

# **Perceptions of e-assessment by students and lecturers**

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## **Abstract:**

Electronic assessment also known as e-assessment is one part of the core elements in higher education system that has gradually increased in usage in Higher Education Institutions. Assessment is defined as a process of measuring a person's or student's knowledge, understanding, capability or skill. One of the benefits of e-assessment is the ability for feedback to be delivered promptly to the student. The aim of this study is to investigate the student perceptions of the use of e-assessment at the Institute of Development Management (IDM) based in Eswatini. Empirical data was gathered from 1st year up to degree level students as well as lecturers through questionnaires, observations and interviews. Findings show that students have positive perceptions of e-assessment towards their learning activities such as the ability to write online tests and quizzes ubiquitously while lecturers expressed positive outcomes which included reduced workload in terms of marking and moderation.

Keywords: E-assessment, learning, student perception, learning

## **1. Introduction**

In the higher education environment, assessment is the one of the core elements in the education that informs all relevant stakeholders about the learning outcomes and the journey to attain the required qualification. Lecturers being the central stakeholders need to be directed towards meeting the student needs as (Rocco, 2007) states that it is one of the major goals of assessment.

Bull and McKenna (2004) states that e-assessment represents an attractive option for higher education institutions looking to address the logistical problems normally associated with the increase in student enrolment. Assessment is an important element in the learning process which has resulted in the increase of its incorporation in a majority of course management systems (Sorensen, 2013).

E-assessment is playing an increasingly important role in the transformation of higher education on issues of how to utilize the full potential of e-assessment procedures towards the transformation of

student and teacher learning processes (Whitelock, 2009). The principles of validity, flexibility and fairness under assessment are still the same in an electronic environment (Benson, 2003).

## 2. Purpose of the study

The study aims to investigate students and lecturers perception of e-assessment, by seeking answers to the following questions

- What are student's and lecturers perceptions of the use of e-assessment at IDM Eswatini
- To identify the challenges faced by students and lectures in e-assessment.

## 3. E-assessment

Reeves & Hedberg (2009) define assessment as a measurement of the learner's achievement and progress in a normal learning process. Assessment in the higher education environment has two major forms which are formative and summative assessments (Challis, 2005). Hargreaves (2008) defines summative assessment as a measure of what students have learned usually at the end of the programme or course while formative assessment consists of continuous feedback with the intention to give feedback to the student and lecturer. Ridgway *et.al*, (2004) mention that there are many difference forms are associated with e-assessment such as automatic administrative procedures, digitized paper-based systems and online testing which may include multiple choice tests. The measurement of learner outcomes has been enhanced by e-assessment by making it possible for learners to obtain immediate and direct feedback (Gilbert *et al.*, 2011).

### 3.1 Benefits of E-assessment: students and lecturers

Pedersen *et al.*, (2010) state that one of the reputed benefits of e-assessment is efficiency savings for the institution and the flexibility aspect for the learners. E-assessment involves many stakeholders which include the lecturer, student and the institution.

#### *i. Lecturers*

In the higher education environment, e-assessment has brought a new dimension and opportunities for lecturers to engage in. For many years, lectures have been using the traditional method of assessment. With the introduction of e-assessment, opportunities have been opened. With e-assessment, lecturers can monitor their students ubiquitously as (Ellaway & Masters, 2008) state that e-assessment enables the lecturer to track the students' performance across many assessments, allowing the lecturer to intervene when irregularities are discovered as part of the formative assessment phase. Feedback is one of the strengths of e-assessment as (Way, 2012) agrees that it improves the quality of feedback for the students.

#### *ii. Students*

A study done by (Donovan *et al.*, 2007) confirms that 88.4% of students prefer e-assessment. Sorensen (2013) affirms that students feel that e-assessment plays a role in higher education and it adds value towards their learning. Moreover e-assessment helps the student in isolated areas or informal learning contexts to write their quiz (Williams, 2009).

