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The Degree Of Knowledge And Practices Of Online Electronic Evaluation Strategies Among Academic Staff In The Jordanian Universities In The View Of Certain Variables

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Abstract

The study aimed at measuring the degree of the knowledge and the practices of online electronic evaluation among Academic staff in the Jordanian universities in the view of certain variables, as sex, job, and experience. The research sample was 476 Academic staff from Jordanian universities during the academic year 2020-2021. The research tool was a questionnaire of 40 items of three factors: online electronic tests, online electronic performance evaluation, and electronic student's portfolio. The results of the study showed that the highest results were for the online electronic tests compared to other strategies, then electronic student's portfolio, and online electronic performance evaluation as the last. After applying Three-Way ANOVA analysis, the results showed that there was no effect of all (Experience, sex, and University type) on both degrees of knowledge and degree of practices of distance electronic evaluation. The study recommended holding courses on all types of Online electronic evaluation strategies for universities academic staff.

Introduction

The judgment on the college education and its quality depend on the measurement of the level of achieving education outputs among students, and the measurement of their academic competency. The measurement and evaluation process need adequate knowledge and skills within a specific organized process, and for that purpose many strategies and tools were built, with the goal of achieving jusitce when evaluating students. The electronic education (distance learning) became in the current times one of the dominant type of education because of the big technological advances humanity has today, and due to the recent universities closures applied because of the Covid19 pandemic started in the end of 2019. These environmental disasters and pandemics forced looking for replacement of the traditional education system, as electronic learning and hybrid learning, with their electronic evaluation and measurement of the students. These events and needs made it necessary to review the education and evaluation process among higher education institutes during these unprecedented events. Since the beginning of the Covid19 pandemic and the many precaution procedures done by all countries around the world, complete lockdowns were done on large scale, and social distancing were done to insure no wide spread of the virus among the world population. The educational system was one of the sectors that was hit hard by these procedures, and the work on new methods to insure the continuation of the education process was done, and online learning and teaching was established for this purpose. Countries efforts and success rates were different depending on their previous experience with online teaching and electronic learning, as some countries had already established electronic teaching and testing before the pandemic, and other countries as developing countries, could not process these changes fast as they had no previous experience in online education system neither online testing. These developing countries established free electronic platforms for learning and testing which was the only successful choice for such problem. These issues raise a new question which is: Do the academic staff have the adequate knowledge and skills to apply the needed electronic evaluation methods?

Distance student's evaluation is one of the issues that faced the academic staff in universities during the lockdown and close of the academic institutions around the world, as traditional on campus evaluation was the dominant procedures before the pandemic, but now new process and methods should be applied. The electronic platforms and electronic measurement and evaluation process were the alternatives of traditional testing, with the application of research and projects assignments and self-evaluation methods. These new requirements and methods needed special tools and process to make sure of its accuracy and quality. This study will measure the level of knowledge and skills of electronic measurement and evaluation process among academic staff in the Jordanian universities.

Research problem

As a results of the **online** learning approach after the spread of the Covid19, the Jordanian universities had to adjust with electronic testing and evaluation, and with that came many issues and challenges faced by the academic staff, and were reflected also on the students. These challenges and issues are studied in this study closely by answering the following questions:

1. What is the level of knowledge and practice of electronic measurement and evaluation process among academic staff in the Jordanian universities?
2. What is the favorite evaluation strategy among academic staff in the Jordanian universities?
3. Is there a statistical difference in the level of knowledge and practice of electronic measurement and evaluation process among academic staff in the Jordanian universities attributed to the following variables Experience, sex, University type?
4. What is the level of knowledge and practice of Authentic Assessment process among academic staff in the Jordanian universities?

Study significance

The significance of the study come from the importance of **online** electronic evaluation and its quality as it affects the students and their results, in addition to the need to understand the issues accompany this type of measurement and evaluation because its new to the academic staff, and many universities in Jordan did not have **online** learning and evaluation before the pandemic. The verity of the process of measurement and evaluation methods can have a positive effect on the students learning and thinking skills in an online sitting.

