



A Study on University Students' Experiences on Online Assessment During Pandemic

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Abstract. In line with the new norm practice in education during Covid-19 pandemic, the experience of university students towards the shift of online teaching and learning needs to be investigated. Thus, the objective of the paper is to examine the experience of students on online assessment from the perspective of advantages of online assessment, perceived ease of use of online assessment and perceived usefulness of online assessment. Technology Acceptance Model (TAM), conceptual framework was applied. The study utilised an online questionnaire to obtain data from undergraduate students who used online learning in MMU. The results show that the relationship between students' experiences on online assessment and advantages of online assessment is most significant among university students. Perceived ease of use of online assessment and perceived usefulness of online assessment related to the experience of students on online assessment was also validated.

Keywords: Online learning · Student Experience · Online Assessment

1 Introduction

The influence imposed by Covid-19 pandemic on the education industry drove virtual learning to be a necessity in all levels of education institutions in Malaysia. The higher education institutions in Malaysia commenced online learning in virtual classrooms since April 2020 and to date April 2022, many universities are implementing online learning or hybrid mode.. It was believed that online learning in virtual classrooms was the safe approach to confirm the continuity of the learning process in university in curbing the outbreak of Covid-19 [1]. In line with the new norm practice in education, the experience of university students towards the shift of online teaching and learning needs to be explored. In fact, a study on the readiness of online learning among university students in Malaysia found that students showed a satisfactory level of readiness towards online learning during the Covid-19 pandemic [2]. With the implementation of online learning in virtual classrooms, lecturers were urged to replace the traditional assessments with alternative assessments such as online tests, online quizzes, online examinations, etc. The use of technology and digital learning tools in the preparation of online lessons and online assessments was evidence in line with the implementation of virtual education

in Malaysia [2]. It was inevitable that students had experiences in attempting online assessment during their virtual learning throughout the closure of campus.

When some students were allowed to return to campus in 2021, many universities chose to implement hybrid teaching and learning. However, a few universities in Malaysia imposed strict regulations where fully vaccinated students will only be allowed to return to campus for physical lecture, tutorial and lab sessions, meanwhile some students are still attending online lecture classes. It indicated the continuity of virtual learning and thus the implementation of online assessment to continue until the campus is fully operational in physical mode. Previous research which focused on teachers' perspective on online assessment emphasized the importance of determining the perception of students towards online assessment during online learning [3]. It indicated the importance of exploring students' perception towards online assessment to review their experience during online learning. A study on the perception of online learning among university students in Malaysia found that it was difficult for students to cope with online tests during online learning [4]. Furthermore, a study prior to the pandemic which explored the experiences of students towards online assessment tools found that students perceived the usefulness and ease of use of online assessment tools in attempting online quizzes [5]. Apart from students' perception towards online assessment as their online learning experience, there is a need to examine the students' experience in online learning with regards to the benefits of online assessment. A study on students and staff experience of online education during pandemic revealed that both students and staff perceived the advantages of online assessment during e-learning [6].

Thus, this paper aims to examine the experience of students on online assessment from the perspective of advantages of online assessment, perceived ease of use of online assessment and perceived usefulness of online assessment.

2 Literature Review

2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was introduced by Fred Davis in late 1980s to early 1990s and it is used to examine the level of user acceptance in information system technology [7]. TAM has been one of the widely used model in studying users' behaviour or attitude in any new technology platform. It is used to examine how the users accept and use that particular technology. Primarily, TAM consists of two factors that determine the user's intention to use the technology: Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). According to Davis, PEOU is referring to how easily the users use the technology that would be beneficial to them while PU is referring to how much the users believe that the technology they use would improve their performance [7]. Due to the Covid-19 pandemic and forced shifting to online learning in a sudden, several studies have been conducted to examine the students' acceptance or their attitude towards this online learning and these studies are examined by using TAM. The most recent study attempted to explain the students' intention to use online learning as well as exploring the system features in their learning processes [8]. Positive impact was obtained on students' attitude towards the use and the intention to study online. Most of the research have been

carried out on the user acceptance in online education recently and the findings show the high level of acceptance and positive feedback [9–11].

2.2 Perceived Ease of Use of Online Assessment

PEOU can be used to examine the users' attitude to accept the new technology. In terms of assessing the students' experience on using the online assessment, PEOU is used to examine if the students think the online assessment is easy to use or with less of effort, in which beneficial to them. However, there are lack of studies on using TAM to examine PEOU in online assessment. Several studies were conducted to find out students' attitude, acceptance or their intention to use the online assessment. The findings of previous studies showed that the students agreed that taking online assessments are easier than physical assessments. They were able to follow the instructions or guidelines of the online assessment and user-friendly tool is one of the main reasons why they are happy with online assessment [12–13]. The convenience in the use of technology in online assessment is also being identified as another reason with high level of acceptance from the students as it would benefit them in terms of doing multiple attempts, in which helping them to practice more [14]. Majority students reported that the simplicity, flexibility, fast extraction of results and the ease of use of online assessment are the important components in which they prefer online assessment as compared with physical assessment [15–17].

