

## Blended Learning: Implementation of Online Assessment

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### ABSTRACT

**Background:** Blended learning initiative has been implemented in all Malaysian polytechnics and is mainly influenced by high amount of hands-on or practical requirements. In response to this initiative, CIDOS has been introduced to facilitate lecturers to upload their teaching modules, supplementary resources and also to conduct assessments online. There has been some pressure on the lecturers of Malaysian Polytechnics to utilize CIDOS as part of their key performance indicator. **Objective:** This particular research aimed to study the perceptions of students on online assessments. **Results:** A total of 69 students participated in the survey which is qualitative in nature, whereby students were required to express their emotions on the benefits and limitations of online assessments. The benefits of online assessment were classified into 4 general elements i.e. time management, technology usage, easy access to information and comfortability of doing the assessment. On the other hand, the limitations of online assessment as perceived by students were classified into 3 general elements i.e. time management, internet or technology problems and reliability of the assessment. All students expressed their preference towards online assessment over in-classroom assessment. **Conclusion:** The implementation of blended learning in Malaysian Polytechnics has put some pressure on the lecturers particularly in the utilization of CIDOS as a platform to upload teaching and learning materials as well as conducting assessments online. Online assessments may not be favoured by lecturers due to their skepticism towards the reliability of such assessments. Among the challenges in implementation of online assessment are inadequate facilities, expertise in IT, lack of awareness and attitude as well as support from management. Although online assessment may be perceived as time consuming and poorly managed due to limited access to internet by students, students perceived online assessment as beneficial in their learning endeavour especially in providing comfort during assessment and facilitating peer discussion.

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## INTRODUCTION

Blended learning is the integration of web-based technologies and face-to-face teaching. Among the key characteristics of blended learning are increasing opportunities for student interaction outside class time, providing immediate feedback [1] and providing supplementary resources [2]. Blended learning involves designing online modules in alignment with the assignments and activities that enable students to apply their learning in class or online [3].

Blended learning initiative has been implemented in all Malaysian polytechnics and is mainly influenced by high amount of hands-on or practical requirements. The transition to teaching in a blended environment often resulted in redesigning of a course by integrating it with technology [4]. In Malaysian polytechnics, the introduction of Curriculum, Information Document Online System (CIDOS), a learning management system, facilitating the implementation of blended learning. CIDOS is a medium of interaction between lecturers and students. CIDOS provides the interface to save, evaluate and share digital contents.

Assessment is considered as one of the mechanism to gauge the achievement of the intended outcomes in a teaching and learning process. There has been some pressure on the lecturers of Malaysian Polytechnics to utilize CIDOS as part of their key performance indicator. CIDOS may be used by lecturers to upload their teaching modules, supplementary resources and also to conduct assessments online.

## LITERATURE REVIEW

### *Challenges in implementing blended learning*

Different learners need different approaches for effective learning process. Uses of technology may enhance deeper understanding of concepts but classroom environment may create different events and different related tasks for effective dissemination of knowledge [5]. Institutions may resort to adopt blended learning due to lack of adequate e-learning skills and infrastructure. For example, the challenges experienced in implementing e-learning had impact negatively on its effective utilization in Kenyan Public Universities. Among the challenges identified are lack of training on the technological features of e-learning system, and changes in pedagogy. Students and lecturers should have adequate technical skills to effectively utilize the e-learning tools. However, the benefits and opportunities of e-learning exceed these challenges [6].

Among the challenges faced in implementing e-learning are the absence and inadequacy of infrastructure [7], socio-cultural, infrastructural, political and leadership, legal and regulatory, economical, educational and skills, security and safety and technical [8]. Other challenges include cultural and linguistic background of students and instructors, and their awareness of and attitudes towards e-learning; the underdeveloped technological infrastructure; the lack of local expertise in curriculum development for e-learning; and, the lack of educational management mechanisms to support e-learning initiatives [9]. In Saudi Arabia, the quality of the Internet was an important factor influencing the adoption and usage of e-learning [10] and in Pakistan, teachers' ability to integrate technology into teaching and learning activities, development approaches and attitudes, project management techniques, user participation, user training, change management has impacted the development of e-learning at university level [11].

### *Online Assessment*

It is important to consider the purpose, the criteria being measured and the intended outcomes of conducting assessment in the teaching and learning process. The purpose of assessment is to monitor student learning, improve academic programs and enhance teaching and learning [12] and to provide students with timely constructive feedback to facilitate better understanding [13]. In implementing online assessments, lecturers need to ensure that the students are clear about assignment due dates and requirements [3].

Although much has been written on online courses and the benefits of online environment, the aspect of online assessment is still lacking due to lecturers' skepticism towards online assessment [14]. This may be due to the traditional perspective that assessment should be closed-book to measure the achievement of students and to prevent academic dishonesty [14]. However, the constructivist view of education holds

that students should be able to use prior knowledge and create new knowledge and understanding through synthesis, inquiry and analysis [15]. Therefore, the factual memorization as purported in closed-book assessment may not be suitable in higher education [14] and online assessment may be used widely despite the lecturers' skepticism.

