

ONLINE ASSESSMENT – HOW DOES IT CHALLENGE IN HIGHER EDUCATION? A CASE STUDY

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ABSTRACT

This paper aims to explore the challenging factors of online assessment practices that open up alternatives to higher education in Malaysia. Online assessment may come in conflict with assessment at polytechnics at a time when digital technology did not exist. This study analyzed, reviewed and explained each factor in detail from the different perspectives of previous literature. Due to a lack of knowledge, then this paper is one of the first to recognize and address conceptually the online assessment that leads to the sustainable learning of higher education in a single environment in a developing country. This research examined the daunting factors of online assessment activities that have led to Malaysia's sustainable higher education learning. The study results will shed some light on our understanding of online assessment practices. Besides, it provides researchers, the existing corpus of knowledge, and a promise to expand the research stream on online assessment practices. The empirical findings will suggest to online assessment practices to academician possible ways to obtain considerable potential for improving student learning that contributes to sustainable learning in Malaysia.

Keywords: Online assessment; higher education; case study; sustainable learning.

1.0 Introduction

Due to pressure to pandemic COVID-19 and the goal to achieve sustainable learning increase triggers the academician concern. During the pandemic COVID-19 situation, students did not take an assessment face to face and needed online assessment that supports to reach the required standard of curriculum. Moreover, assessment in education is one of the systematic processes by documented and using empirical data on the knowledge, skills, attitudes, and beliefs. Base on the assessment given to the student, lecturers, try to improve student learning and teaching methods. Previous studies stated that using effective assessment techniques integrated with technology to improve educators' understanding of student needs (Khairil & Mokshein, 2018). It also supports the best techniques to be conducted in the online assessment, where it can take a new meaning of education in the world of digital assessment. But, during the current situation of the pandemic, what the challenge of implementation assessment online?. Therefore, this current research purposely to explore the challenging factors during practices the online assessment in higher education

2.0 Literature Review

2.1 Online Assessment

The online assessment is used in different working areas. It also has its own goal to achieve. In the higher education area, online assessment is the systematic process of documenting and using empirical data on the understanding, abilities, attitudes, and philosophies. Then, through the assessment, it helps the lecturers to improve student learning. The improvement of technology and e-learning systems, has resulted in a high demand for ways and means of assessing students in such a system (Appiah & van Tonder, 2018). Assessment is indeed a critical part of the teaching and learning process in any higher education institution.

Universities adopted e-assessment, in order to obtain develop, accurate and faster method to assess students, rather than traditional measure (Wills & Wald, 2018). Firstly, online assessments provide the student's choice in terms of time and place. For example, students do not always have to be in a classroom setting to take assessments. Then, assessments in Internet-based allows the student to take the test at home or anywhere else. Secondly, the online assessment required lecturers to distribute multiple versions of the exams and assignments with the minimum monitoring. Thirdly, the online assessment benefits with reduce time to evaluate the performance, such as eliminates human error in grading and minimize plagiarism. Lastly, online assessment advantage mitigating the storage space of keeping records. For example, the data can be stored on a single server. Thus, the online

assessment did not only advantage to the student, but it also benefits other stakeholders such as lecturers and faculty to achieve sustainable learning.

Furthermore, despite the benefits of practices online assessment, but it also some challenges to the institutions, lecturers, and students. Previous research stated that the most significant challenge in an online assessment system is the security (Appiah, M, van Tonder, F, 2018). Students can access (online assessments from anywhere. One of the main concerns of online assessment is to ensure that the person who performs the assessment is the correct authentication and to demonstrate that the work performed is original (Okada et al., 2019). Besides that, some institutions are reluctant to implement online assessments for high-stake examinations. Nevertheless, for the quality of the examinations the aspects of network and infrastructure also should be taken into serious measures. Therefore, it challenges the institutions and lecturers through the new paradigm online assessment.

