

E-EXAMINATIONS FOR MANAGEMENT STUDENTS IN OMAN

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Abstract: During the past few decades there has been an unprecedented revolution in information technology. Technologies have changed the way people live, work and learn. Educational institutions are also adopting the new technologies to enable a better learning. Many institutions are starting to reconsider their traditional methods of student assessment and are considering the viability of conducting web based testing and assessment. Web-based testing (Electronic or online examination) can be offered at different times and in different locations. Thus they offer greater flexibility than the traditional paper and pen examinations. The test questions can be shuffled to have the same pattern and level but different contents. Electronic examination system can also reduce the effort and time required for conducting an examination. The questions used in the e-examination system are usually multiple choice objective tests and quizzes that can be easily evaluated online. This study was conducted on the students of the College of Commerce and Business Administration, Dhofar University, Oman. Students were administered a questionnaire regarding the various aspects of online examination. Data collected was analyzed using statistical techniques. The findings of this study show that students favor e-examination over the traditional examinations. Also there are no significant differences gender-wise regarding the use of e-examination. This study is an exploratory study and will help in understanding the benefits and problems in online examination for Omani students.

Keywords: students, assessment, viability, online examination, flexibility.

1. INTRODUCTION

The traditional system using paper and pen evaluation is the most common type of examination. This is similar to written exercises needed to be completed within certain duration of time. This includes different types of procedures, different types of questions such as numerical problems, descriptive and objective questions. Unfortunately, the pencil-and-paper examination is prone to problems such as

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shortage of examination materials, impersonation, tedious task of making multiple copies of examination question paper, use of unfair means during the examinations, cases of missing scripts, mistakes in adding the marks of examinees, delay in handing out the results, demand for gratification by the instructors, delay in the issuance of transcript of academic records and so forth (Ekere, 2009; Abdulkareem & Alabi, 2004). There is a need to explore new methods of assessment keeping in view the latest developments in technology in information technology so as to overcome the problems being encountered in the traditional system of examination.

Higher education system in Oman started 30 years back, when the first public university in Oman, was established in 1986. Prior to that student had to study in western countries or neighboring Arab countries. Therefore as compared to the technically developed countries the Omani higher education system is quite young. Thus, there is a need to carry out such a study for Oman as previously conducted studies in other countries cannot represent the situation in Oman.

This study used a survey method to obtain data from the university students in Oman. The data collected is then analyzed to test the hypotheses related to the perception of Omani university students towards e-examinations. The remainder of this paper is structured as follows: Section 2 deals with the Literature Review on assessment and e-examinations. Section 3 states the objectives and significance of study. Section 4 enumerates the methodology. Section 5 discusses the results and section 6 gives the conclusions.

2. LITERATURE REVIEW

Examination is a method of assessing the learning outcome (Obidoa, Onyechi & Okere, 2013). Examination is a strong tool to measure the quality of education (Fagbamiye, 1998) and dependable examination grades are useful in certification after finishing a course of study (Ogunboyede, 2006), monitoring teaching and learning (Black & William, 1998), identifying learning problems and choosing of probable candidates for higher education. Examination can take the form of written exercises (objective and subjective), oral answers or applied tasks (laboratories), depending on the features being assessed.

An examination is an organized way for constructing, observing and gauging the learning outcomes using with a numeric scale (Cronbach, 1990). Assessment helps in providing feedback to students and instructors on the learning outcomes which in turn enables better learning (Black & William, 1998; Pellegrino, Chudowsky & Glaser, 2001). Inappropriate assessment can result in damage to the educational process. Evaluation techniques used by instructors can serve to motivate the students to learn better. Choices by instructors of which assessment methods to use, serve as a hidden code to students directing them to the skills and

behaviors that are important for them to succeed (Crooks, 1988; Science Education, 1997). Many students tend to invest their time as economically as possible, by studying only those aspects of a course that they think will affect their grade (Science Education, 1997). In some cases the present system of examination can be inappropriate as we are using IT to support the learning process but at the same time deny access to IT when the 'knowledge' is being assessed. Pellegrino et al. (2001) talk about an assessment triangle that includes three interrelated components: the theory of cognition and learning for the task, the observation of the student, and interpretation of the assessment (Figure 1).

