

## Attitude of Ash-Shobak University College Students to E-Exam for Intermediate University Degree in Jordan

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### Abstract

This study aimed to investigate the attitude of Ash-Shobak university college students concerning the electronic exam for intermediate university degree in Jordan, and identify the impact of gender and grade point average (GPA) variables on students' attitudes. To achieve this objective, a questionnaire consisting of (26) items was used, and distributed among all the students attending the exam in Ash-Shobak University College during the first and second semesters of the academic year 2014/2015, their number reached (112) students. Furthermore, (108) full questionnaire were retrieved. The results showed positive attitudes among students towards E-exam, but there were some negative attitudes ascribed to the high-level of anxiety and stress among students, and over exams ability to raise the efficiency of students' achievement or limit cheating. The results also showed no statistically significant differences in students' attitudes attributed to the variables of gender and GPA. Accordingly, the researcher recommends using the electronic version of the intermediate university certificate exam. Thus, the researcher also recommends avoiding the negative impact of the exam, and developing it to raise efficiency in measuring the students' achievement.

**Keywords:** Students' Attitudes, E-exam, Intermediate University Exam, Ash-Shobak University College.

### Introduction

Modern technology plays an important role in learning process in various fields, including the field of educational assessment, and electronic tests. In the light of the growing global tendency towards knowledge-based economy that uses technological techniques; to promote attitudes that emphasize the well-being of individuals, and raise their economic, social and educational levels; computerized tests and E-assessment have become essential in education (Omari, 2006). E-assessment has a set of features including; the flexible application, prompt feedback, easy correction, calculation of grades, extract of results, and the availability of objectivity in correction. However, E-assessment faces many obstacles, including the relatively high cost of basic infrastructure, the need for computer and Internet skills, the preparation of questions that need time and effort, the scarcity of bank questions, and breakdowns in computer hardware, or in networks. Among the most prominent E-assessment problems: maintaining the security of the test questions, students' answers, students' results, and the possibility of cheating especially in the case of online tests, as well as cheating from other sources; in case of previous files stored in the computer, or on floppy disks, etc., or students' impersonation, as well as hardware and software crashes during the performance test (Shaltout, 2014).

Like other Jordanian universities, Al-Balqa' Applied University, which supervises Ash-Shobak University College, has paid a great interest to the E-assessment and the computerized test. The most prominent achievement in this field is the computerizing of intermediate university exam, which began in 2014. The first experiment was applied on the first paper of the exam, and after the success of this experiment, it was applied on the rest of the exam papers, which includes three to four test papers according to student's specialization. (Al-Balqa' Applied University, 2015). It is widely believed that shift towards E-exam saves time and effort, speeds up the extraction of results, and adjust the quality of the exam; as a national exam measures the learning outcomes in intermediate university colleges in Jordan. Al-Balqa' Applied University's has adopted an E-assessment and computerized intermediate university exam in order to keep up with the technological development in the field of electronic tests, raise the exam efficiency, and reduce the costs. The university, which is in charge in supervising the exam, made great efforts for succeeding this experiment. The university equipped (18) examination Centers, and allocated a hundred labs in winter session for the academic year 2014/2015. Each center was supervised by hall president and liaison officer, in addition to having a supervisor in each laboratory in which the exam was held (Al-Balqa' Applied University, 2015). According to the intermediate university degree instructions, all students of intermediate university colleges, who enrolled in two and three years' programs accredited by the Board of Higher Education, shall attend this exam after completing the graduation requirements. Therefore, the student must obtain the percentage of (60%) as a minimum for success, and he/she will be entitled to re-attend up to three times at most (Student handbook, 2014/2015).