2.2 Sustainable Learning

Sustainable learning is learning purposeful, responsive, and proactive. It more than retained knowledge and skills. Then, the foundation of sustainable learning is sufficient learning practice, and its goal is to provide for the education needs of all students. However, the intention behind sustainable learning is to create and proliferate a sustainable curriculum and methods of learning and teaching. Nowadays, all over the world, including Malaysia facing the issues of pandemic COVID-19. The issues of pandemic COVID-19 affected the teaching and learning process and required the learning technologies to achieve sustainable learning in higher education. It also affects technological and social change, including educator's teachers, coaches, and others. According to J. Hays and H. Reinders (2020), sustainable learning is an emerging and timely concept—a reimagined and re-engineered system of and for education and professional development. The method of delivering knowledge and evaluating the student's performance is based on new technology and approaches. Besides that, the conventional approaches to learning and teaching for an unconventional world are likely to be ineffective and perhaps counterproductive (Hays, 2017). With this concept, there will create a new way of thinking about the learning method, on what it focuses, and how it is achieved. Thus, teaching and learning transform using the new technology and approaches to achieve sustainable learning as a new normal.

Teaching and learning transform in all contexts when the curriculum includes sustainability content (Robert Laurie, Yuko Nonoyama-Tarumi, Rosalyn Mckeown, and Charles Hopkins, 2016). Besides that, the assessment tools are essential to student learning and also receive particular concern from the academician for purposed to evaluate sustainability programs (Israel Msengi, Raymond Doe et.al 2019). It is shown that the importance of the design of teaching and learning activities that suitable for the current situation in the areas of higher education. Then, the instrument's implementation and use also the most optimally stimulate students to achieve sustainable learning. Therefore, the instrument integrated with technology transforms through an online assessment and allows lecturers to coach and value the diversity of student achievement in sustainability challenges.

3.0 Research Approach

Online assessments have become popular within higher education, but alternative assessment solutions, digital or not, are rather scarce. It leads the Examination Unit of Politeknik Tuanku Syed Sirajuddin (PTSS), Malaysia, to question the challenges of the online assessment practices. To get a particular situation, we agreed to take advantage of the opportunity to collect information from academics who engaged in online evaluation activities during the Malaysia Movement Control Order 2020. Such a case study strategy considered appropriate, and it allowed us to collect information from academicians as a representative of different departments across PTSS.

3.1 Data Collection

In each of the cases sampled, in-depth interviews conducted with nine academician respondents as members of various departments across PTSS. Interview questions based on current literature from a sustainable learning perspective and conducted in English preceded by email notification. Table 1 includes a description of the cases. Each interview was conducted between 45 minutes and 2 hours. All discussions were audiotaped and accompanied by comprehensive note taking and transcribed afterward. Therefore, despite the selection of respondents limited only to those listed by the departments, it offered a broad selection criterion that allowed for varied and diverse perspectives considered important within exploratory research (Yin, 2019). The focus of the highest risk was preventing bias by

not naming the department participating in the study. The research will analyze via approximately eight cases, falling within the often suggested sample size of four to ten cases (Eisenhardt, 1989). The triangulation of the insights was accomplished through several alternative data sources, namely, continuous assessment and final exam reports.

3.2 Data Analysis

The raw data were analyzed in two stages. The data analyzed begins with a within-case analysis to examine the online assessment in a single context; meanwhile, the cross-case analysis done for the replication for testing the construct of interest in the other setting. Then, the description consistency of each case generated through within-case analysis by capturing all relevant information on the online assessment related to sustainable learning. One concern during the within-case report was controlling for the researchers' a priori beliefs as to how the challenging factors lead to the online assessment. Then, to mitigate researchers' biases, a few steps taken during the data analysis phase. Firstly, the field notes were written-up before being consolidated and coded. Secondly, multiple researchers review the field notes and any inconsistencies between the individuals clarified through follow-up contact with the respondents. Lastly, the research mitigated confirmation bias by limiting the individual case's categorization on the previously identified construct. Then, the cross-case analysis consisted of looking for data patterns regarding academicians' experiences with online assessment practices. Next, to identify core categories and trends collected data, coding processes were applied using ATLAS.ti version 8.0 software (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany and Corvallis, OR, USA). Through open coding, the key themes found in our fieldwork data were summarized. Continuous reading and rereading interview transcripts have helped us recognize commonalities and differences between academics who have encountered challenges to online assessment practices. The data resulted in the identification of previously established recurrent data categories and the creation of new categories representing new definitions of observed phenomena. Thus, it resulted in the confirmation of previously identified recurring data categories and the formation of new groups reflecting new interpretations of observed phenomena. During this phase, we changed the initial, eliminated old and introduced new categories as our understanding of the phenomenon continued to develop.