2.3 Perceived Usefulness of Online Assessment

According to Davis, PU is concerned on how much the users would believe that using the technology is able to improve their performance [7]. To study the students' experience on using the online assessment, PU is used to examine if the students think the online assessment would improve their grades or results. Similar to PEOU, the study on using TAM to examine PU in online assessment is insufficient. However, there are some studies which have been conducted to identify the students' perception on the usefulness of online assessment. In those research, most of the students reported that their grades were improved in online assessment and they believe online assessment are very helpful in their learning [6, 12, 18–20]. This was because multiple attempts can be obtained and they could practice and learn more, indirectly motivated them to learn the subject [12–14]. At the same time, the studies also found that online assessments have brought some affects to the students' learning process such as improving their technical skills, enhancing self-learning and problem solving skills [20, 21].

2.4 Advantages of Online Assessment

Students' intention to use the online assessment can be affected by its advantages as it might increase the students' motivation to study. The students can have greater control over their learning and effective time management. One of the common advantages is its flexibility. Students are able to complete or access the assessments regardless of the location and at any time [13, 14, 17, 22, 23], thus this has saved their time as well

as the travel cost [17, 23]. Besides, students responded that the instant feedback after completing the online assessments also one of the reasons why they prefer it as it does help to improve their learning [14, 17 22, 24] In previous study, the students responded that the system was clear and easy with user friendly interface, thus it is easier for them to identify those unanswered questions when doing the assessment [17]. There are some studies which revealed that students would feel calm, more relaxed and stress free when taking the online assessment [13, 23, 25].

3 Research Methodology

This is research on the relationship between students' experiences on online assessment during pandemic with perspective of advantages of online assessment, perceived ease of use of online assessment and perceived usefulness of online assessment. This study selected one private university in Malaysia based on convenience sampling method. This study sent out questionnaire to students in Multimedia University as Multimedia University is the first private university in Malaysia and adoption of technology in this university is relatively significant due to the programs offered are related to multimedia and technology. The respondents are student from Faculty of Business and Faculty of Information Science and Technology, in Multimedia University Melaka, Malaysia. There were respondents from either Diploma or Degree students' who enrolled their study in first year and second year in MMU. The research method applied in this research was a self-administered online questionnaire. The data analysis of correlation analysis was carried out using SPSS. The online questionnaires were distributed to 150 target respondents since April 2021, and there were a total of 111 respondents who participated, which ended with a result of 74 percent response rate.

3.1 Research Framework

TAM model has been used by number of researchers to evaluate the impact of technology adoption and acceptance. In this paper, two constructs was provided within the TAM model, which are perceived ease of use and perceived usefulness, which both variables are the major determinants in measuring the effect of technology on the participants within the education industry.

The conceptual model is a flow chart presenting the hypothesised relationship between research constructed that established the determinants of students' experience on online assessment. The determinants are advantages of online assessment, perceived ease of use of online assessment and perceived usefulness of online assessment (Fig. 1).

The suggested hypotheses are as below:

H1: Perceived ease of use of online assessment has a significant relationship with student experience on online assessment.

H2: Perceived usefulness of online assessment has a significant relationship with student experience on online assessment.

H3: Advantages of online assessment has a significant relationship with student experience on online assessment.

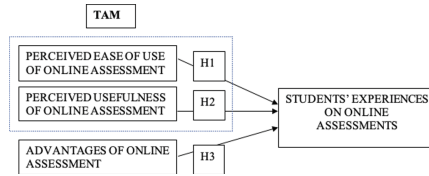


Fig. 1. Research Framework

Table 1. Summary of Demographic Profile

Demographic Variables	Categories	Frequency	Percentage
Gender	Male	51	45.9
	Female	60	54.1
Age	20–25 years old	63	56.8
	25–30 years old	46	41.4
	31–40 years old	1	0.9
	Above 40 years old	1	0.9
First year student	Yes	60	54.1
	No	51	45.9
Frequency of online assessment attempt	0 time	0	0
	1 time	0	0
	2 times	6	5.4
	3 times	2	1.8
	More than 3 times	103	92.8

4 Results and Findings

In serving the objective of this research, a structured survey was used which included 12 items to measure the three constructs in this research model. There are Perceived Usefulness of Online Assessment (PU) (2 items), Perceived Ease of Use of Online Assessment (PE) (2 items), Students' Experiences on Online Learning (E) (4 items), and Advantages of Online Assessment (A) (4 items). All items are applied to five-point Likert-style responses ranging from 1 = “strongly disagree” to 5 = “strongly agree”.