Sample limitations :The study sample only contains academic staff in the Jordanian universities

Duration: the study was conducted in the second semester of the academic year 2021/2022

Study location: The study was conducted in Jordan.

Study definitions

University Assessment Methods : Defined as the methods and procedures that are done by the academic staff for the purpose of student's evaluation by many measurement tools, which help them collect the needed academic data of the students (Mhlauli & Kgosidialwa, 2016; Khan & (Khan,2018).

Electronic tests: The tests which are conducted by the use of computers where the students answer directly to the test. (Alkhezzi Al-Zakri,2011)

Alternative Assessment: It is the assessment conducted without the use of paper and pen, but depends on the activities done by the students in situations that are relative to the real life situations. This type also can be referred to as reality assessment (Svinicki,2005).

Student's portfolio: group of student's activities and relative subjects that can give an image of the student progress. It can be used for the assessment of the students learning process (scherba de Valenzuela,2002).

Theoretical background:

With the spread of Covid19 virus across the world, many challenges rose in the academic sector, mainly in the developing countries with different levels between them, as these countries depend mainly on traditional teaching, and with no significance practices of electronic learning teaching, and assessment, and lacks the needed training on electronic learning among both students and academic staff. In addition to these issues, there is a lack of infrastructure and needed tools for distance learning as internet connection and electronic devices among students. Jordan is one of these countries that worked hard to establish online platforms for students and hold online tests for all academic levels in the country. Many educational systems consider assessment process as not part of the teaching and learning process, but a separate part and does not affect it. These educational systems also think that assessment include only academic tests for students.

Most of people as well think that assessment means tests that focus on reviewing the facts and knowledge of students (Moss, Girard&Haniford,2006). Boud,2000 warned that the actual assessment practices (tests) applied today in the academic settings are not enough to prepare the students for lifelong learning, and the motivation of the students is only acquiring high marks. Most scholars agreed that teaching and learning are connected to the assessment and feedback process, as the feedback coming from the assessments will allow the academic staff to enhance their teaching methods and increasing the learning skills among the students (Suen, 2014). Education institutes moved to online testing and that decrease the need for paper based tests and its issues as security of the paper testing, with the increase of the flexibility of the online tests time and place. Online testing also makes it easier to randomly distribute the questions, and to be able to retest the exams many times on the available platforms that changed the testing process for the students and the academic staff.

Under the impact of the lockdowns of the Covid19, student's assessment in the universities depends mainly on the online assessment, which uses the information technology and the internet instead of the traditional (paper and pen) tests (Cigdem et al.2016). Students were affected by online testing, as they were stressed and afraid for example of not uploading their answers, or writing the answers quickly, in addition to issues in focusing during the tests or inability to clarify their answers (Betlej 2013; Spivey and Mcmillan 2014). With these issues of testing, other studies revealed that Covid19 affected the mental health of students, for example some studies

revealed that 32% of all 1019 students included in the study were feeling more stress during online testing (Elsalem et al.,2020). For these reasons, some academic staff in the universities started to search and develop other assessment methods as (performance evaluation and achievement files) which are more flexible and less stressful than electronic tests.

Types of e-assessment:

Cook and Jenkins (2010) noted three types of electronic assessment as the following:

1. e-Diagnostic Assessment: It can be referred to as the pre-evaluation, which applied in the beginning of the first semester to evaluate student's skills and knowledge and their motivation levels to acquire it. The results of this assessment will determinate the academic goals that academic staff will have to achieve.
2. e-Formative Assessment: It aims at continuously evaluating the students to understand the what the students acquire and to keep continuous feedback for the teacher or lecturer. This type is one of the most important type of electronic assessments.
3. e-Summative Assessment: This type aims at evaluating the main learning goals in a specific Curriculum, and applied in the end of the academic semester.

The Authentic Assessment is a different process than testing, as it based on tools and strategies unlike the classical evaluation, which done by the academic staff in universities and focus on the knowledge side first, and ignore other sides as progress and performance, as well as thinking process, even though teaching should focus on training on thinking first, and how to employ it to solve problems. Tests in general focus on the results of the education and ignore the process itself. The issue of low quality testing is the problem of the academic staff who make them and not on the tests itself (Odeh, 2010).