To achieve the exam objectives, the subjects studied by a student are distributed on three papers (sessions) The first paper includes general culture subjects (university requirements), the second paper includes program requirements of student specialization, while the third paper includes specialty subjects, a fourth paper includes practical test may be added to some specialties (Al-Balqa' Applied University, no date

[www.bau.edu.jo/administration/95/media](http://www.bau.edu.jo/administration/95/media)). The intermediate university degree exam, which was prepared by a working group in the evaluation and examinations directorate in Al-Balqa' Applied University is designed to measure the basic knowledge level of a student in his specialty where the total number of questions in one paper reached (100) questions of multiple choice distributed over five subjects taken from student's study plan, with 20 questions for each subject, answered by the student electronically via the university intranet, measure the knowledge and general concepts and skills that students are expected to gain during his study of a particular specialization at community colleges. As an average, the exam time is two hours per each paper and it is mandatory for the intermediate degree. The application of intermediate university degree exam on all students in Jordan reflects the keenness of Ministry of Higher Education to evaluate the students in a proper manner covers all aspects of student growth, and to be economic to save expenses, the time of the student and the teacher, and the educational institution. The Ministry applies the exam with the aim to provide a standard tool to measure, at the national level, the achievement of the basic objectives of the study curricula in addition to raising the level of control and seriousness of intermediate colleges, and motivation among students to ensure the right to a good education, as well as to prevent the quantitative expansion at the expense of the quality of education in these colleges (Eilboni, 1992).

As the attitudes are determinants of human behavior, so the study occupies a prominent position in psychology, person studies and group dynamics (Melhem, 2006); it determines the behavior and interpret it, regulates the processes of motivation and cognizant of the individual, and then directs the individual's responses towards people, objects and subjects (Merie and Balqis, 1991). The study of attitudes towards e-assessment is one of the most important aspects that we should take into consideration when evaluating the reality of the experience of Al-Balqa' Applied University in the field of E-exams. This evaluation is not only limited to the theoretical and practical sides, but will extend to cover the emotional side. The knowledge of attitudes help us to predict and interpret the behavior of students in the future. The attitudes have also a strong impact on the individual's apparent behavior affected with his positive or negative attitudes (Kitami, 1998). Hence, the present study came to explore the views of Ash-Shobak university college students towards E-exam of intermediate university degree.

After reviewing the literature on the subject over E-assessment, E-exams, and attitudes towards it, we did not find any study on the attitudes of Al-Balqa' applied university students' towards Intermediate University E-exam, but a number of studies discussed students' attitudes towards e-learning and computerized e-learning software. In his study that aimed to investigate the attitudes towards electronic tests and E-assessment among basic school students in Turkey in light of a number of variables (school type, gender, and grade level), (Yurdabakan, 2012) pointed to the existence of positive attitudes. The Results also showed significant differences between the attitudes of students from different schools, while the results did not show differences between students' attitudes towards E-assessment depending on the variables of sex, academic level, and the period of use of E-assessment. (Gupta, White, & Walmsley, 2004) indicated the existence of positive attitudes among university students towards e-learning. (Humairi 2014) showed the high positive attitudes among all groups of the educational community in Tabuk, Saudi Arabia towards the e-learning application. However, (Shunnaq and Bani Domi, 2010) showed a negative change in students' attitudes towards the use of e-learning in science after the experiment, compared to the level of their attitudes before the experimentation. According to (Abuloum & Al-Khadash, 2005), the students believe that the electronic interaction enhances their learning, and that students who visited educational course website frequently showed higher positive attitudes towards electronic interaction. (Akkoyunlu & Soyulu, 2006) found positive attitudes towards e-learning environment used to teach the teaching design course among a sample of Hacettepe University students in Turkey, in addition to the positive impact of e-learning on students' achievement and on their participation and interaction with the study subjects.

Mohammed (2011) found significant positive attitudes among teachers and school headmasters in Tulkarm's governorate in Palestine towards electronic school. Omari (1997) found positive attitudes among students of the Faculty of Education and Arts at Yarmouk University towards the use of a computer. Moreover, (Jarrah, 2011) pointed to the positive attitudes among Jordan University students enrolled in the program of the Higher Diploma in Information and Communication Technology in Education towards the use of Blackboard software in learning. According to him, the software eased learning, encouraged classroom participation and achievement, and contributed to facilitate the teaching process.

The above showed positive attitudes among students and teachers towards learning by using new technologies in the field of information and communication technology in general, and e-learning, Internet, and e-tests, in particular. As far as the researcher knows, none of the above studies addressed students' attitudes towards the E-exam for intermediate university degree. This encouraged the researcher to conduct this study.

