes	0.110	0.059	Reject
H4	Participation of Online Learning Classes	→	Students' Academic Performance	0.165	0.000	Do not reject

Notes: β = standard error, α = 0.05, * = <0.001, Sig = statistical significance of the test

DISCUSSION AND PRACTICAL IMPLEMENTATION

This research contributes significantly to understanding the various factors directly associated with the participation of students on online learning classes and students' academic performance during the Covid-19 pandemic. With the global outbreak necessitating governmental mandates for colleges and universities to transition online, educators adapted, despite some initial challenges due to their varying levels of technological proficiency (Pillai et al., 2021). The findings of this study are poised to empower educators in enhancing student performance in online learning environments by identifying critical factors.

Based on the results, a significant relationship between the participation of online learning classes and students' academic performance is evident, with a p-value of 0.000, indicating statistical significance below the standard alpha value of 0.050. Therefore, the hypothesis is supported. These findings align with research from the US Department of Education, which highlighted that time spent on learning tasks significantly impacts online students' performance, surpassing the outcomes of traditional face-to-face instruction. Additionally, studies underscore that purposeful engagement in online learning activities positively influences student achievement (Crampton et al., 2016).

This study has concluded that the level of students' motivation does not play a significant role in increasing their participation in online classes, as indicated by the rejection of the hypothesis. With the global shift in

educational systems toward complete online learning, whether synchronous or asynchronous, traditional methods of teaching and learning have been rendered obsolete. In Malaysia, higher education institutions, particularly the Higher Learning Institutions, have mandated online teaching as the primary mode of instruction during the pandemic (Selvanathan, 2020). The adoption of online learning has become mandatory, leaving students with no alternative but to attend their online lessons regardless of personal preferences. Conversely, students' motivation levels are primarily self-determined. They must take responsibility for their own learning and adapt to this new educational paradigm. In this context, students cannot rely solely on direct guidance from teachers; instead, success depends on their ability to maintain focus and motivation (NST, 2020). Ultimately, the effectiveness of online learning hinges on students' personal initiative and commitment to their studies.

Furthermore, this study found no significant relationship between students' motivation and their participation in online learning classes, as indicated by a significant value of 0.544, which exceeds the alpha threshold of 0.05, leading to the rejection of the hypothesis. This finding suggests that factors such as the higher average age of online learners and their increased family and work commitments may contribute to negative attitudes toward online learning. These circumstances can be perceived as additional burdens despite students' intentional choice of online study over traditional on-campus methods. Motivation remains a complex issue for educators and students alike, necessitating a comprehensive response beyond the scope of this discussion. Nonetheless, discovering methods to foster positive attitudes toward online learning is crucial for enhancing student engagement.

Additionally, this study underscores that students' perception emerges as a significant factor influencing their participation in online classes. The research highlights that students appreciate e-learning for its interactive opportunities with lecturers and peers, flexibility in scheduling, and access to study materials from any location. A notable reason for choosing e-learning cited by respondents was the ease of accessing study resources. During the COVID-19 pandemic lockdown, a majority of respondents favoured online classes to stay on track with their curriculum, while a minority advocated for temporary suspension of classes or provision of reading materials until lockdown restrictions were lifted. This underscores the importance of understanding students' perceptions toward online classes in shaping educational strategies (Muthuprasad, 2021).

In addition, there is no significant relationship between the level of students' discipline and participation of online learning because the significant value, 0.059, is greater than the alpha value, which is 0.05. Thus, the hypothesis is rejected. Previous research stated that this claim was valid. For instance, in the study Crampton et al. (2016) argued that students who choose to study via distance education are expected to have a high degree of self-discipline and regulate their learning environment around other life issues.

Finally, this study suggests that students' participation in online classes significantly influences their academic performance. With the onset of the Covid-19 pandemic and Movement Control Orders (MCO), students were compelled to attend online classes as traditional in-person options were unavailable. Consequently, learning processes such as lectures, assignments, presentations, and final examinations were conducted online, initially posing challenges such as health issues and adaptation difficulties for students. However, as students attended more online sessions, they gradually adjusted, perceiving online classes akin to physical classes. Nonetheless, isolated instances of students encountering problems with online learning were found to negatively impact their academic performance (Norzaidi, 2023).Moreover, this study reveals that levels of students' discipline and motivation do not significantly correlate with their participation in online classes. This can be attributed to the mandatory nature of online classes, leaving students with no choice but to attend. Additionally, the supervision provided by parents at home may also contribute to students' consistent participation.

The shift towards online learning during the pandemic has transformed the culture of higher education in Malaysia, with institutions continuing to offer a blend of physical and online classes even post-Covid-19. Approximately 60 percent of classes are conducted in person, while 40 percent remain online. This shift has particularly benefited mature part-time students who can study from home after work, contributing to the rise of micro-teaching where younger students also opt for online classes due to their convenience and flexibility. As long as students have internet access, online classes provide the opportunity for learning at any time.

RECOMMENDATION AND CONCLUSION

Concurrently, there is an urgent need for the community to enhance digital literacy to effectively navigate online learning systems (Norzaidi, 2023). This evolving landscape of online learning has become a cornerstone of many institutions' strategic plans to cater to the next generation of students. During the Covid-19 pandemic, the government faced challenges not only in the economic sector but also in the education sector, which was severely affected. With physical classes suspended, lecturers and students transitioned to online distance learning. Recognizing these disparities, policymakers should take proactive measures to support students, particularly those from low-income families who may lack access to mobile devices for online classes. Furthermore, there is a crucial need to upgrade internet infrastructure, especially in rural areas, to provide high-speed connectivity (Lee, 2020). Additionally, students from economically disadvantaged backgrounds should receive discounts on computer peripherals and internet connections, and free tablets could be provided to facilitate their participation in online and physical classes. These tablets could assist students in researching information, completing assignments, projects, and engaging in discussions.

Moreover, universities should enhance facilities on campuses and in student residences to accommodate the demands of online learning. Training sessions for online classes should be conducted to improve students' perception and utilization of online platforms and student management systems. Furthermore, providing manuals for using these systems would aid students in navigating and maximizing their learning experience effectively.

LIMITATION AND FUTURE RESEACRH PLAN

This study is limited to a sample of students from a single university in Malaysia, which restricts the generalizability of the results. Consequently, future research should aim to include a larger and more diverse sample drawn from multiple institutions, encompassing both private and public universities that implemented online learning during the COVID-19 pandemic. Furthermore, subsequent studies may benefit from a deeper investigation into students' levels of trust and perceptions of security, as these factors could influence their participation in online education. Additionally, the role of institutional support warrants further exploration as a potential contributor to a more comprehensive understanding of student engagement in online learning environments.

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