Authentic Assessment means the continuation of the assessment process to involve the practical and theoretical results, and focusing on the meaningful learning with enhancing the trust between the teacher and the student, as it depends on clear student performance evaluation factors. The alternative assessment is a chance to connect teaching and assessment and make them work together rather than seeing assessment as only the last step of education.

The strategies of alternative assessment and its types are man as for example: Performance Based Assessment, Observation, Communication, Student Self-Assessment, Portfolio Assessment, and Assessment Demonstration. Tools of assessment are the tools that used to collect data, information, and activities of the students, as:

Check List: It is a tool made of group of items or statements describing groups of behaviors and issues that needed to be measured, with the scale of (satisfy with, not satisfy) or (yes.no).

Rating scale: It is a scale that describe certain behavior or skill, and the rating is of three or more as (excellent, very good, good) or any other similar scale. These scales will be transferred to numbers for statistical analysis purposes (Odeh. 2010; McMillan.2001).

As with the high development in the science of evaluation and assessment in recent years, many modern methods and strategies appeared in the academic field as the Authentic Assessment which is a group of strategies as self-evaluating strategy which include the student's portfolio under it (evaluating method used in academic or economic settings). These methods are used by academic institutes to decrease the academic staff impression during the assessment, as students feel that traditional assessments do not reflect their actual work and achievements (Manning,2000). Students portfolio in short is a group of specific works and efforts of the students that show his actual progress and his actual level in education (Klenowski,2002).

The content of the student's portfolio can have full coverage of the student full work and progress, or certain few factors and tasks that the student chose. Student's portfolio is an attractive method for wide range of teachers and students. Subjects that should be included in such portfolio is almost endless, as for example and suited introduction made by the student, thinking papers for each primary done by the student, putting certain measures for the student to be able to choose his/her best works to be included in their portfolio, verbal demonstrations of their portfolio in front of their friends and classmates, etc. (Vorotnykova,& Zakhar,2021). This study will include the following methods: online tests, online evaluation, student portfolio.

Previous studies

Mirza (2021) did a study on 10 lecturers from education college in the American university in Lebanon, which aimed at the study of the lecturer's perception of online evaluation. The study concluded that lecturers did not receive any training on online evaluation, and there were no guidelines of how to hold the online testing and evaluation by all its types. The study also found that lecturers used tools as projects and presentations as an alternative of traditional tests. The results also showed that lecturers were satisfied with holding the final tests inside the university campus.

Bashitia,lshaaer, Alhendawi Lassoued (2021) did a study that aimed at specifying the issues and obstacles that prevent from achieving quality online education, and the use of the online testing, during Covid 19 period. The study included a sample of 600 students and 400 lecturers from different Arabian countries. The data was

collected using an open ended questionnaire. The results showed that students and lecturers faced 27 obstacles during online learning and online testing. The study put many recommendations to solve such obstacles.

The study of Al-Azawei, Baiee, Mustafa (2019) aimed at measuring the effect of electronic assessment method on the students' performance, and to measure the teacher's perspective of the electronic assessment. The researchers used controlled groups and experimental groups of 17 and 15 students. The results showed that there were no statistical differences between the two groups in their performance, and in the same time there was no statistical differences in the teacher's performance according to the assessment method used.

The study of Khan,Khan (2019) aimed at discovering the perspective of the college students in the UAE of online assessment, by measuring their fears and acceptance of the process. The researchers did focus group of 41 students and snowball sampling methods. The results showed that the students feared their low technological skills and the academic staff performance, in addition to the lack of the trust in the technological infrastructure. Also the students thought that online assessment were restricted and caused their marks to drop. The study recommended building slow acceptance among the students of the online assessment, and establishing technological training for students and academic staff, and working on the fears of the students to reach for successful online assessment for higher education in the country.

