

A Study of the Use of Online Assessments in a Blended Learning Environment in a Private Higher Education Institution in the Klang Valley

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Abstract

This study sets out to explore the perception of students, lecturers and heads of programme that are involved in online assessments as part of the blended learning initiative that has been recently implemented in the a private college. Data was gathered through interviews from participants that are in an American University programme. This study investigated three main areas, namely how online assessments are implemented, why online assessments are implemented and the effectiveness of online assessments. Findings have revealed the strategies that have accompanied the implementation of online assessments, the challenges that have arisen, the advantages of online assessments and the perceived effectiveness of online assessments. The implication of this research lies squarely in addressing the design of online assessments and the self-regulation needs of students in online assessments.

Keywords: *Online assessments, Blended Learning, Formative assessments, Innovative Pedagogy.*

Introduction

Technology integration has reshaped the education landscape and Malaysia is on the bandwagon of this change. With 81% of the Malaysian population being internet users (Asia Internet Use, 2017), the public and private universities are geared to revolutionise education. Reinventing the delivery of higher education in Malaysia, are the emergences of massive open online courses (MOOCs). MOOCs are open online courses that enrol large group of learners for free and can be accessed by anyone (Sokolik, 2014). Along the same veins of improving the quality of education, higher education institutions (e.g., Open University Malaysia (OUM), Wawasan Open University (WOU), Asia e-University (AeU), International Centre for Education in Islamic Finance (INCEIF) and Al-Madinah International University) have adopted the blended learning pedagogy and this area is widely researched.

However, despite extensive research in the area of online learning, very few articles explore the specifics of online assessments in a blended learning environment. This

insufficiently explored domain raises questions of how online assessments are implemented within a blended learning environment. This paper intends to contribute to the body of knowledge on the implementation strategies, importance and the effectiveness of online assessments as perceived by lecturers and students in a Malaysian private higher education institution.

Purpose of the Study

This study aims to explore how online assessments are implemented and how lecturers and students perceive the importance and effectiveness of online assessments in a private college. The private college that is located in the Klang Valley, Malaysia, has embarked on the blended learning approach since 2015. One hour from each course a week is repurposed for online work and assessments. This research is guided by three research questions:

- i. How are online assessments implemented in a blended learning environment?
- ii. How do lecturers and students perceive the importance of online assessments in a blended learning environment?
- iii. How do lecturers and students perceive the effectiveness of online assessments in a blended learning environment?

Literature Review

Assessments are a staple feature in most courses in higher education institutions to promote students learning, as a tool to evaluate students' knowledge and as a means of personalising timely and informative feedback to students. As pedagogical approaches in the classroom transform to answer calls of blended learning advances, new forms of assessments have emerged. In contrast to traditional assessments, which require learners to be tested through a standardised procedure at a controlled location; online assessments are sensitive to the medium that is being tested and thus instructors should recognise this difference in design (Rovai, 2000). The design of online assessment is usually similar to an "open book" approach (Baron & Crooks, 2005; Christe, 2003; Griffin & Clarke, 2002; Holland, 2000) and this is in contrast to traditional assessments that are "closed-book" in nature. Goldstein and Behuniak (2012) stated that methods that work in a face-to-face setting may not necessarily work in an online environment.

Formative assessment, which is widely discussed in online assessment research, should be designed to provide detailed feedback (Daradoumis et al., 2019; McLaughlin & Yan, 2017; Rolim & Isaisas, 2018) using various formats of feedback such as written, audio and video recordings (Johnson & Cooke, 2016) to cater to the diversity of learners. Automated feedback can be used in the case of large class sizes to reduce instructor's workload (Abubakar & Adeshola, 2019). This is beneficial as instructors and students have expressed appreciation for timely and prompt feedback (Dermo, 2009; Khan & Khan, 2019; Redecker et al., 2012) stating that such mechanics sustain motivation to achieve higher grades (Redecker et al., 2012). In the creation of online assessments, formative assessments have taken a central role along with other aspects such as accessibility and flexibility of online assessments, academic integrity and the creation of collaborative learning environments.

Academic integrity has come under scrutiny in online assessments. Instructors worry about academic misconduct, unfair advantages, cheating and plagiarism (Abubakar & Adeshola, 2019; Dermo, 2009; Mellar et al., 2018); because without an in-person proctor, instructors perceive that lack of monitoring may interfere with the academic integrity of the

assessment (Fask et al., 2014). Recent reports have suggested that randomising online quiz questions, varying numbers (Boitshwarelo et al., 2017; Tsai, 2016), the use of anti-plagiarism software (Levine & Pazdernik, 2018) and the use of diverse assessment methods can potentially ensure the academic integrity of these assessments (McLaughlin & Yan, 2017). Even the use of time-delay techniques and the variations of students' head poses in relation to the computer screen can potentially predict cheating behaviours (Chuang et al., 2015; van der Linden & Guo, 2008).