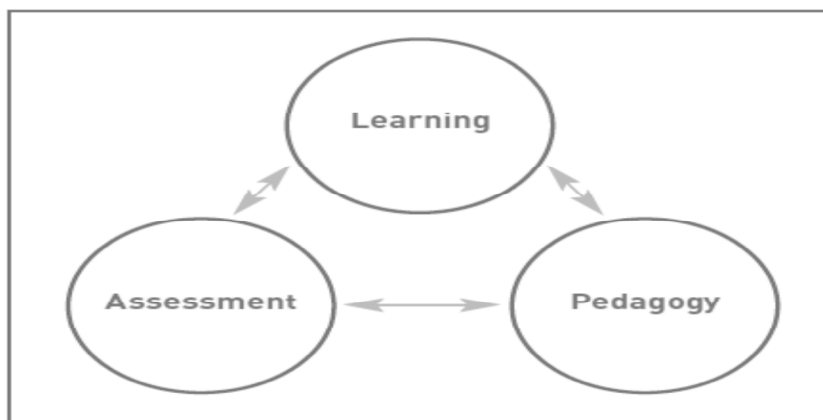


Figure 1: The Assessment Triangle

Source: Pellegrino, Chudowski and Glaser (2001)

So far, the most familiar and traditional type of examination in Oman has been written or the pencil and paper test. This involves completing a certain number of written exercises based on the course content. The process of assessment includes test conceptualization, test construction, test revision, test administration, test scoring and interpretation and reporting examinees' response. All this makes written test a cumbersome exercise which takes a lot of time to process (Cohen, Swerlik & Sturman, 2013). In recent years, however, the prospect of assessment via the internet (worldwide web or local area network) is attaining favor over the written examination (Bartram & Hambleton, 2006; Terzis & Economides, 2011). The benefits of e-examination over pencil-and-paper tests have been recognized by several researchers (Akpata, 2013; Naglieri, Drasgow & Schmit, 2004). Researchers (Ripley, 2004; Richardson, *et al.* 2002) have concluded that students favor e-examinations over paper-based examination, because they feel more in control, interfaces are user friendly and because some e-examinations also use games and simulations which have recreational effect. On the other hand there

also are some important drawbacks in the e-examinations. If the objective questions used for e-examinations are not well planned, they may only test factual information. This will result in only superficial learning and students will not gain conceptual knowledge. Also researchers have shown that computer anxiety or deficiency of computer skills might put some students at a disadvantage (Greenberg, 1998; Natal, 1998; Lander, 1997). The advantages and disadvantages of e-examinations have been summarized in the table 1.

The questions paper for on line tests can be made by the respective instructors using JavaScript or a Common Gateway Interface (CGI). There are also many software products available (Gibson, *et al.*, 1999; Greenberg, 1998; Lander, 1997).

Table 1
Advantages and Disadvantages of E-examinations

	<i>Advantages</i>	<i>Disadvantages</i>
Teachers	Reduced work load in most cases – once created, question may be used in different courses. Possibility to distribute multiple versions of the exams and assignments without having to manually monitor which students got which tests. Generated reports help to identify learning problems. Audio and video elements may be added to make exam more practical. Eliminate human errors in grading.	Technology is not always reliable – results may be lost if a system breaks down. Expertise is needed to create exams More work if individual feedback for every student is needed
Students	Transparency and effective preparation for exams Possibility to solve practice tests Instant result Possibility to receive feedback on examination result Higher level of objectivity	No room for explaining the answer or getting partial credit Answers on online assessments can only be right or wrong It is not possible to present person's line of thinking when selecting the answer For some people more stressful because of problems with fast writing using keyboard.
University	Greater flexibility with respect to location and timing Reduced examination costs and Eco-friendly, no papers and photocopies Less storage space is needed to keep the exams	Huge initial implementation costs of assessment system or e-learning platform (Hardware and Software). Some trainings for students and teachers are needed

Betlej, (2013)

Online tests are more secure because questions can be randomized easily (Gibson, *et al.*, 1999). Sarrayrih & Ilyas (2013) have stated that format of online examinations set-up is better than the paper-and-pencil examinations. In order to prevent unfair means (impersonation) during the conduct of e-examinations biometrics can be used. Also many students are not certain of what constitutes as unfair means. Carlson (1999) suggested that counselling is important in online testing and integrity policy should be noted and posted on the syllabus. So before conducting online examinations students need to be counselled regarding the dishonest behavior so that if it can be discouraged and prevented (Cizek, 1999; McCabe & Trevino, 1993).

3. OBJECTIVES AND SIGNIFICANCE OF THE STUDY

The following were the objectives of this study:

1. What opinions do the students have regarding the use of e-examinations for their academic evaluation?
2. To test whether the students are in favor of e-examinations we have formulated hypothesis;
H1: Students favor e-examinations.
3. To test whether the gender of the student has an influence on their opinion regarding e-examinations we have formulated hypothesis;
H2: Gender of the student has an influence on their opinion regarding e-examinations in the university.

This study is significant as it will help in understanding the benefits and prospects of e-examinations in Oman. The findings of this study will help the universities in Oman to consider E-examinations as an assessment method for their students. It is expected that this research will not only help Oman but in general, it will be significant for the other countries in Middle East and Africa who are having a comparable level of higher educational.

