

Economics Online Learning Management through Learning Platform, Interaction and Motivation Aspects among High School Students in Johor

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Abstract

The purpose of this study is to examine online learning management for Economics subject through three aspects, specifically, learning platform, interaction, and motivation among upper-secondary school students located in Johor throughout the COVID-19 pandemic until now. A total of 103 high school students took part in this study via survey questionnaires, using a stratified random sampling method. This study employs descriptive statistics, mean scores, and correlation analyses. The findings disclose that online learning management for economics subject in all three aspects, learning platform, interaction and motivation, are at a high level with overall mean scores of 3.98, 3.70 and 3.58, respectively. Despite other apps' popularity, Google Meet platform continues to become the most preferred online learning platform. With the exception of highly correlated motivation and online learning management variables, the rest of the paired variables are positive and moderately correlated. Clearly, everything depends on the students themselves in determining the outcomes of their academic performances irrespective of whether learning is held online or face-to-face.

Keywords: online learning, quantitative method, education, economics, COVID-19 pandemic.

INTRODUCTION

The spread of the COVID-19 epidemic, which has occurred in all corners of the world, since the beginning of December 2019, has shaken all countries. Since the outbreak, the virus has spread and affected three major systems worldwide, health, economy, and education (Cucinotta & Vanelli, 2020). Due to that, Malaysia has taken appropriate measures like the Movement Control Order (MCO), where people are advised to stay at home and work from home (WFH). As a result, this circumstance has profoundly altered everyone's life on the globe, including students' and educators' lives. Around the world, there have been disruptions to the education sector in many institutions, spanning from preschool to higher education (Kirin et al., 2021). As such, it significantly affects school administration in Malaysia. Therefore, Malaysian Ministries of Education (MOE) and Higher Education (MoHE) believe that the implementation of online learning is the best solution in comparison to face-to-face learning in schools and tertiary institutions.

Nowadays, there are various teaching methods used by educators to continue the tradition of passing down knowledge to students in elementary, middle, and high schools as well as in universities.

Ibrahim et al. (2021) also think that online learning is a viable substitute for learning knowledge, given the state of the COVID-19 epidemic and contemporary technical advancements. Because of this new standard of online teaching methods, which requires instructors to make full use of the virtual world and engage with students in both face-to-face and remote learning, lecturers' obligations have become more challenging.

Therefore, this study is conducted to examine whether learning platform, interaction and motivation aspects are crucial among high school students in online learning management for Economics subject in Batu Pahat district, Johor during and post COVID-19 pandemic. Besides, this study aims to determine the relationships of these three aspects in terms of their strengths and significant effects on online learning management for this specific subject.

LITERATURE REVIEW

This section reviews several studies on online learning management done by educators together with its relations with online learning platforms, students' interaction, and motivation aspects all over the world. Overall, teachers and lecturers have acknowledged the importance of and the need for online learning, especially since the MCO period in all levels of education institutions (Salim et al., 2019; Hassan et al., 2021; Hasan et al., 2021; among others). According to Abdul Halim Masnan (2021), the two teaching approaches need to complement one another. Whether willingly or not, prepared or not, the adoption of online learning must be carefully considered by all involved and should be carried out in accordance with the 21st-century learning idea. His statement is supported by Mahlan & Hamat (2020), Ma'alip et al. (2021), and Mieczkowski (2022), who claim that since the COVID-19 pandemic, online learning has become essential and is no longer optional.

Students have been found to benefit from online learning management. (Dhawan, 2020; Harun, et al., 2021; Salleh, et. al., 2021; Mahad, et al., 2021; Hashim, et al., 2023). Because they have a strong desire to stay interested in what they learn, students are determined to learn without fail. Moreover, with online learning, educators and students can more easily enhance the quality of education by utilizing technical resources to deliver teaching and learning methods (Aziz & Lai, 2019; Al-Marroof et al., 2021).