Marius,Marius,Dan,Emilian,Dana (2016), studied the use of the computers in education and computerized assessments, mainly the online assessments. The study aimed at evaluating the student's acceptance of online assessment. The sample was 240 student of medical college in UNPTR university in Romania as they used online assessment for 7 years. The study used a short questionnaire that evaluate their experience of online assessment. The results showed that students preferred online assessment on traditional ones. The number of students who preferred online assessment increased with more years of use. The study also revealed that students have high acceptance of multiple choices as a god method of online assessment.

Most of the previous studies aimed at measuring students and teacher's perspective and acceptance of the online assessment and online tests, and that due to the fact that most of academic staff use tests as main method of university measurement and evaluation. There were few papers that studied academic staff acceptance and practices of online testing and assessment in Jordanian universities, and most other studies focused only on student's perspective. This study is an academic addition and contribution to the available literature, and add new dimension of measurement to the topic of online testing. As part of the academic staff and lecturer in one of the Jordanian universities, I noticed also the student's objection on the complete use of the tests as only method of evaluation during Covid 19 pandemic.

Study methodology:

The researcher used descriptive correlational study which is one of the most used methods for studying human and social phenomena. The method is used to describe the relation between different variables in a statistical way.

Research population and sample:

The research population is all university lecturers in Jordanian universities which are around (11394) in the year 2020/2021 according the last report published on the high education ministry in Jordan. The questionnaire was sent for each lecturer through his/her electronic emails posted on their page on the official university email. The study sample was 790 lecturers chosen randomly. The questionnaire link was sent along of a letter that explains the purpose of the questionnaire and asking them to answer all of its items. The researcher received only 482 completed questionnaires, 6 questionnaires were eliminated because of non-serious answers were included in the questionnaire. The total accepted questionnaires were 476. The following table show the characters of the study sample:

Table 1: Study sample characters according the variables: experience, sex and University type.

Variable	**Category**	**Number**	**percentage**
Experience	1-6 years	148	31%
	7-11 years	114	24%
	12-18 years	148	31%
	Above 19	66	14%
Sex	Male	362	76%
	Female	114	24%
University type	Public	331	70%

	Private	145	30%

Research tool:

The researcher developed the questionnaire after reviewing the available literature (Al Odeh 2010; Al Zoubi 2013; Al Enezi 2019; Shehri, Otoum, Al Mafableh 2015; Marius et al 2016). The demographic variables were defined as Sex, Experience, and University type. The questionnaire contained 44 items, and then was evaluated and assessed by many academic experts, to delete 4 items and reach to 40 items only. Some other items were modified to suite the research purpose and goals. The main factors of the questionnaire were as the following:

Section one: Strategies of electronic online testing (items 1-13)

Section two: Strategies of electronic online performance evaluation (items 14-26).

Section 3: electronic student's portfolio (items 14-26).

Questionnaire validity:

The questionnaire was evaluated by some academic staff who are specialist in measurement and evaluation and teaching methods. The questionnaire was reduced to 40 items out of 44, thus face validity was complete. The researcher did a pilot study of 32 and internal validity was measured by Pearson correlation coefficient for all items of the three sections of the questionnaire as the following:

Table number 2: Pearson correlation coefficient

Item number	Section	Pearson's *(r)*	Section	Pearson's *(r)*	Section	Pearson's *(r)*
1	**1- online testing**	**0.497	**2- online performance evaluation**	**0.413	**3- electronic student's portfolio**	**0.629
2		**0.683		**0.587		**0.604
3		**0.491		**0.442		**0.535
4		**0.485		**0.501		**0.446
5		**0.701		**0.637		**0.605
6		**0.474		**0.731		**0.572
7		**0.631		**0.628		**0.726
8		**0.610		**0.479		**0.506
9		**0.581		**0.516		**0.636
10		**0.544		**0.618		**0.693
11		**0.630		**0.704		**0.693
12		**0.499		**0.538		**0.593
13		**0.714		**0.611		**0.449
14						**0.537

****:significant at 0.01**

The above results in table 2 show that there is a statistical significant at 0.01, which indicates adequacy of the research tool. To study the Internal consistency validity between each section (factor) of the questionnaire, the following table show the correlation coefficient between them:

Correlation coefficient between each section and other sections of the questionnaire, in addition to Correlation coefficient between each section and the total coefficient of the questionnaire.