4. METHODOLOGY

The study examined opinions of university students on the use of e-examination. The participants were 100 students (50 Male and 50 Female) selected from the College of Commerce and Business Administration in Dhofar University. Data was collected using a questionnaire. Students were asked to rate the following as related to E-examinations; Enables students to access their results promptly, Facilitate paperless examination in the university, Eliminates bias in test administration and scoring, Improves the quality and standard of examination results, Enables students to recognize the benefits of honesty and handwork, Helps

in identifying students with learning difficulties, Eliminates examination frauds and other unethical behaviors, Help in identifying students who demonstrate best abilities in various courses and Enables students to monitor their academic progress. Each item was rated on a five-point scale (Strongly Agree=5 and Strongly Disagree=1). The data collected was analyzed using means, standard deviations and t-test.

5. RESULTS AND DISCUSSION

The most agreeable benefits as per the opinion of students for E-examinations are that it enables students to have access to their results promptly, improves quality and standard of examination results and it eliminates biases in test administration and scoring. While the least agreeable are it will facilitate paperless examination in the university, help identify students with learning difficulties and eliminate examination frauds and other unethical behaviors. The response to the various aspects of examinations have been depicted in table 2 below.

Table 2
Opinion of the Students have Regarding the use of E-exams for their Academic Evaluation

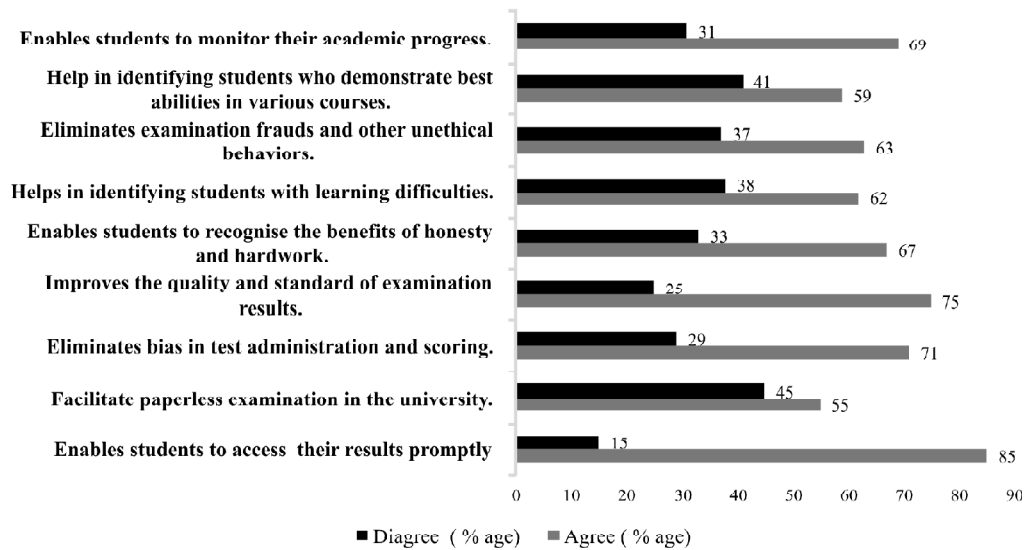


Table 3
Students in Favor of E-examinations

Variable	N	Mean	SD	df	P
Students	100	3.8	0.7	99	0.039

Table 4
Influence of Gender on Opinion Regarding E-exams

<i>Variables</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>P</i>
Male	50	3.9	0.66	98	0.213
Female	50	3.7	0.72		

For the first hypothesis, the result of t-test show $p = 0.039$. As $p < 0.05$, therefore the hypothesis, H1. Students favor e-examinations is accepted. For the second hypothesis, the result of t-test show that $p = 0.213$. As $p > 0.05$, therefore the hypothesis, H2. Gender of the student does have an influence on their opinions regarding e-examinations in the university is rejected.

6. CONCLUSIONS

Online assessment is gaining more and more popularity. E-examination have a number of the advantages as compared to the traditional paper and pen examinations such as they are easy to administer, offer instant results, stress-free authentication, paperless, easy to evaluate and time saving for the examiners. Its advantages are very promising for students, teachers and universities. In most of the cases benefits exceed the problems. Results showed that the students consider the use of e-examinations as an encouraging step in the university. Also, there exists no significant variation in opinions of student's gender wise.

It is recommended that the university should embrace e-examinations in the College of Commerce and Business Administration and if successful adopt it for other colleges as well. This will enhance the quality of examinations and give more effective examination outcomes. The university should provide adequate human and material resources for effective conduction of e-examinations. Also e-examination can lead to a better governance of examinations in the university by checking and controlling of examination malpractices linked with the paper and pen examination. In the long term the acceptance of e-examinations in the university will support the possibility of offering distance learning or online courses. However, for e-examinations to be endorsed on a large scale throughout Oman, it should be ascertained that no segment of students is at any disadvantage due to the lack of asses to computers for developing their IT skills needed to take online examinations.

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