Evidences of student learning through online assessments have been documented. Wilson et al. (2011) reported that computer-administered multiple-choice questions had a positive impact on student performances. Marriott and Lau (2008) established a connection between student engagement and motivation for learning through e-assessments. It was revealed through their research that e-assessments had an important role in teaching and learning practices. However, Jordan (2009) raises the question of whether the use of multiple choices is beneficial in achieving deep learning in students. Responding to this issue, it was found that if the assessment is well-designed, even in the administration of multiple choice questions, higher cognitive functions can be achieved such as critical and analytical thinking (Brady, 2005; Leung et al., 2008; Draper, 2009). Further research by Leung et al. (2008) tied multiple-choice questions to understanding and comprehension while long answer assessments focus on recollection of facts. Work by Furnham et al. (2011) found that students favoured multiple-choice questions and therefore this form of assessment can create engagement and motivation to learn (Trotter, 2006).

Research Method

This study employs a qualitative method. The participants were interviewed using open-ended questions through semi-structured interviews. The interviews were conducted face to face which were recorded, transcribed and translated for analysis. Using purposive sampling, the participants were selected according to the relevancy of the questions that were being posed (Bryman, 2008). The participants were assured of privacy, confidentiality and anonymity. The demographic information of the participants is summarised in Table 1:

Table 1

Participant Demographics

Participants	Gender	Abbreviation
Student 1	Female	Stu1
Student 2	Male	Stu2
Student 3	Male	Stu3
Student 4	Female	Stu4
Student 5	Female	Stu5
Lecturer 1	Female	L1
Lecturer 2	Male	L2
Head of Programme	Female	HOP

The participants were interviewed and the data analysis began with a verbatim transcription of all the interview conversations. This transcription was read, and notes were made in the margins. These notes were summaries of portions of the interviews, which were then used to construct phrases. These phrases were transferred to another piece of paper. Duplicates of phrases were combined and renamed into a new set of categories. This reduced the initial number of categories into fewer collections of phrases. These categories were re-read to identify and remove overlapping categories. After these categories or

themes were confirmed to be mutually exclusive, an audit trail was formed by allocating corresponding sections from the verbatim transcript under these themes, from which the report was then written.

Findings

For the first research question; three themes were identified, for the second research question; two themes and for the third research question; two themes. The findings are elaborated below.

Findings for the First Research Questions

The first research question was “How are online assessments implemented in a blended learning environment?”, in relation to which three themes emerged from the interview data among the students, lecturers and head of programme. The themes are; 1) Managing initial anxiousness; 2) Implementation strategies and 3) Managing time and commitment.

Managing Initial Anxiousness

One student mentioned that his initial reaction to online assessment as “being a bit scared” (Stu2) and being “anxious” (Stu4). This was because he (Stu2) was unsure on how the online assessments would work. The two other students agreed that their lecturers gave them two trials to complete the online quizzes and they were relieved that they had a second chance. Both the lecturers (L1 and L2) shared that when online assessments were first implemented, they felt like they were doing double-work. One of the lecturers shared that she felt that her lack of exposure to the tools was initially presumed as a repetition of what was being conducted in class. She confessed that she was not confident initially and viewed online assessments as “a vague idea or concept” (L1). The male lecturer also shared that:

“The trainings and sharing sessions were helpful because I saw how other colleagues implemented online assessments in their classes. This gave me confidence.”(L2)

The head of programme shared that she was familiar with online assessments as it was practiced previously in another programme that she had taught. She shared that as the acceptance has been negative in this current course, she could not pursue online assessment implementations initially. According to her, the different tools that the learning management system currently offers are more interesting than the tools that she had used earlier; and she can do a lot more now with her students.