	Total degree	**online testing**	**online performance evaluation**	**electronic students portfolio**
online testing	0.805**	1.00		
online performance evaluation	0.679**	0.376**	1.00	
electronic students portfolio	0.748**	0.504**	0.417**	1.00

Significant at 0.01

Table 3 show that that the correlation coefficient between each section and the other sections of the questionnaire, in addition to the correlation coefficient between each section and the total coefficient of the questionnaire is statistically significant at 0.01, which indicates internal consistency.

Reliability:

To test the reliability of the research tool, Cronbach's alpha is measured, where each item treated as sub variable, and thus we can find all correlation coefficients with the following equation:

{N(N-1)}/2 = (40*39)/2= 780 N is the number of the items.

Cronbach's alpha values are included in the following table:

Table number 4: Cronbach's alpha values for each section of the questionnaire

Section	Number of items	Cronbach's alpha
One : online testing	13	0.87
Two : online performance evaluation	13	0.84
Three : electronic students portfolio	14	0.85
All items	40	0.88

Table 4 show that all values of Cronbach's alpha of all sections of the questionnaire started from 0.84, and that total value of all items was 0.88 which consider as high values and sufficient.

Likert 5 scale is used in the questionnaire (Always, Usually, sometimes, rarely, never). The value of always in this scale is 5, and never is 1. The highest value on the scale of the electronic valuation practice by the academic staff in the Jordanian universities is 200, and the lowest is 40. The high values indicate verity of valuation strategies used by the academic staff. The judgment of the level of the knowledge and practice of valuation strategies can be done through the following table:

Table 5: The level that corresponds to the mean values of the responses on the scale

level	Mean
Low	1 - 2.33
Moderate	2.34 - 3.67
High	Bigger than or equals to 3.68

The normal distribution of the data was tested using One Sample Kolmogorov-Smirnov test. The following table (6) show the value of the test for the responses of the sample members

(Table 6: One Sample Kolmogorov-Smirnov test

Scale	Number of items	Z value	Correlation value
e-Evaluation strategies	40	0.5712	0.749

Table 6 show that the correlation value was 0.749 which is not statistically significant, which indicates that data is naturally distributed. The unidimensionality of the questionnaire was tested by using Factor analysis, Explained variance, and screen plot. Table 7 show the results of the EFA (Exploratory factor analysis):

Table 7:Exploratory factor analysis of the responses of the sample members

component	Eigenvalues	Explained variance	cumulative explained variance	Indicator
1	5.36	**53.6(a)**	53.6	**37.4(b)**
2	1.20	12.0	65.6	
3	1.09	10.9	**76.5(c)**	

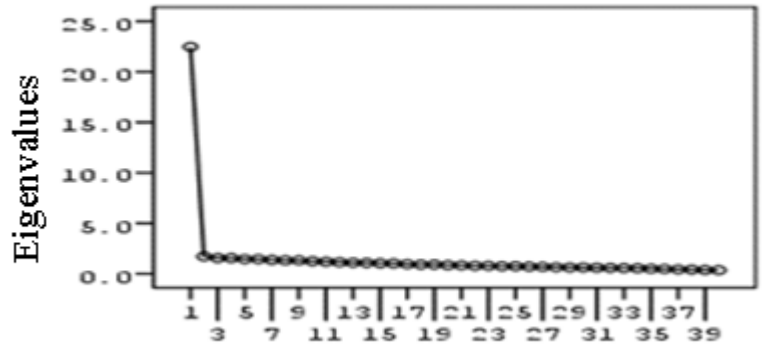


Figure 1 : Screen plot of the Eigenvalue at items

Table 7 show all the values of the Explained variance, where (a) exceeded 20% which indicates high unidimensionality. The second value (b) is the results of the division of (second Eigenvalue – Firs Eigenvalue) on (third Eigenvalue - second Eigenvalue), where the results were high indicating high unidimensionality. Also the value of the cumulative Explained variance ratio was more than 54%, which indicates unidimensionality for the third indicator (c). Figue 1 show these results at Screen plot (Hattie, 1985).