Table 1: Case overview

CASE	DEPARTMENTS	YEARS IN POST
C1	Mechanical	21
C2	Information and Communications Technology	16
C3	Mathematics, Science and Computers	11
C4	Electrical	12
C5	Electrical	11
C6	Commerce	18
C7	Mechanical	16
C8	Electrical	11

Source: Compiled by the author

4.0 Result

Respondents were asked to provide perceptual information on challenging factors of an online assessment. The coding of the field data confirmed that higher education has the challenging factors of an online assessment from the view of department groups. A thorough analysis of the in-depth interviews with the respondents was conducted to know the challenging factors of online assessment that resulted in common themes, presented in Table 2. These themes were reached after eliminating repetitive responses and grouping the responses that relate to the same concept.

4.1 The Challenging of Online Assessment

4.1.1 Communication Barriers

Communication barriers in the online assessment are the challenges of online communication toward sustainable learning. A communication barrier is anything that prevents us from receiving and understanding the messages others use to convey their information, ideas and thoughts. In the current study, communication barriers refer to anything that prevents students from receiving and understanding the messages from the lecturers during practices of an online assessment. In this regard 3 of 8 respondents of the cases stated that the

communication barrier is the challenging factor in online assessment (the cases of C1, C4 and C5).

“(..) It was challenging to get students' responses during the due date and have to contact using 'WhatsApp'.”
(C1, Lecturer of Mechanical Department)

This statement is supported by C5 stating that:

“(..) It is not easy to make an online assessment at the regular time. Most students respond at night.”
(C5, Lecturer of Electrical Department)

4.2.2 Network Issues

Network issues in the online assessment are the challenges of online communication towards sustainable learning. A network is a collection of computers, servers, mainframes, network devices, peripherals, or other devices connected to one another to allow the sharing of data. In the current study, network issues refer to internet problem that prevents students from the online assessment. In this regard 5 of 8 respondents of the cases stated that the network issues are the challenging factor in online assessment (the cases of C1, C5, C6, C7 and C8).

“(..)A problem of the internet cause of the students to respond a certain longer period of time during online assessment and the process takes quite a long time compared to face to face assessment.”
(C5, Lecturer of Electrical Department)

This statement is supported by C7 stating that:

“(..)The Internet problems cause to redo online assessments and the process takes a long time.”
(C7, Lecturer of Mechanical Department)

4.2.3 Readiness Issues

Readiness issues in the online assessment are the challenges of online communication towards sustainable learning. The readiness is the state of preparedness of persons, systems,

or organizations to meet a situation and carry out a planned sequence of actions. In the current study, readiness issues refer to technology and students problem that prevent the online assessment. In this regard, majority respondents of the cases stated that the readiness issues are the challenging factor in online assessment (the cases of C1, C2, C3, C4, C5, C6, C7 and C8).

“(..) Students have problems with either the internet or computer facilities.”

(C7, Lecturer of Mechanical Department)

This statement is supported by C3 stating that

“(..) Students have problems with locality, finances and online facilities as well as device ownership.”