Implementation Strategies

Three students (Stu1, Stu2 and Stu4) mentioned that the learning management system is where the online assessments are conducted. The male student mentioned that:

“For Calculus, we need to type out the function on BlackBoard. To do that, we need to explore table, the functions and then we need to come up with the equations.” (Stu3)

He further elaborated that for calculus he needs to acquire the necessary skills to present his answer for online assessments. One student (Stu4) elaborated that in group assessments, Google Docs was used first so that all her friends can work on a single page together before it is uploaded on BlackBoard. She mentioned that this is necessary so that

the final answer does not contain mistakes. The female lecturer mentioned that during the first week, the students are given a trial assessment which is ungraded, to ensure students understand the nature of the online quizzes. Detailed instructions were also important. She shared that initially her instructions were not clear and students presented work that were not up to her expectations, so she had to refine her instructions. The male lecturer pointed out in his experiences with students using the journal tool available on Blackboard, it usually takes him three rounds to improve a technique based on student feedback which he gathers at the end of every semester. The head of programme explained that to get students motivated in completing online assessments, they should be awarded scores. She recalled that it was initially challenging to motivate students but emphasising that student participation is assessed usually works well among her students. She has online quizzes on a weekly basis.

Managing time and commitment

Two students (Stu1 and Stu2) mentioned that time-constraint was a major challenge in completing online assessments. One of the students explained that:

“You have like 50 questions to finish in an hour. So if you don’t study for the online quiz, that one hour may not be enough.” (Stu1)

Comments from students were that the lack of commitment among groupmates was a hindrance in completing online group work; therefore, due dates had to be set in advance (Stu2) and online assessments allowed his friends to get external assistance therefore the originality of their work can be questioned (Stu2). Another student (Stu4) preferred online assessments for the flexibility in being able to stop the quiz halfway and continue it at a time that is convenient for her. She (Stu4) mentioned that in paper-based assessments she has to complete the assessment in one sitting. One lecturer mentioned that online assessments had increased her workload because of the time spent grading the assessments. She explained:

“I find myself rushing from time to time from one subject to the other. One wiki takes me one hour to grade and to give feedback. If I have 20 groups, that’s 20 hours for one tool. So if you add and multiply by the number of subjects, it is many hours and sometimes it goes into my personal hours.”(L1)

The male lecturer (L2) mentioned that setting due dates for assessments and getting students to meet them is a challenge as students are always missing their due dates. He explains that finding the right balance based on the assessment is a conscious decision he has to make every semester depending on the students’ preferences and abilities. The head of programme (HOP) mentioned that her staff showed resistance at the beginning in adopting online assessments as everyone was comfortable with their own ways.

Findings for the Second Research Question

The second research question was, “Why are online assessments important in a blended learning environment?”. Two themes emerged from the interview data among the students, lecturers and head of programme. The themes are; 1) Convenient and immediate measure of student learning and 2) Creates a wider variety of assessments.

Convenient and immediate measure of learning

A common answer among the students is that online assessment is a convenient mode of assessment and it allows them to improve their technological skills. One student (Stu4) pointed out that because time spent in class is limited, her lecturer uses online assessments to assess performance of the class because it is a faster indication. One of the male students elaborated that he receives notifications on his smartphone when an assessment is posted and because of that he finds it convenient in remembering these assessments. A female student elaborated that:

“When we have assessments online, we can refer back to our work or our friends work...we can check where we have gone wrong. All our work is permanently online and we can use it for reference. We can take our time to understand the concepts as compared to in class where we have only two hours to learn something. I find this more relaxing.” (Stu5)

Both lecturers shared that assessments are need to measure students' learning, and when the component is graded, there is a greater chance that students would complete their work. The head of programme explained that online assessments allowed students to learn at their own pace. It creates flexibility for them to make mistakes and then to correct them. The head of programme elaborated that feedback is instantaneous for online quizzes. She explained:

“As soon as I mark, the students are able to see it. So, there is no delay in time and the students do not have to wait until the next class to see their papers. There's no delay. I also allow students to do remedial work on areas of their assignment that need improvement and their changes can be tracked.” (HOP)

Creates a wider variety of assessments

Two female students explained that online assessments allow them to link what they have learnt in the classroom to a greater variety of learning experiences. One of them shared an example:

“Sometimes, in the lab, we don't have the substances but if we conduct an experiment through online simulation, we are able to test out how other substances work. Like for example, in the lab, we may only be provided with Styrofoam, but through an online simulation we can also test how brass will work in the same experimental context. We can learn the differences better. This increases our exposure and we can learn from such simulations ... when we are asked questions in the exam.” (Stu1)

Another student (Stu2) provided a contrasting opinion and mentioned that online assessments are not applicable for his major. As a geology student, he prefers field trips. He said field trips are the most important component in his major because they allow him to study the earth and feel the rocks.

The female lecturer mentioned that she has linked two assessments together. In writing essays, first a wiki page is used to gauge a student's preliminary work and approve of their draft and then students proceed to write their essays. She explained:

“In the wiki, everybody needs to contribute their portion, so by reading the wiki, I know which student is contributing and who is not. I'm using wiki to ensure that the teamwork is actually done.” (L1)

Findings for the Third Research Question

The third research question was “How do lecturers and students perceive the effectiveness of online assessments?”, in relation to which two themes emerged from the interview data among the students, lecturers and head of programme. The themes are negative perceptions and positive perceptions.