Here it is worth mentioning that unidimensionality realization in the data, will lead to achieving Local Independency, which noted by Hamblton, Swaminathan and Rogers, (1991), as if one part is achieved then the second will be achieved. According to this then the researcher completed the test of both unidimensionality, and Local Independency.

Results and discussion:

1. **Answering the first question:** What is the level of knowledge and practice of electronic measurement and evaluation process among academic staff in the Jordanian universities? For the purpose of answering this question, the mean was calculated for the items (40,26,13), which measure the level of knowledge and practice of electronic measurement and evaluation process among academic staff in the Jordanian universities. Table 8 show these values. After that the mean, standard deviation and ranks were calculated according to the three factors in this study in table 9.

Table 8: mean values of the respondents answers of the items measuring the level of knowledge and practice of electronic measurement and evaluation process among academic staff in the Jordanian universities

Item number	Item	Mean	SD	Rank
13	I possess the accurate knowledge of **online tests** types and their characters, advantages and flaws.	4.18	0.79	1
26	I possess the accurate knowledge of **online performance evaluation**, its characters, advantages and flaws.	2.95	1.03	3
40	I possess the accurate knowledge of the types of electronic students portfolio, its characters, advantages and flaws.	3.62	0.94	2

The results in table 8 show that the higher mean value was for item 13 which measures the knowledge of online tests and its types with mean value of 4.18 and a standard deviation of 0.79. The second mean value was 3.62 and a standard deviation of 0.94 was for the item number 40, which measures the knowledge of the electronic student's portfolio. The lowest mean value was for item number 26, which measures the knowledge of online performance valuation with a mean of 2.95 and a standard deviation of 1.03 which indicates that it's the least understood and known among academic staff in this research. The researcher sees this due to the systems and regulation applied in Jordanian universities which focus on tests in the evaluation process, and to the lack in the training on electronic online learning and its platforms. The question raised here is will these regulations and evaluation systems which were applied in the university campus the same after applying online learning and hybrid education systems? This results indicates high need for the training of the academic staff on the strategies of evaluation and its tools in addition to the electronic tests in the academic process. This results came similar to the results of the study of Mirza (2021) and Khan, Khan (2019).

Table 9: mean values of the respondents answers of the items measuring the level of knowledge and practice of electronic measurement and evaluation process among academic staff in the Jordanian universities

Section	Mean	SD	Rank	Level
online tests	4.07	0.64	1	high
online performance evaluation	2.71	1.83	3	Medium
electronic students portfolio	3.64	0.92	2	Medium

According to the results in table 9, the level of knowledge and practice of the academic staff was medium with a mean of 3.18 and a standard deviation of 0.84. The highest level was the online electronic tests dimension with a mean of 4.07 and a standard deviation of 0.84. In the same results both online performance evaluation and electronic student's portfolio were of medium level. The mean value of the online performance evaluation was 2.71 and the standard deviation was 1.83, while the Students electronic portfolio had a mean value of 3.64, and standard deviation of 0.92. The high practice and knowledge of the strategy of online testing among the academic staff can be due to the general use of this strategy since long time for its low time and effort of preparation compared to other strategies. It's worth mentioning that these electronic tests were available on the platforms and application for free as Moodle and Microsoft Teams, mainly during the Covid 19 pandemic period, which encourage universities to apply it with all of its flexibility and ability of easy retesting and creating many versions of the same test. These results were not in accordance to the results of Al-Azawei, Baiee, Mustafa (2019).

Answering the second question: What is the favorite evaluation strategy among academic staff in the Jordanian universities?