### **Study Problem**

Al-Balqa' Applied University, represented by evaluation and examinations unit adopted the E-exam for

intermediate university degree by using the computer instead of the classic method, which was based on paper-and-pencil to judge the average technical education outputs in Jordan (diploma), and the efficiency and qualification of the students at this level of education for their careers in the future. Whereas the attitudes have a great importance in guiding the behavior of individuals, and enhancing their commitment to achieve the desired goals and objectives behind this change; the knowledge of students' attitudes to take feedback on this new version of the exam in order to develop and get the most benefit of it would justify the conducting of the current study. In addition, the university's experience in adopting this type of testing is still new, worthy of study and search, so this study was to measure the attitudes of Ash-Shobak university college students towards E-exam, which is currently used in the intermediate degree exam management.

### Research Questions

The current study is trying to answer the following two questions:

1. What are the attitudes of Ash-Shobak college students towards E-exam for intermediate university degree?
2. What is the effect of sex and grade point average variables on attitudes of Ash-Shobak university college students towards E-exam for intermediate university degree?

### Importance of the Study

1. It draws its importance from being the first study-according to researcher-dealing with students' attitudes towards E-exam for intermediate university degree.
2. It derives its importance from the intermediate degree exam's importance, being the only national exam to judge the quality of education outcomes in intermediate university colleges, and suitability for the job market, as well as to adjust the quality of higher education, through knowledge of the students' attitudes towards the exam, which provides Al-Balqa' Applied University, that supervises the exam, the feedback necessary to determine the strengths and promote them in order to avoid weaknesses and address them.
3. It is hoped that the results of this study will contribute in providing the decision makers in Al-Balqa' Applied University with sufficient information about the reality of E-exam in the intermediate degree exam, identifying the challenges in application, re-examine the mechanisms of application, and the arising decisions.

### Delimitations of the Study

This study is determined by its sample, as it was limited to the students applied for the intermediate university degree during the first and second semesters (winter and summer session) of the academic year 2014/2015, in Ash-Shobak University College. The determinants are represented by the instrument used to collect data, the availability of reliability and validity, and the objectivity of the study sample members in answering the paragraphs.

### Study Terms

**Attitude (attitudes):** Learned psychological predisposition or mental disposition for positive or negative response towards people, subjects, situations or symbols in the environment that draws this response (Zahran, 1977, p. 146).

**E-exam:** Computerized exam, in which the student uses the computers that have programs designed for this purpose, which is known in the current study as the examination conducted by the evaluation and examination unit at the University of Al-Balqa' Applied to measure the technical education outputs in different disciplines, answered by the student electronically using a computer, and questions of a multiple choice type.

**Attitude towards the E-exam:** Respondent's feeling of the importance of E-exam, and his positive or negative psychological willingness towards it in terms of the evaluation of student's achievement in the intermediate university degree, identified in the current study by the degree of the respondent on scale of attitudes towards E-exam, prepared for this purpose.

**Intermediate university degree exam:** Is the exam held by the general evaluation and public examinations directorate in Al-Balqa' Applied University, for students who have completed the study requirements at intermediate colleges, to obtain the intermediate degree, where the successful students granted Diploma degree, and expressed as a percentage of the total scores of the three exam papers, and requires (60%) as a minimum for success.

**Al-Balqa' Applied University:** A common university located in Salt, includes a number of colleges and intermediate colleges found in all over Jordan. It has an applied technical nature, and charged with management and implementation of the intermediate exam for intermediate university degree.

**Ash-Shobak College:** One of the colleges of the Al-Balqa' Applied University, located in the south of Jordan, in the District of Ash-Shobak, includes a number of applied and technical disciplines at the bachelor's and intermediate diploma levels.

## Methodology

The nature of the current study and its objectives required the descriptive survey method; where the data from the population were collected and described as they are. With regard to E-exam for intermediate university degree in Jordan, views and attitudes of Ash-Shobak College students about phrases included in the study tool were investigated.