Specifically, studies have shown that user satisfaction and student active learning are significantly impacted by the online learning platform that has been utilized (Sabri, 2017; Zahit & Noni, 2020; Bidi, 2021; Mahad et al., 2021; Al Rawashdeh et al., 2021; Kumar et al., 2021; Daud et al., 2022; Razak & Rusli, 2022;) Bidi (2021) lists out several online platforms to be used for online learning according to five platform usages, that are learning management system (LMS), sharing information, virtual classes, interactive quizzes and discussions. She names various common online platforms as per category: CIDOS 3.2 and 2.5, Google Classroom, Edmodo, Schoology for LMS; YouTube, Facebook, WhatsApp and Telegram for sharing information; Google Meet, Zoom, Webex and Microsoft Teams for virtual classes; EdPuzzle, PlayPositm, Hot Potatoes, Kahoot, Quizizz for interactive quizzes; and lastly Padlet, VoiceThread and Flipgrid for discussion, respectively. WhatsApp, Zoom, Webex, Microsoft Team, and Google Meet are among popular online learning apps (Wargadinata et al., 2020; Rahman & Rosli, 2021; Daud et al., 2022;). The mean score for using open learning platforms is really high due to their interactive and interesting fun online learning like Massive Open Online Course (MOOC) and blended learning (Sabri, 2017).

However, some students exhibit unfavorable attitudes and motivation when learning online, even though this is a new norm since the COVID-19 epidemic. (Nawawi, 2020; Irfan and Iman, 2020; Mohd Basar et al., 2021; Selvanathan, et. al., 2020; Sofi et al., 2023). Some of the ineffective online learning are due to students' physical conditions or disabilities, inadequate and unaffordability internet access and devices, social isolation, teachers' incapacity to use online learning, and parents' lack of cooperation (Irfan and Iman, 2020; Selvanathan, et. al., 2020; Al Rawashdeh et al., 2021; Meşe & Sevilen, 2021; Sofi et al., 2023). Lastly, Kamaludin and Sundarasan (2023) raise questions about the challenges ahead for students, who are engaging in online learning with constant assessment tasks, new teaching and learning approaches, and burdensome workload.

Online learning involves three types of interactions, learner-content interaction, learner-learner interaction, and learner-instructor interaction (Wang et al., 2022). In addition, learner-content interaction is seen as the strongest predictor of online learning engagement (Wang et al., 2022; Baber,

2022; Gherghel et al., 2023). In order to increase teacher–student interaction, teachers need to explain the materials and relate them to the students’ daily lives (Ong et al., 2023; Teo et al., 2023). Besides, students' learning engagement in online environments is positively correlated with social presence and self-regulation learning (Miao & Ma, 2022; Yu, 2022).

Online and face-to-face students face similar patterns of motivation (Francis et al., 2019; Bosch & Spinath, 2023) Teacher’s enthusiasm, flexibility and deliverability are the most crucial elements in generating online course motivation (Selvi, 2010; Fajri et al., 2021; Rahmat et al., 2021; Chowkase et al., 2022). Furthermore, students' intrinsic incentive to learn new things and enjoy new learning experiences is positively connected with their online learning motivations, which are also influenced by contextual factors and regulations, the extrinsic motivation (Luo et al., 2021; Gustiani et al., 2022; Yong & Thi, 2022; Yahiaoui et al., 2022). There are also constraints on students’ motivation throughout online teaching and learning due to lack of motivation and encouragement given to them in their surroundings (Minda, 2020).

METHODOLOGY

Stratified random sampling method is applied in this quantitative study. The survey data from this study is obtained via questionnaires that are distributed to 103 respondents. The questionnaires in this survey have been adapted from four previous studies, particularly Sabri (2017), Salim, et al. (2019), Zahit & Noni (2020), and Mahad, et al. (2021). Meanwhile, the sample size is determined using Krejcie dan Morgan's methodology (1970). The total sample size of 103 students comes from a few high schools in Batu Pahat district, Johor. These students have first experienced online classes in Economics due to the occurrence of COVID-19 pandemic. Students of various levels and skills, both male and female, make up the research sample. These students also come from a variety of backgrounds and have varying attitudes, motivations, and areas of interest in Economics subject. The diverse backgrounds among the respondents allow the researcher to collect more insightful data as well as a wealth of implicit information. Data is then being analyzed using SPSS (Statistical Package for the Social Sciences).