Findings and results for this research are provided as below. Out of 150 questionnaires circulated in MMU, Malaysia, 111 usable responses were received which represented a response rate of 74%. Summary of mentioned demographic profiles is presented in Table 1.

In terms of gender, data showed there were (54.1%) of the sample consisting of female students, whereas the remaining 45.9% being male students. Most of them were from the range between 20 – 30 years old; young respondents were captured as the biggest number in the sample in term of age distribution. Based on the data, 56.8% of them were aged from 20–25 years old, with 41.4% of them from 25–30 years old. 0.9% equitably for 31–40 years old & above 40 years old respectively. Furthermore, most of the respondents (54.1%) were from non-first year students in the university and there

Table 2. Reliability Analysis

	Value	N of Items
Cronbach's Alpha	0.936	12

were only 45.9% of them who enrolled their study in the first year. Furthermore, majority of them (92.8%) have accessed online assessment more than 3 times.

4.1 Reliability Analysis

The reliability of the questionnaire was computed for each construct using Cronbach's Alpha. Table 2 shown that the instruments applied in this study were reliable. The value 0.936 exceeded the minimum acceptance level of 0.75. Any variable that achieves a critical value of larger than 0.75 reflects a good internal reliability of the data [26].

4.2 Hypothesis Testing

Pearson Correlation was executed to investigate the relationship between students' experiences on online assessments on the measures of Perceived usefulness of online assessment, perceived ease of use of online assessment and advantages of online assessment. Table 3 demonstrates that three independent variables were tested for their relationship and correlation between E, PU, PE and A.

Correlations as shown in Table 3 revealed positive and significant relationships between all the independent variables. The positive relationship was strongest between E-A (0.634, $P < 0.01$), continued by E-PU (0.627, $P < 0.01$) and E-PE (0.625, $P < 0.01$). To show a solid relationship between dependent variable and independent variables, research with a correlation coefficient, r value with more than 0.5 is required. According to the results, the higher the advantages the students are able to perceive from online assessment, the better the experience of students with regard to attempting online assessment. In a nutshell, Pearson correlation analysis demonstrated that all variables were positively correlated with online learning in virtual classrooms.

4.3 Discussion

The aim of this research is to determine the relationship between perceived usefulness of online assessment, perceived ease of use of online assessment and advantages of online assessment with students' experiences on online assessment. Three hypotheses were tested and all were supported. The results of this study revealed that perceived ease of use of online assessment had a positive and significant relationship with students' experience on online assessment. This is supported by previous study on students' perceptions on the use of online assessment which also revealed that students perceived the ease of use of e-assessment [5]. Besides, the results of this study also revealed that perceived usefulness of online assessment had a positive and significant relationship with students' experience on online assessment. Similarly, a previous study found that students showed

Table 3. Correlation between Variables

		E	PU	PE	A
Students' Experiences on Online Assessment	Pearson Correlation	1			0.634
	Significance level, P				0.000
Perceived Usefulness of Online Assessment	Pearson Correlation	0.627	1		0.715
	Significance level, P	0.000			0.000
Perceived Ease of Use of Online Assessment	Pearson Correlation	0.625	0.814	1	0.738
	Significance level, P	0.000	0.000		0.000
Advantages of Online Assessment	Pearson Correlation	0.634	0.715	0.738	1
	Significance level, P	0.000	0.000	0.000	

positive responses in terms of perceived usefulness of e-assessment and Moodle quiz [5]. Another study also found the importance of perceived usefulness of online assessment during online learning [19]. In line with the findings of this study, it indicated that the students' acceptance towards online assessment during online learning. Also, the results of this study also showed that advantages of online assessment had a positive and significant relationship with students' experience on online assessment. Likewise, a recent study found that both students and staff perceived the advantages of online assessment during e-learning [6]. In accordance to the findings of this study, it also proven that there is positive impact towards students' intention to use online assessment which motivated them to study in online learning.

5 Conclusion

This paper explained the important findings for the students' experiences on the online assessments from various perspectives. The research model contributes a useful framework for university administration in developing a better online assessment structure to stimulate their interest in online learning. As such, university administration must take these factors into consideration while planning the upcoming online assessment in respective universities. The results concluded that the relationship between students' experiences on online assessment and advantages of online assessment is most significant among university students. Therefore, it can be understood that reduction of anxiousness from learning, obtaining assessment results in a faster mode, environmentally friendly with paperless assessment method and increasing the preciousness for students to identify their weaknesses for improvement from online assessment are among the important advantages that students emphasized from their experiences on online assessments. Moreover, the results of this paper also demonstrated that perceived usefulness and ease of use of online assessment are both important as part of the students' experiences on online assessment. For future research, it is recommended to reproduce the existing study using a bigger size of sample, and a longer year of experience in online learning. Additional research on the determinants related to students' experiences on

online assessments and students' intention to use online assessments at endemic periods is very much needed.

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