### 3.2 E-Assessment challenges

Higher education institutions face many challenges, and the implementation and adoption of e-assessment has been one of them. A number of studies have been done to identify those challenges. Pedersen et al., (2010) states that most e-assessments occurs without the teacher's presence, in so doing it increases risk management of assessment accountability. Students are less experienced and need training to be familiar with e-assessment Donovan *et al.*, (2007). Availability of fully equipped laboratories is another challenge under e-assessment, Crews and Curtis (2010). Most e-assessment systems are not configured for marking open ended questions (Ridgway *et al.*, 2004). Academic dishonesty is another key challenge in e-assessment since student will continuously find ways to cheat (Benson, 2003). This can be a contribution of the skills and awareness of digital space that the students are part of.

### 3.3 Benefits of e-assessment

The use of e-assessment in the higher education environment offers a number of advantages. Ridgway, McCusker & Pead (2004) state that e-assessment improves the reliability of scoring and helps to reduce the drawbacks of the traditional paper based assessment system, especially in times of grading (Dermo, 2009) affirms that e-assessment has the advantage of giving feedback to a large number of students thus saving marking time. The lecturers' knowledge and usage of online learning technologies is crucial to ensure that creative effective learning strategies such as interactive online learning activities (online quizzes) are created and implemented for the students (Siragusa *et al.*, 2007).

## 4. E-Assessment implementation: ColCampus

IDM uses a learning management system called ColCampus. There various assessment methods that are part ColCampus include quizzes, assignments, discussion forums and test. This system has many features that assist the lecturers to monitor and analysis the activities when assessing as well as engaging with the students. The e-assessment feature in ColCampus consists of both the formative and summative forms.

### 4.1 Course Statistics

Colcampus makes it possible for lecturers to view course statistics within their programme offerings. These are important in providing the lecturers with crucial information in areas such as student access, number of assessments conducted and other information which might be pending. Figure 1 is a screenshot from a module – Cloud Computing – under the Bsc (Hons) IT Networking and Software Engineering programme. The screenshot easily shows the total number of students that are active and their status of assessments. The statistics tool helps the lecturer to have an idea of the progress of the course under all these areas which include discussion forums, assignment tracking, quizzes and status of active students.

## Statistics for Cloud Computing

Totals	Assignments	Students	File Storage
<b>Running Totals</b>			
<b>Discussions</b>		<b>18</b>	
Discussion Posts		2	
New Discussions		18	
New Discussion Entries		2	
<b>Assignments</b>		<b>8</b>	
Assignment Groups		1	
Course Rubrics		0	
All Rubrics		0	
<b>Active Students</b>		<b>36</b>	
Unaccepted Students		0	
<b>Quizzes</b>		<b>8</b>	
Quiz Questions		98	
Quiz Submissions		219	

Figure 1: Status of a module – Cloud Computing

## 5. Methodology

This study employed the use of mixed methods, qualitative and quantitative. The empirical evidence for this study was gathered at the Institute of Development Management (IDM) from students and lecturers who have used e-assessment. The students are enrolled in programmes which include, Business Management, Public Health, Information Technology and Accounting Studies. These programmes are all offered on a full and part time basis. The data was collected from a sampled population of students and lecturers. The data collection methods included observations, online questionnaires and contextual interviews, with an idea to cover a wide diverse range of different learners, with different backgrounds.

## 6. Findings

### 6.1 Lecturer analysis

The study sought to assess the awareness and perception of lecturers in using a Learning Management System – ColCampus for assessment.

- **Have you used a Learning management system before?** 60% of the lecturers have used a learning management system before and a majority of the lecturers mentioned Moodle, while 40% have not.
- **Usage of the LMS:** 20% of the lecturers strongly agree that they do not have any problems in using ColCampus and 80% agree that ColCampus is easy to use. The lecturers also mentioned that the interface made it simple for them to navigate through the system.
- **LMS as a teaching tool:** the lecturers were asked about using ColCampus as a teaching tool in their courses. 60% agree that they like to use the system for their teaching activities.
- **Usage of Assessment and learning tools:** A question was asked to find out the level of assistance that ColCampus provides for lecturers in order to communicate with the students. 70% of the lecturers agreed while 30% strongly agreed that communication and

online assessment tools greatly assists them when assessing the students. The lecturer also mentioned that the marking load has been the one element that has reduced since the implementation of this system.