## Population & sample

Population included all Ash-Shobak college students of intermediate diploma level who applied for the intermediate university degree exam during the academic year 2014/2015 totaling (112) male and female students (Admission and Registration Department, 2015). The study sample consisted of all members of population; the students who sat for the intermediate university degree exam during the summer and winter sessions of the academic year of 2014/2015, note that (112) questionnaires were distributed, (108) of them were retrieved for analysis, thus retrieval percentage reached 96.4%.

## Instrumentation

To achieve the objectives of the study, the researcher used a special questionnaire to measure students' attitudes in Ash-Shobak College towards E-exam, through references and sources available, and previous studies that have benefited the current study, particularly (Zaza, Rababa'a & Tnash, 2008). The initial formula of the questionnaire included (32) items, to check the reliability of the study tool, the questionnaire was presented to a committee composed of (6) arbitrators representing the teaching staff at Al-Balqa' Applied University. The arbitrators were specialists in curriculum and teaching methods, measurement and evaluation, and educational psychology. They were asked to judge the validity of the items of the questionnaire in measuring what they intend to measure, in addition to the clarity and validity of the items' language. The arbitrators recommended deleting (6) items, and adjusting some linguistic formulations. The items unanimously approved by the arbitrators were adopted by 80%. In the light of arbitrators' approved observations, suggestions, and adjustments, the questionnaire have become composed of (26) positive items, followed in their design a graded ladder of five levels, according to (Likert) scale; strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). Reliability of study tool was verified according to the internal consistency method using Cronbach's alpha formula by applying it to a prospective sample of (20) individuals, from the population and outside the sample, the overall reliability of the instrument reached (0.86), and this indicates that the tool is valid and reliable enough to meet the objectives of the current study.

## Procedures

To achieve the objectives of the study and answer its questions, the following procedures were taken:

- After preparing the study tool and verifying its validity and reliability, it has been applied to the study sample after obtaining official approvals from the Department of the College; questionnaire has been distributed to the study sample after they finished the exam immediately. After the application of questionnaire was completed, data was uploaded to computer's memory, and data was processed to answer the study questions by using the Statistical Package for Social Sciences (SPSS).

## Statistical analysis

In data analysis and extraction of statistical results, the researcher used (SPSS) program version 16, and descriptive statistics such as means and standard deviations were used to measure the level of students' attitudes toward E-exam.

- the two-way analysis of variance (2- Way ANOVA) without interaction was used to know the impact of the variables of sex and grade point average on students' attitudes.

To judge the means of the questionnaire items, four levels of attitude degree were adopted according to the following criteria, on the grounds that the degree (3) is the neutral point, therefore:

- The degree of the negative attitude, represented by means of less than (3), and is divided into two categories: significantly negative if they belong to the period (1-1.99) and moderately negative if they belong to the period (2-2.99).

- The degree of the positive attitude, represented by means of more than (3), and is divided into two categories: moderately positive if they belong to the period (3-3.99), and significantly positive if they belong to the period (4-5).

## Results

To answer the first question, which reads "What are the attitudes of Ash-Shobak university college students towards E-exam for intermediate university degree?" means, standard deviations, and the degree of attitude of students' responses to the items of the questionnaire were calculated, and Table 1 shows the results.

Table 1 shows that the average of study sample responses on the questionnaire as a whole was (3.45), with a standard deviation (0.61), suggesting that students have positive attitudes towards E-exam for intermediate university degree according to the standard adopted by the current study. Means have ranged from (2.33-4.12) with standard deviations ranged from (1.08-1.44). It turns out that only two items had positive attitude at high degree namely: Item (1) "I think it is appropriate to give the students the opportunity to try before they finally sit for the E-exam", with a mean of (4.12) and a standard deviation of (1.1). And item (7) "drafting the items of the E-exam in the form of multiple-choice questions is appropriate," with a mean of (4.1) and a standard deviation of (1.15). We note that most of the items, (21) out of (26) reflected a positive attitude towards E-exam for intermediate university degree. When scrutinizing students' responses, we find that the most positive items came about sufficient number of E-exam questions, the clarity of its system, and the quick extraction of results (items 2, 4, 7). Items (18) got the lowest positive mean (3.04) with a standard deviation of (1.42) "the time allocated for the exam was enough to answer all the questions."