#### *Benefits of Online Assessment*

There are many advantages of assessing students online. With online assessment, students are able to balance their workloads and perform the assessment when and where they think fit [16] as each student may have his/her own preferences. Online assessment also has the potential to reduce cost of printing, storage and delivery of written tests and reports [17]. Online assessment may be done outside of the classroom, hence saves classroom time [18], increase precious classroom time [16] and leave more time for other teaching and learning activities. Online assessment can be conducted more frequently compared to in-class assessment.

Online assessment accommodates the diverse needs of students by permitting them to take the assessment at the time most convenient or conducive to learning [16]. Lecturers may use the assessment results to revisit concepts in class that need clarification [18]. Online assessment gives students immediate feedback which they can use to guide their studies and to better prepare themselves for the regular exams (Sanchis, 2001). Online assessment does not have to be printed [19], hence save paper and costs.

One of the features of using CIDOS for online assessment is questions may be randomise. The option to randomize questions may be used to discourage cheating [19]. CIDOS also enable immediate feedback to students. The option of evaluate the results provides immediate feedback to students and enable the marking for a large number of students simultaneously [19]. This may save lecturers' time and effort which make it possible for lecturers to spend more time on planning and developing the questions to be used in the assessment.

#### *Disadvantages and Limitations of Online Assessment*

There are several disadvantages of online assessment. Among the major disadvantages of online assessment are the possibilities of cheating. Petrisor et al. [19] have outlined a few options to avoid cheating such as setting up a computer room that disable students to see another student's computer screen and disabling access to other computer resources or blocking the execution of unwanted programs.

To enable the implementation of online assessment, each student should have access to a computer and internet [19]. Any problems in internet connection may cause disruptions to assessment timetables [19]. Simultaneous access to assessment may cause system to slowdown and powerful servers are needed [19]. Students should have access to computers, and network connections. It is important for the software to be able to perform the tasks of distributing questions, answer submission, record keeping and provision of feedback [14]. Clear instructions should be given to students and support should be provided if students seek assistance by phone or emails.

#### *Past Researches on Online Assessment*

There are some researches done on online assessment. For example, Zuvic-Butorac, et al. [20] conducted a research on a total of 313 students at the University of Rijeka, Croatia regarding their perspective on the implementation of blended learning. The study focused on three elements i.e. quality of the e-courses, level of importance of specific element of e-learning and students' general attitude towards e-learning. The findings suggest that students value the most the completeness, organization and design of educational materials, teachers' online engagement and timely providing feedback. The research suggested that teachers should be encouraged and trained to put more effort in designing and offering suitable multimedia elements to enrich their materials, self-assessment test and enhance collaborative aspects in teaching.

A study carried out at the University of Bradford aimed to identify whether online assesment may be considered a valid, practical, secure and reliable alternative to traditional paper-based assessment and whether online assessment contribute to students learning. The finding from this particular study was that online assessment can benefit teaching and learning and can improve the reliability of marking. The

respondents believed that online assessment give some added value to learning, and provide feedback that helped learning.

Another study conducted by Gustafson [16] showed that students usually relied on some friends, predominantly classmates, for assistance in online assessment. The study revealed that the presence of a friend's assistance had a positive and significant impact on a student's assessment grade in about half of the assessment taken. However, most students did not rely on a friend (even though assistance from a friend is permitted) and those who relied on a friend's assistance only did so periodically [16].

#### *Best Practices of Online Assessment*

To enhance academic honesty and ensure that the student is the one who performed the assessment, some techniques that may be used are outlined below:

- a) Design question that test application of knowledge to a specific setting compared to on a generic topic [15].
- b) Design questions that require integration of knowledge and learning experience gained in the classrooms attended by the students [21].
- c) Design questions that may require higher demand on time and effort so that finding others to sit for the assessment may be extremely difficult [14].
- d) Design writing assignment that involves thought-provoking activities [22].
- e) Randomize questions may be used to discourage cheating [19].

Online assessment should take into consideration the required technology, delivery, pedagogy, learning styles and learning outcomes. Therefore, various online components, assessment criteria, and tools are needed to assess student learning while meeting the need of students and the challenges of accountability [13]. Some types of assessment techniques may be suitable to be administered online, if not all. For example, case studies may be used to assess students online. As case studies may require students to interpret and form their own judgment, the answers may be not be a clear cut ones. Students may have to analyze the information given in a case study and perform some reflections before they can apply the learning materials. According to Khare and Lam [14], case study is not only feasible but also appropriate in higher education.

Reflection is broadly accepted as an approach that promotes lifelong learning and professional practice in higher education, but it is acknowledged as complex and rigorous, taking time to do well, and is often viewed as being difficult to teach and to assess [23], with implementation issues [24]. To ensure that online assessment is measuring the learning outcomes, questions should be created to test understanding rather than memory, to generate detailed constructive feedback and to make sure that the technology deployed is user-friendly [25].