Table 1: Results of pilot study

Sample size	Cronbach’s Alpha Value
Learning Platform	0.732
Interaction	0.832
Motivation	0.892
Online Learning Management	0.902

The results of this pilot study being conducted on 30 respondents are portrayed in Table 1. From the table, the interpretation of Cronbach Alpha reliability measures is based on the rule of thumb by Bond & Fox (2015). Since Cronbach's alpha of the coefficient value, ranges from 0.732 to 0.902, this pilot study validates that the questionnaire is acceptable and very reliable, hence it is internally consistent, which is in line with Bond & Fox (2015).

Table 2: Mean score indicators

Mean Score	Interpretation
1.00 – 1.89	Very low
1.90 – 2.69	Low
2.70 – 3.49	Moderate
3.50 – 4.29	High
4.30 – 5.00	Very High

Source: Education Policy Planning and Research Division, MOE (BPPDP) in Zaki & Ahmad (2017)

Table 2 depicts the interpretation of mean score indicators. By looking at the table, a very low mean score level is obtained with a mean score between 1.00 and 1.89, a low mean score level with a mean score between 1.90 and 2.69, a moderate mean score level with a mean score between 2.70 and 3.49, a high mean score level with a mean score between 3.50 and 4.29 and a very high mean score level with a mean score between 4.30 and 5.00, respectively.

Table 3: Interpretation of correlation coefficients

Correlation Coefficients (r)	Interpretation
± 0.91 – 1.00	Very Strong
± 0.71 – 0.90	Strong
± 0.51 – 0.70	Moderate
± 0.31 – 0.50	Low
± 0.01 – 0.30	Very Low
0.00	No correlation

Source: Ismail, et. al. in Hashim, et al. (2023)

Table 3 displays the coefficients of Pearson Correlation analysis that measures the strength of an association between two continuous variables (Hashim, et al., 2016). Table 3 reveals that the coefficients of the correlation range between 0 and ±1, indicating a positive or negative correlation. The highest correlation coefficient (r) of ± 0.91 – 1.00 indicates a very strong correlation between the two variables, ± 0.71 – 0.90 shows a strong correlation, ± 0.51 – 0.70 presents a moderate correlation, ± 0.31 – 0.50 reveals a low correlation, ± 0.01 – 0.30 exhibits a very low correlation, and correlation coefficient (r) of 0 demonstrates no correlation between the variables, respectively.

RESULTS

This study involves 103 students taking Economics subjects in Batu Pahat district, Johor. The descriptive analysis is conducted on demographic aspects consisting of gender, upper secondary groups of students, number of siblings, strata of residential area, and parents' income. Table 4 displays the respondents' frequency distribution and percentages of the stated variables. From the study, 31 students (28.9%) of the total respondents are males and the remaining 72 students (69.9%) are females. The upper secondary students comprise 43 Form four students (41.7%), and 60 Form 5 students (58.3%) from 3 secondary schools in Batu Pahat. In terms of strata, respondents who live in the city are merely 31 students (30.1%). Meanwhile, many respondents come from rural areas with 69.9% or 72 students. Furthermore, when looking at the family income, nearly half of the respondents' parents, that is 46.6 percent, earn between RM2208 – RM3500, 33 percent of their parents earn between 3500 and 8500 while only 20.4% of the respondents are B40 group, who receive income less than RM2208, respectively.