We note that three items only reflected the negative attitude towards the E-exam (items 9, 22, 25), their means ranged between (2.33-2.99), and standard deviations ranged between (1.1 to 3.1) and focused on the idea that E-exam does not increase the level of anxiety and stress (item 9), and E-exam helps to raise the efficiency of student achievement (item 22), and E-exam limits cheating attempts (item 25).

Table 2 shows the distribution of students' responses towards the E-exam for intermediate university degree depending on students' attitudes towards it. It is clear that students' attitudes were positive towards 88.5% of the paragraphs of the questionnaire, while their attitudes were negative towards 11.5% of the items. Nevertheless, the students did not show a significantly negative attitude.

**Table1: Means and Standard deviations of students' attitudes towards E-exam**

No.	Item	Mean	SD	Attitude degree
1	I think it is appropriate to give the students the opportunity to try before they finally attend the E-exam	4.12	1.10	Significantly positive
7	Drafting the paragraphs of the E-exam in the form of multiple-choice questions is appropriate	4.01	1.15	Significantly positive
4	The number of electronic exam questions is sufficient	3.87	1.11	Positive
2	The electronic exam system is clear and specific	3.87	1.08	Positive
24	E-exam helps extract results quickly	3.77	1.24	Positive
17	Students do not feel worried when using the computer	3.75	1.33	Positive
12	E-exam is serious	3.73	1.17	Positive
26	E-exam regulations are clear and easy to understand	3.64	1.26	Positive
8	E-exam times are appropriate for students	3.62	1.21	Positive
15	E-exam results are reliable	3.58	1.32	Positive
16	E-exam does not affect students' success in the comprehensive exam.	3.55	1.27	Positive
10	E-exam measures what it is intended to measure	3.50	1.17	Positive
20	E-exam is effective	3.44	1.22	Positive
19	Students do not need external help when using the computer	3.43	1.41	Positive
6	E-exam enjoys consensus	3.42	1.18	Positive
3	E-exam helps control the quality of the comprehensive exam	3.40	1.37	Positive
14	Distribution of study subjects on exam papers was appropriate	3.39	1.27	Positive
21	E-exam has a distinctive feature	3.34	1.29	Positive
11	Holding the E-exam twice a year is enough	3.33	1.43	Positive
23	Distribution of scores on E-exam papers is fair	3.32	1.44	Positive
13	Distribution of scores on E-exam papers is fair	3.28	1.16	Positive
5	Philosophy of shifting towards E-exam is justified	3.23	1.12	Positive
18	The exam time is enough to answer all questions	3.04	1.42	Positive
9	E-exam does not raise the level of anxiety and stress	2.99	1.30	Negative
22	E-exam helps raise the efficiency of student achievement	2.77	1.10	Negative
25	E-exam limits cheating attempts	2.33	1.10	Negative
Total		3.45	0.61	Positive

**Table 2: Distribution of answers to the items of the attitude towards E-exam according to the degree of the attitude.**

Degree of attitude	Significantly positive	Positive	Significantly negative	Negative	Total
No. of Items	2	21	0	3	26
Percentage	7.7%	80.8%	0%	11.5%	100%

To answer the second question in the study, which reads "what is the impact of the variables of sex and grade point average on the attitudes of Ash-Shobak University College students towards the E-exam for intermediate university degree? The means and standard deviations of the students' attitudes were calculated according to the variables of the study as shown in table 3.

**Table 3: Means and standard deviations of students' attitudes according to the variables of sex and grade point average.**

Variable	Variable level	Mean	SD
Gender	Male(46)	3.45	0.64
	Female (62)	3.44	0.59
GPA	Satisfactory (36)	3.49	0.57
	Good (53)	3.39	0.68
	Very good and above (19)	3.54	0.48

Table 3 shows apparent differences between the averages of students' attitudes in Ash-Shobak University College towards the E-exam for intermediate university degree according to the variables of sex and grade point average; to investigate the significance of these apparent differences, the two-way analysis of variance was conducted as shown in table 4.