(C3, Lecturer of Mathematics, Science and Computers Department)

Table 2: The Summary of the Challenging factors of Online Assessment

Cases	The Challenging factors of Online Assessment		
	Communication Barriers	Network Issues	Readiness Issues
C 1	√	√	√
C 2			√
C 3			√
C 4	√		√
C 5	√	√	√
C 6		√	√
C 7		√	√
C 8		√	√
Total	3/8	5/8	8/8

Source: Compiled by the author

5.0 Discussion and Conclusion

This current research explores the views of respondents in higher education. A central insight that can be gained from this research is that the challenging factors such as communication barriers, network issues and readiness, can and does play a crucial role in online assessment. This is especially important when taking the overall view of the institutions from the higher education perspectives as a focus. This would respond to the dearth of research, investigating the challenging factors online assessment in higher education. This exploratory research seeks to identify the challenging factors of the online assessments toward sustainable learning. In this context, research makes the following novel contributions to the field of sustainable learning and also higher education. The research focuses on the exploration of the institution view, which is an under-researched area in general in sustainable learning. The results offer insights into the integrated perspectives of three challenging factors: communication barrier, network issues and readiness, on issues related to online assessment in higher education.

Furthermore, our findings suggest that a comprehensive analysis of institutions' opinions regarding the challenging factors that constitute online assessment would help higher education, especially university in order to achieve sustainable learning. The higher education must consider and look at a big picture of the online assessment, and not just focus on their own sphere of responsibility (Issac et al., 2019). Therefore, they also have to consider the view of institutions to achieve sustainable learning through an online assessment. The first working proposition states:

P1: To build on a comprehensive picture of what online assessment in higher education, as perceived by all institution groups.

As shown in Table 2, the notable challenging factor of online assessment toward sustainable learning. Firstly, the challenging factor from the view of technology and student readiness is the "major factor" to implement the online assessment in higher education. Secondly, the challenging factor from the view of network issues to implement the online assessment, because of internet problem. However, the majority of cases was not impressed with implementing the online assessment. Majority of the cases have implemented online

assessment and facing the challenging factors of technology and student readiness. The research thus proposes for the second archetype:

P2: To identify the challenges factors of online assessment toward sustainable learning from the view of the higher education.

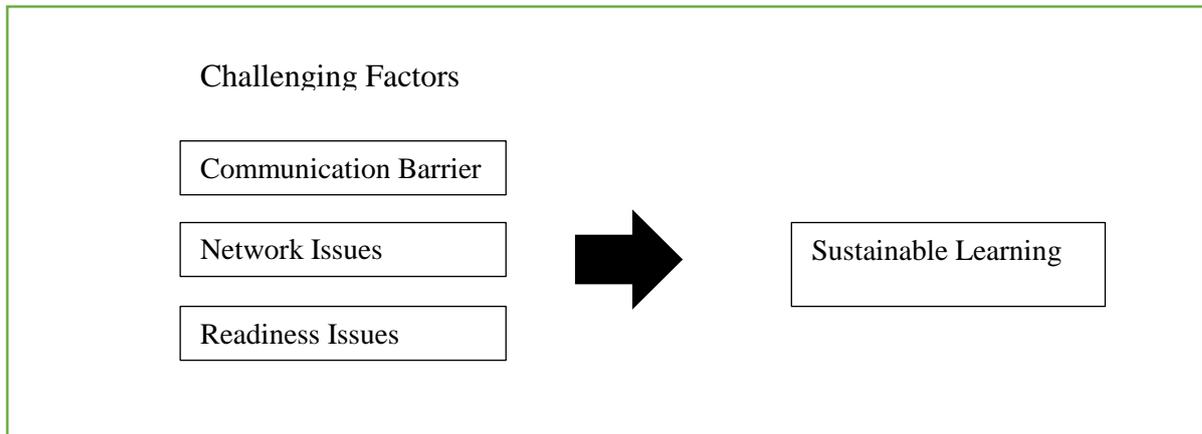


Figure 1 Comprehensive challenging factors view lead towards the online assessment

Furthermore, this research also provides several implications for policymakers and educators in higher education. Consequently, they could adjust their higher education policies and strategies to motivate lecturer and students to practices the online assessment. Moreover, from the results, a couple of research proposition was discussed and put forward. Thus, future research could test the research proposition in a wider context.

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