Table 4: Respondents' Profiles

Characteristics	Frequency (N)	Percentage (%)
Gender		
Male	31	30.1
Female	72	69.9
Form		
Four	43	41.7
Five	60	58.3
School Strata		
City	31	30.1

continue

Family Income	Rural Area	72	69.9
	Less than RM2208	21	20.4
	RM2208 – RM3500	48	46.6
	RM3500 – RM8500	34	33

According to these upper secondary students in the study, Figure 1 presents all the learning platforms being used by their teachers. Google Meet application is considered the most preferred platform used while learning online, representing 35.92 percent of the entire responses. Besides its free and easy-to-use, effective live learning and communicative application, for both teachers and students, in online learning for Economics subject. Other famous platforms being used are WhatsApp (14.56 percent), Telegram (13.59 percent), Google Classroom (12.62 percent), Zoom and Padlet, both being utilized equally by respondents and teachers, with 11.65%, respectively. Despite their popularity, none of the Economics teachers utilize Kahoot and Quizziz as the learning platforms for their classes.

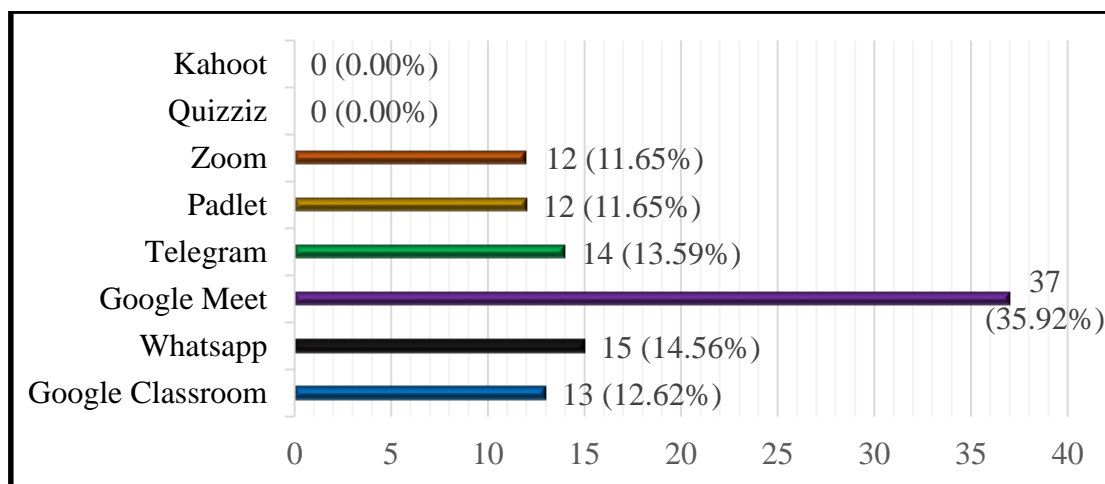


Figure 1: Frequency & percentage distribution of learning platforms used as online learning management

Table 5: Mean score for the learning platform, interaction and motivation aspects

Aspects	Mean Score	Level
Learning Platform	3.98	High
Interaction	3.70	High
Motivation	3.58	High

An analysis of the mean score variables that can affect online learning among upper-secondary students' is presented in Table 5. The results from Table 5 indicate that all specified aspects concerning online learning management for Economics subjects, learning platform, interaction, and motivation, reflect high mean scores. The highest mean score is recorded by the learning platform aspect which is $M = 3.98$, which is regarded as a high mean score level. The finding of this research is consistent with a study carried out by Abd Latib et al. (2021), which discovered that the utilization of technological apps might foster a livelier and more pleasurable environment. Next, the high mean score is followed by the interaction aspect with $M = 3.70$ and lastly, the motivation aspect with a mean score value of 3.58, respectively. A high mean score for each aspect illustrates the importance of these aspects in managing online learning for these particular upper-secondary Economics students.

From Table 6, Pearson's Correlation Test analysis demonstrates mixed results of the association between the variables being studied. The two variables of motivation and online learning management have positive and strongly significant relationships with $r = 0.842$. In contrast, the correlation between the other paired variables, namely learning platform and interaction, learning platform and motivation, learning platform and online learning management, interaction and motivation, and interaction and online learning management are positive and moderately correlated with each other, specifically $r =$

0.539, $r = 0.622$, $r = 0.677$, $r = 0.635$, and $r = 0.635$, respectively. Thus, all variables, specifically learning platform, interaction, motivation and online learning management, are either strongly or moderately correlated.