## **METHODOLOGY**

This research was carried out at Ungku Omar Polytechnic with two classes of final semester students who had taken part in an online quiz which was conducted for PA603 Auditing and Assurance. This subject is a theory-based subject which involves no calculation or mathematical problems. Theory-based subjects are often considered more suitable for online assessment, but may encourage collusion among the students. The quiz was uploaded in CIDOS from 8 a.m. till 8.00 a.m. the following day. However, the students were required to answer the quiz within 60 minutes after they access the quiz. To cater for any inconvenience or internet access problem, the time limit allocated for online assessment exceeds the time normally allocated for quizzes conducted in normal classroom. Following the quiz, a total of 69 students were asked about their perception on the benefits and limitation of online assessment. The students jotted down their opinions and submitted the paper. Although the opinion of the students involves subjective emotions, the researchers feel that it was necessary to classify the various feedbacks to identify the general elements of the benefits and limitations of online assessment as perceived by students.

Based on the feedback received from the students, an analysis was done to summarise the students' perception on the online assessment.

#### *Research Objective*

This research was conducted mainly to examine the perception of students on online assessment. This research was also conducted to identify the benefits and weaknesses of online assessment through the perspective of students.

## DATA ANALYSIS

### *Perceptions of students on the benefits of online assessment*

Each response on the benefits of online assessment was analysed to categorise them into general classification or element. The benefits of online assessment as perceived by students were classified into 4 general elements i.e. time management, technology usage, easy access to information and comfortability of doing the assessment.

The element that was mentioned by most students was comfortability of doing the assessment (30 students). The second element was easy access to information whereby 28 students responded that they can discuss with peers and browse the internet to look for answers (16 students). A total of 19 students mentioned that online assessment make it easier for students since they do not have to memorise the materials and can refer to books or other resources for answers.

The third element, time management was mentioned by a total of 24 students who responded that they have sufficient time to finish the online assessment and 8 students responded that online assessment can save time. The benefits of online assessment were outlined in Table 1 below.

Table 1 Students' perception on the benefits of online assessment

Element	Feedback from Students	Frequency
Time Management	Sufficient time	24
	Save time	8
Internet/ Technology	New technology usage	11
	Easy Access to Information	16
Easy Access to Information	Easy browse of internet	16
	Can discuss with peers	28
	Ease the students	19
Comfortability of doing the assessment	Comfort	30
	Reduce paper usage	2

### *Perceptions of students on the limitations of online assessment*

Each response on the limitations of online assessment was analysed to categorise them into general classification or element. The limitations of online assessment as perceived by students were classified into 3 general elements i.e. time management, internet/technology problems and reliability of the assessment as outlined in Table 2 below.

Table 2 Students' perception on the limitations of online assessment

Element	Feedback from Students	Frequency
Time Management	Insufficient time	15
	Unsuitable time	4
Internet/ Technology	Connection problem	27
	No access to internet – students have to go to cybercafe	19
	Slow access to CIDOS	17
	Lack of computer/ CIDOS skills	4
Reliability of the Assessment	Can copy answers from others	7
	Tend not to study/ lack of preparation	7

The element that was mentioned by most students was technology or internet problem whereby 27 students mentioned that connection problem was their biggest limitation, followed by no access to internet which required students to go to cybercafe (19 students) and slow access to CIDOS (17 students).

The second element was time management whereby 15 students responded that they do not have sufficient time to answer the online assessment.

On the element of reliability of the assessment, 7 students responded that the assessment may not be a reliable measure of assessment since they can copy the answers from other students and they tend not to study or prepare for the assessment.

### RECOMMENDATIONS AND SUGGESTIONS

Although there are numerous benefits of blended learning, lecturers hesitate to conduct assessments online. Online assessment should take into consideration the required technology, delivery, pedagogy, learning styles and learning outcomes. Lecturers and students should be provided with all the necessary support to facilitate active implementation of online assessments. Lecturers should also pay attention to students' understanding of the assessment requirement and the intended outcomes of the assessment. Immediate feedback given may help students in their learning and assist them in enhancing their understanding.

### CONCLUSION

The implementation of blended learning in Malaysian Polytechnics has put some pressure on the lecturers particularly in the utilization of CIDOS as a platform to upload teaching and learning materials as well as conducting assessments online. Online assessments may not be favoured by lecturers due to their skepticism towards the reliability of such assessments. Among the challenges in implementation of online assessment are inadequate facilities, expertise in IT, lack of awareness and attitude as well as support from management. Although online assessment may be perceived as time consuming and poorly managed due to limited access to internet by students, students perceived online assessment as beneficial in their learning endeavour especially in providing comfort during assessment and facilitating peer discussion. This study highlights the positive students' perceptions on online assessments.

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