Negative perceptions

A male student mentioned that online assessments are not suited for all courses. He elaborated that in the case of a Mathematic course;

“If students don’t know the calculations, they can google the answers. There are many software that allow them to copy their answers from. Then it’s like you learn nothing but still obtain full marks.” (Stu3)

Positive perceptions

A student (Stu1) recommended that online assessments can be used as a way to encourage students to read the assigned material before coming to class. She explained:

“This will ensure the students are ready for the lesson and the lecturer can discuss deeper areas of the chapter.” (Stu1)

When asked about the relationship between online assessments and student performances, the female lecturer mentioned that:

“I really don’t know the exact answer to the questions. I really can’t tell if it has been effective or not. But it has definitely assisted in creating manageable pieces of assessments for students. They don’t sit for one assessment that will cost them 10% at a go; with online assessments, I can break it down to mini-assessments.” (L1)

The male lecturer responded that it has helped to improve the grades of underperforming students because they have a variety of assessments to complete, but it depends very much on their time management and their discipline in completing these assessments. The head of programme agrees that online assessments have improved student performance and added that:

“Technology has always been fascinating to this generation. And by moving forward and using some of these tools, it keeps our students interested.” (HOP)

Discussion

Findings of this research highlight that the initial anxiousness about online assessments was managed through proper training and by awarding students trial sessions to acclimatise to navigation of work. Implementing online assessments through providing detailed instructions to students and assisting them to manage their time are areas to consider in ensuring smooth online assessments. Kizilcec et al. (2017) concurred that the absence of self-regulation can impede students’ attainment of learning goals. The findings of this research also point out that possessing certain levels of technology-related proficiency is necessary to navigate through online assessments. Integrating assessments into an online learning environment has been divided into three different directions: 1) cognitive

assessment, 2) performance assessment and 3) portfolio assessments (Reeves, 2000). This present study displayed elements of cognitive assessments, that is, beginning to emphasize the attainment of the “right answer” as the student participants have revealed. The findings of this study suggest that one of the students feels dissatisfied with effectiveness of online assessments as it is mentioned that the extent of his subject mastery is not really tested. Student participants preferred assessments that allowed them to search for concepts, think about the concepts, and then apply the concepts in the context of the question asked. This suggestion concurs with the second direction of online assessments, which is “performance assessments”. Performance measurement requires learners “to demonstrate their capabilities directly, by creating some product or engaging in some activity” (Walberg & Haertel, 1992) and is focused on 1) complex learning, 2) higher-order thinking skills, and 3) problem-solving skills, 4) involves multiple steps and difficult tasks and 5) requires a greater commitment of time and effort (Linn et al., 1991). Portfolio assessments accumulate students work that demonstrates their growth throughout the semester and keep the focus on the learning rather than individual assignments. In this method, capturing the learning process is just as important as the final outcome. Elements of this assessment are seen minimally in findings where the lecturer combines two forms of online submissions to gauge students’ learning before grading the final product. Areas of quality in online assessments are aspects that need more reassurance as it is important to preserve the validity and reliability of these assessments. There should be plans to educate instructors on how to ensure that the open book online assessments are designed differently from closed book assessments. This study recommends that this area of knowledge can be considered as a training need for this institution.

Conclusion

This study was set out to research the implementation, perceived importance and perceived effectiveness of online assessments in a blended learning environment in a private. While blended learning as whole has received much attention in research, online assessment within the blended learning environment is rarely studied. This study explored the three-pronged perspectives of the head of programme, students and lecturers involved in online assessment. It was found that there were initial anxiousness and time management issues among students and lecturers. For lecturers and the head of programme, training sessions improved confidence in implementing online assessments. It was revealed that it was beneficial that the students are informed prior to the online assessments. Else, unlike in-class tests, students would require more self-motivation and self-regulation to ensure positive progress. While the findings indicate mixed reviews on the effectiveness of online assessments; there is consensus that the flexibility feature of online assessment is a common liking among lecturer and students. However, attention should be given towards preserving the reliability of online assessment to prevent cheating among students. Alternative forms of assessments such as performance assessments and portfolio assessments can be employed by instructors to measure student learning throughout a semester. This study reveals the implementation strategies employed by the lecturers and students, the benefits and challenges of online assessments as well as the training needs to further explore multiple forms of online assessments.

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