Table 6: Correlation between learning platform, interaction, motivation, and online learning management

Variables		Learning Platform	Interaction	Motivation	Online Learning
Learning Platform	Pearson Correlation	1			
	Sig. (2-tailed)	0.000	0.539***	0.622***	0.677***
	N	103	0.000 103	0.000 103	0.000 103
Interaction	Pearson Correlation	0.539***	1		
	Sig. (2-tailed)	0.000	0.000	0.635***	0.635***
	N	103	0.000 103	0.000 103	0.000 103
Motivation	Pearson Correlation	0.622***	0.635***	1	
	Sig. (2-tailed)	0.000	0.000	0.000	0.842***
	N	103	0.000 103	0.000 103	0.000 103
Online Learning Management	Pearson Correlation	0.677**	0.635***	0.842***	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	103	0.000 103	0.000 103	0.000 103

***0.01 level of significance

CONCLUSION

In short, the study highlights the high results of overall mean scores of the variables, learning platform, interaction and motivation, where the learning platform has the highest mean score in online Economics learning management, as compared to interaction and motivation aspects. Moreover, except for positive and strong correlations between motivation and online learning management, the other paired variables are positively and moderately correlated. Obviously, the trend toward greater online learning is expected to continue since primary, secondary and tertiary education institutions find online learning as appealing (Mieczkowski, 2022).

However, for more accurate and precise results, future research must include additional components that should be highlighted, especially obstacles and challenges components for students in facing online learning. Additionally, a large geographic sample of respondents from around the country must be included. Whether learning is conducted in-person or virtually, students are ultimately responsible for defining their motivation, goals, and performance to excel in their studies.

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APPENDIX

Questions about Economics online learning management through learning platform, interaction and motivation aspects among high school students

Item	Statement
	Learning Platform Aspects
1	Various interesting online learning tools used by my Economics' teacher has encourage me to participate in online learning.
2	The platform has simplified the online learning and activities in Economics subject.
3	The platform used has improved my skills using mobile devices and internet applications while learning Economics online.
4	The online learning process in Economics subject through the platform has increased my level of understanding.
5	The platform has created a more flexible online learning environment in Economics subject.
6	Overall, internet-based learning and mobile devices are capable of providing benefits to students in learning Economics.
	Interaction Aspect
7	I am more comfortable to interact with my classmates remotely in any online activities or learning for Economics subject.
8	Majority of my classmates love to join the online discussion for Economics subject.
9	Discussions between my classmates during online learning in Economics' subject have helped a lot to improve my understanding for the subject.
10	My Economics' teacher always encourages his or her students to interact with each other online.
11	I feel more comfortable to interact with my Economics' teacher during online learning compared to face-to-face learning.
12	Discussions between teachers and students, including me, run smoothly via online learning.
13	The online interaction between teacher-student and student-student interactions have helped me doing well for this subject.
	Motivation Aspect
14	I have a strong desire and become more focused to learn Economics during online learning.
15	I always follow online learning to improve my understanding of the Economics' subject.
16	I enjoy taking classes online and keep me motivated during the covid-19 pandemic.
17	Currently, if possible, I am willing to choose online learning methods rather than face-to-face for this subject.
18	I got constant encouragement from my parents while learning Economics via online.
19	I will make sure to do self-learning reflection, note taking and revisions after each online learning session.
20	My self-confidence is higher when learning online compared to face-to-face learning sessions for this subject.

continue

Online Learning Management

- 21 Online learning has increased my self-confidence during the undergoing Economics learning process.
- 22 Online learning has improved my ability to think creatively and critically in Economics subject.
- 23 Online learning is carried out more effectively throughout the Economics learning sessions.
- 24 Online learning has produced various innovations in Economics education.
- 25 Online learning has allowed many learning activities to be included easily for each Economics topic.
- 26 Online learning has made student assessment in Economics subject to be done faster.
- 27 Online learning has saved cost and reduced the wastage of papers.