Table 4 shows no statistically significant differences at the level of significance ( $\alpha = 0.05$ ) in the averages of students' attitudes toward E-exam for intermediate university degree attributed to the variables of the gender of the student, and his grade point average in the college.

**Table 4: two-way analysis of variance for differences in students' attitudes towards E-exam depending on the variables of gender and grade point average.**

Source of variation	Sum of squares	df	Sum of squares average	F	P
Gender	0.009	1	0.009	0.411	0.746
Grade point average	0.468	2	0.232	0.613	0.543
Error	39.704	104	0.384		
Total	1326.281	108			

## Discussion

Results of the study reflected students' positive attitude towards E-exam for intermediate university degree, as the total mean reached (3.45), and the results also showed that students' attitudes towards 23 items out of 26 (88.5% of the paragraphs) were positive, and significantly positive. This can be attributed to students' familiarity with new attitudes towards the modernization and computerization of the exam electronically; because of its positive effects on the results of their evaluation process, including the extraction of the results of the exam quickly, and high reliability for accurate results, which reflected positively on their attitudes towards E-exam. It can also be attributed to the great efforts made by Al-Balqa' Applied University, and the evaluation and examination unit for the success of this experiment, which is the first in this area; the university has worked to build a bank of questions after taking feedback from the concerned colleges, then trying the exam on the first test paper, and after the success of this experiment it has been applied to other test papers. Thus, the evaluation for the intermediate university degree has become entirely electronic, which contributed to give a positive idea to students about the exam and make them adopt a positive attitude towards it, and this is consistent with (Jarrah 2011; Mohammed 2011; Shunnaq and Bani Domi, 2010; and (Yurdabakan, 2012) studies, which showed positive attitudes towards e-tests, e-assessment, e-learning, e-software, and e-school.

The two items (1, 7) on giving students the opportunity to try before they finally attend the E-exam the (item 1), and drafting the items of the E-exam in the form of multiple-choice (item 7) got the highest degree of the positive attitude. This can be attributed to the novelty of E-exam on the level of intermediate university colleges in Jordan, in addition to the fact that students were very concerned of what they might face in the exam and believed that the multiple choice questions would be the easiest type of tests. On the other hand, the negative attitudes concentrated on three key aspects: First, the high-level of anxiety and tension caused by e-exam, item (9), and perhaps the students anticipated a problem in the exam software which could result in loss of data and answers, or distract their attention.

The students also anticipated a power outage resulting in a network server disconnection, which would raise the level of anxiety and stress among them when attending the E-exam and this is what the researcher observed personally while supervising the exam. Second: The E-exam does not help raise the efficiency of

student achievement (item 22). This may be attributed to the nature of the questions of intermediate university degree exam that focus mostly on public competencies in the field of student specialization within five courses of study in a paper in which a student applies for the exam, as well as exam the time interval between taking such courses and sitting for the exam, which may extend to two years, which makes students feel that the exam will not raise achievement efficiency. Third: The exam ability to limit cheating attempts (item 25), this item got the lowest mean, which means that the electronic version failed to stop the cheating attempts that the students resort as a result of the availability of modern technological means to cheat, such as the use of very small speakers that can be concealed, and the use of smart phones applications.

With regard to the differences in the students' attitudes towards the E-exam attributable to the variables of sex and grade point average of the student, the two-way analysis of variance without interaction indicated the absence of such differences. This result agrees with (Yurdabakan, 2012) study, which indicated the absence of differences between students' attitudes toward e-assessment depending on the variables of sex and academic level. This could be attributed to the fact that all of the students belong to the same university, subject to the same procedures, and receive the same treatment, regardless of their gender or GPA, which make them from the same point of view about the E-exam.

### Conclusions

There are general positive attitudes among Ash-Shobak University College students towards the E-exam for intermediate university degree with the presence of some minor negative aspects.

### Recommendations

In light of the findings, the study recommends the following:

- Help students overcome the technical problems that may occur during the exam and guide them on how to deal with a software exam.
- Provide an opportunity for initial experimentation and familiarity with E-exam software before the students finally attend the exam.
- Continue using the electronic version of the intermediate university degree exam and to work on developing the exam and avoiding negativities.

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