- **Distribution of course documents:** The lecturers gave a positive response regarding the uploading of course materials. 60% agreed that uploading of course documents enables their job to be easier and also aids in improving the learning process. Another reason stated was that the interface was user friendly further adding more of a positive approach in using the system.
- **E-assessment perception:** 50% of the lecturers agreed that they feel comfortable in using e-assessment. The other lecturers expressed that since it was their first time using an LMS, there confidence is still low.
- **Awareness of LMS:** On the awareness of the usage ColCampus and other similar systems in other countries or in higher Education institutions, 70% of the lecturers were aware of the system usage, while 20% did not know. The lectures also raised a concern regarding awareness training on the system.
- **Challenges in using ColCampus:** The lecturers experienced challenges when uploading a large number of notes at the same time, and also during e-assessment, the network will be slow due to the number of students logged in. One lecturer explained that; *“During one of my test, the system became slow and I had to go back to my office to print hard copies for the remainder of the test so that students can finish writing”*. Another lecturer noted that, *“When all the students are writing at the same time, it takes about five to 20 seconds for the next question to open”*

## 6.2 Student analysis

All the participants who took part in this study were students of IDM under various departments. The students were randomly sampled. A majority of the response were from the Degree programme (73.1 %) followed by the Diploma (26.9%) while the certificate and Master’s programme had not response.

**Table 1: Age respondent of students**

Age Intervals	Percentage	No of students
18 - 25	19.2 %	5
26 - 35	42.3%	11
36 - 45	34.6%	9
46 – 55	3.8%	1

*Question 1: Have you used any Learning Management system before?*

The purpose of this question was to investigate the student's competence and familiarity with learning management systems. 50% of the students indicated that they have used one, while 50% have not used or were familiar with the system.

*Question 2: What were the student's perceptions of ColCampus?*

Most of the students expressed positive remarks for the system;

*"We get notifications beforehand, it is mobile, fast and easy"*

*"It's easy and reliable "*

*"Get results same time"*

*"Accessing data at any given location .. really made life easier"*

*"Receiving your results promptly"*

*"Getting updates and making submissions at my suitable time straight forward questions"*

*"Download study materials and do online assignments and view my results"*

*"Getting tests grades soon after the test much friendly"*

*"It easy to get all the answers correct and you can take a quiz anytime"*

*"Submission of assignments online"*

*"User Friendly...Saves your work even when logged out..Secured"*

*"best collection of eLearning articles"*

*"Most of our books are online, meaning we save money on buying books."*

*"I am able to see my results straight after write"*

*"I can use it even outside campus"*

*Question 3: Challenges faced while utilising ColCampus*

Students experienced a number of challenges while involved in e-assessment as evident with the responses below;

*"Data is expensive and the school wifi is slow"*

*"There are answers u cannot change once u choose"*

*"Power loses and network issues"*

*"speed in connection (navigation)should be improved, also keep an update in modules taken by students per semester when registering and lastly student results should be posted in colcampus coz at the end of the day accounts are not shared"*

*"Failing to log in during peak times. This is a result of the small internet bandwidth which is a great challenge when writing online because when you submit you find yourself offline and you need to start afresh at the expense of restarting at the end of the activity"*

One student had doubts about the authenticity of the marking; *"Correct answers being marked wrong, when i was sure it was correct"*. While another student mentioned that, *"when the internet is slow it is difficult to view pictures"*

*Question 4: What were the student's perceptions of ColCampus's interface?*

Students were asked about their views on the interface and as shown in figure 53.8% of the students agree that the interface allows easy and free flowing navigation. Furthermore

61.5% of the students agree that the screen layout is appropriate for e-assessment activities.