To answer this question, table 10 includes the answers of items (40,24,12) as the following:

Table 10: The answers of the items that show the preference of the valuation strategies among the academic staff

Number of the item	Item	Mean	SD	Rank
12	I prefer varieties of online tests for the students valuation	4.05	0.57	1
25	I prefer online performance evaluation strategy for the students valuation	2.26	1.14	3
39	I prefer the strategy of electronic students portfolio for the students valuation	3.18	0.86	2

The results in table 10 show that the most frequent method in the student's valuation is the online electronic tests with a mean of 4.05 and a standard deviation of 0.57, which is the highest mean, and then the second highest mean was the student's electronic portfolio mean of 3.18 and a standard deviation of 0.86. The least used method was the strategy of performance valuation with a mean of 2.26 and a standard deviation of 1.14, which can be due to lack of knowledge and training of this strategy among the academic staff in the Jordanian universities. This result is in accordance with the studies of Mirza (2021), and the study of Khan,Khan(2019).

The answer of the third question: Is there a statistical difference in the level of knowledge and practice of electronic measurement and evaluation process among academic staff in the Jordanian universities attributed to the following variables Experience, sex, University type? To answer this question, the researcher used Three-Way ANOVA, and table 11 show these results:

Table 11: Three-Way ANOVA Results for the answers of the research sample

source	Type III Sum of Squares	df	Mean Square	F	Sig
Sex	0.201	1	0.201	7.791	0.190
Experience	0.0418	3	0.014	0.540	0.591
University type	0.265	1	0.265	10.272	0.272
Sex and Experience	0.201	3	0.067	2.597	0.086
Experience and university type	1.329	1	1.329	51.515	0.094
Sex and University type	1.119	1	1.119	43.375	0.473
Sex, Experience and University type	0.021	3	0.007	0.271	0.401
Error	3.328	460			
Corrected Total	6.3048	475			

The results in table 11 show that there are no statistical differences at ($\alpha \leq 0.05$) between the variables due to (Sex, Experience, and University type), which indicate that preferred methods and their knowledge and practices do not differ because of the difference of their sex or experience and university type. The researcher sees that this results are due to the fact that the academic staff used the same valuations methods that are verified by the regulations and rules of the education system before the online electronic learning. These results came in accordance with the study of Al-Azawei, Baiee, Mustafa, (2019).

The results showed the tendency to use the electronic online tests, and the low use of the student's portfolio and performance valuation, which can be due to the lack of the training on these methods of valuation, and the random instance applying of the electronic learning when the pandemic started in the beginning of the year 2020. Also this can be due to the ease of use of the electronic tests which can be provided directly through online platforms. Training can solve this issue, but because of the lockdown, online learning and the closing of the university's campus and training centers, there was no chance to provide such training for the academic staff. This training also was partially ignored even before the pandemic of Covid19. Other methods than electronic testing are most important and needed today for correct performance valuation for the students, and for the support of correct thinking skills and problem solving among students.

Answering question four: What is the level of knowledge and practice of Authentic Assessment process among academic staff in the Jordanian universities?

To answer this question, table 12 show the results of two dimensions (Electronic performance valuation, Students portfolio) :

Table 12: The results of the sample answers on the questionnaire dimensions

Section	Mean	SD	Rank	Level
online performance evaluation	2.71	1.83	2	Medium
electronic students portfolio	3.64	0.92	1	Medium
Total	3.07	1.26	Medium	

The results show that the mean value of the total (of both methods) was 3.07 and a standard deviation of 1.26, and a standard deviation of 1.26 with a medium level. The results also show that the sample of the academic staff are practicing student's portfolio method (mean of 3.64 and a standard deviation of 0.92) more than online performance valuation (mean of 2.71 and a standard deviation of 1.83).

This can be due to lack of the use of these methods before the Covid 19 and the online electronic learning, and the lack of experience in such methods, as most universities regulations and systems support tests on other methods of evaluations which consist of only 30% of the total marks of the students.

Recommendations

1. The need for training programs for the academic staff in Jordanian universities on different methods of electronic evaluations.
2. To provide high efficiency evaluation platforms and systems in the Jordanian universities, in addition to the free electronic learning platforms already exists.
3. To push for more use of the other evaluation methods among academic staff in the Jordanian universities, and mainly methods that support creative thinking and problems solving.
4. To conduct further quasi-experimental studies measuring the valuation strategies used in Jordanian universities.
5. To conduct new studies to compare the differences in the use of different electronic evaluation methods among different colleges inside the same universities in Jordan.

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