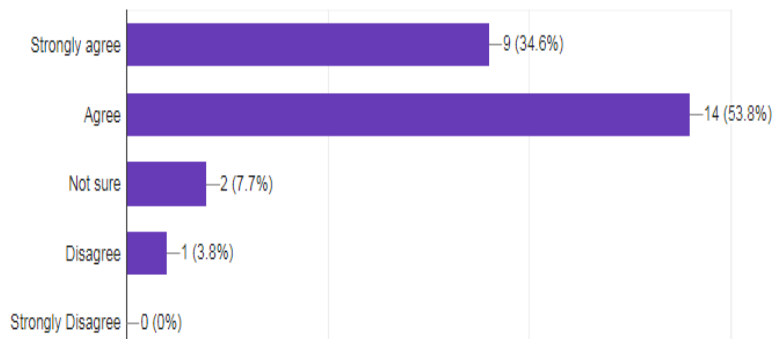


Figure 2: Student response regarding ColCampus interface use friendliness

*Question 5: What were the student's views on traditional assessment vs e-assessment?*

Students were asked whether they prefer the traditional assessment approach of pen and paper or e-assessment approach. The data collected shows that 84.6% prefer e-assessment while 15.4 % choose to select the pen and paper examination approach.

*Question 6: What were the student's perceptions on using ColCampus for e-assessment?*

The purpose of this question was to determine whether students would like to continue utilizing Colcampus for e-assessment. 76.9 % of the students expressed desire to continue using ColCampus for e-assessment activities, 11.5 % felt that there is no need to use ColCampus while 11.5% were not sure.

### 6.3 Observations

Figure 2 shows the students during one test session writing one of the modules in the degree programme. The e-assessment was conducted in the computer laboratory under the normal examination assessment rules and regulations. This particular group of students were degree IT students.

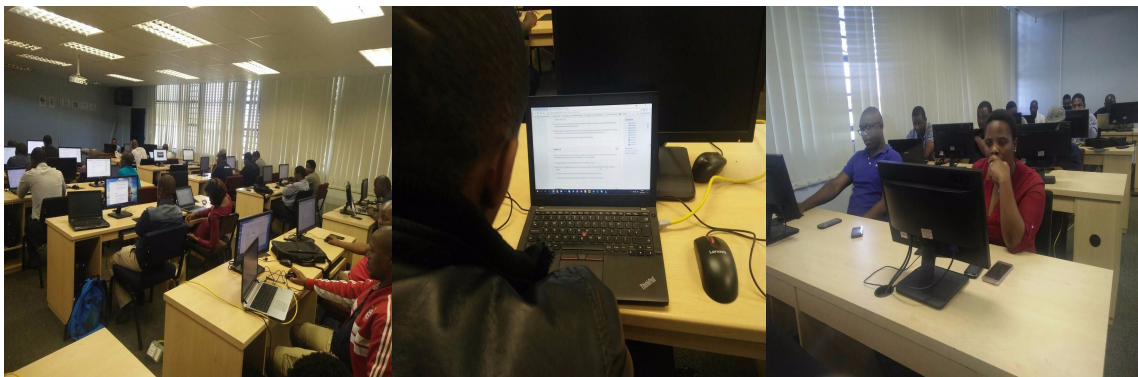


Figure 3: Students writing an online test

**Conclusion**

This paper describes the implementation and perception of e-assessment from students and lecturers at a Higher education institution – IDM. The results obtained were very promising based on the responses obtained. The students and lecturers were in favour of e-assessment activities due to the benefits that exist. A majority of the students agree that the features that are encompassed in ColCampus contribute positively towards obtaining immediate feedback. Overall the students and lecturers agreed on the effectiveness of the learning management system– ColCampus. The study concludes that for proper, valid and consistent results it is crucial that close cooperation and monitoring during the early stages of implementation must be applied.



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