



**THE IMPACT OF ELECTRONIC TESTS ON THE ACADEMIC
ACHIEVEMENT OF FOURTH STAGE STUDENTS,
DEPARTMENT OF SCIENCE, PHYSICS BRANCH, COLLEGE OF
BASIC EDUCATION, UNIVERSITY OF BABYLON**

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A B S T R A C T	K E Y W O R D S
The current research aims the to get to know on the impact of electronic tests on the academic achievement of department students Science branch Physics/Faculty of Basic Education in University of Babylon In order to verify the aim of the research, it was formulated the two researchers the following questions: 1. Are there statistically significant differences at the significance level (0.05) between the average student achievement scores in the electronic test and the traditional test? In collection Students Physics, fourth stage/ College of Basic Education / University of Babylon? 2. Is there a correlation between students' achievement scores in the electronic test and the traditional test? Majoring in physics? useThe two researchersDescriptive approach in conducting research, And Choose grades for a course taught in an academic program at the University of Babylon in Iraq via in-person instruction for the academic year 2019-2020And electronically in the 20th academic year20-2021 The researchers relied on a research tool (statistical) that was presented to a group of arbitrators to determine its validity, and it obtained consensus from 90% of them. she: (Pearson correlation coefficient, testt-test) After applying the research tool, the researchers found that there were statistically significant differences at the 0.05 level between students' scores in the electronic and traditional test. In light of the research results, the researchers reached a set of conclusions, recommendations and proposals.	Testing, traditional, electronic, collection. The fourth stage.

Introduction

The researcher caredaThere are many factors and variables that contribute effectively to the quality of learners' performance and that affect the quality of students' academic achievement. These factors include factors related to the student, family factors, school factors, and peer factors (Crosnoe, Johnson & Elder, 2004).

Therefore, many studies have been conducted on this subject, including a study (Bataineh, 2013) entitled “The relationship between students’ academic achievement and all aspects of learning, gender, and economic and social status,” where the study sample consisted of 204 students distributed into (101 male and 103 female) students from Yarmouk University in Jordan - Irbid Governorate. The results of the study revealed that there is a relationship between the deep method of study, which contributed 6%, and the strategic method of study, which contributed 2%, to predicting students’ academic achievement.

A new study by Mansour (2010) entitled “The relationship between learning styles as a type of information processing and test anxiety and their impact on academic achievement” is a field study among a sample of second-year secondary school students in public schools in Damascus Governorate, where the study sample consisted of (246) students. The second year of secondary school, drawn randomly, from four public schools in the city of Damascus. The results of the study resulted in lower academic achievement scores for students when relying on the superficial method of learning.

Another study was also conducted that dealt with the effectiveness of distance learning compared to direct education in the achievement of first-year secondary school students in the Arabic language subject in Jordan, which was conducted by Al-Zoun (2020). The sample consisted of 35 male and female students from the first year of secondary school in Jordan, drawn randomly. The researcher followed the method. The results of the study resulted in the superiority of direct learning over distance learning in the achievement of first secondary school students in the Arabic language subject.

Knowing the relationship between electronic and traditional testing and their effects on academic achievement enables one to know which has a greater impact on students’ real skills and thus study appropriate methods and techniques to avoid obstacles and reach academic achievement to the maximum possible extent.

From here the idea came to the researcher that To know the relationship of electronic and traditional testing to achievement and which one is more effective in diagnosing the student’s true score in achieving university courses .

First: the research problem :

The ministries of education in the Arab world, including Iraq and the United Arab Emirates, have approved electronic test scores for the remainder of the academic year.(2019-2020)This is due to the Corona pandemic crisis, which could negatively affect students.

In order to verify that experience and its relationship to students’ cognitive achievement in previous years in which traditional tests were adopted, the two researchers conducted research to diagnose the strengths and weaknesses of that new experience. This will contribute to improving electronic tests by knowing the extent of their ability to diagnose the true individual differences between students and show the student’s true grade.(Majeed, 2014: 35)

From the above mentioned, the problem of research is evident from the following question:

What is the relationship of electronic and traditional tests to students’ academic achievement?The fourth stage, Department of Science, specializing in Physics.

secondly: research importance :

1. This research helps reveal differences in achievement in electronic and traditional tests.
2. Detecting the true levels of student achievement in electronic tests.
3. Revealing the true levels of student achievement in traditional tests.

Third: The goal of the research:

The current research aims to identify:

The current research aims to identify the relationship of electronic and traditional tests to academic achievement For the fourth year student in the Science Department, majoring in Physics.

In order to verify the aim of the research, the researchers formulated the following questions:

1. Are there statistically significant differences at the significance level (0.05) between the average student achievement scores in the electronic test and the traditional test in student achievement? Department of Science Branch Physics, fourth stage / College of Basic Education / University of Babylon?
2. Is there a correlation between students' achievement scores in the electronic test and the traditional test in the field of physics?

Fourth: Limits of research:

Grades for the educational administration and supervision course taught in the department Science/Physics Branch University of Babylon in the two academic years (2019- 2020) And (2020- 2021).

Fifth: Defining terms:

1. Academic achievement: He knew him good 1973 that he : Achievement and proficiency in performance in a skill and a body of knowledge. good-1973.7))

Operational definition: It is the amount of achievement scores achieved by students in traditional tests in the academic year (2019-2020) and the achievement grades achieved by students electronically in the academic year (2020-2021) in the subject of educational administration and supervision .

2. Electronic tests: custom E2017. Abass: These are tests in which the questions are conducted and published electronically over the Internet, where the test takers attempt to answer the questions at the same time. .(Abass.2017)

Procedural definition: It is the test that was approved in the 20th academic year 20/2021 Due to the Corona pandemic crisis, to know the cognitive abilities of students in the educational administration and supervision course .

3. The traditional test: Define it Al-Ajrash is that "A test that relies on traditional culture and focuses on knowledge production." (Al-Ajrash, 2017: 25)

Procedural definition: It is the test that is approved during the academic year 2019-2020 Before the Corona pandemic crisis, to know the cognitive abilities of students in the educational administration and supervision course .

4- The fourth stage: It is the last and final stage University tuition/ Department of Science / Branch **Physics at the College of Basic Education / University of Babylon.**

Sixthly: Research Methodology:

The researchers followed the descriptive approach in the research procedures This is because it is compatible with the goal of the research aimed at the relationship between electronic and traditional tests and academic achievement For fourth year students majoring in physics.

The descriptive approach is the approach that is based on collecting data from a number of variables, determining whether there is a relationship between them and finding the value of that relationship, which is expressed quantitatively and qualitatively through what is called the correlation coefficient. (Melhem, 2000: 413).

Seventh: research community And I appointed him :

The research community is a key task in the trial The research community is all the members or elements, whether they are objectives, subjects, or individuals to whom we want to generalize the results of the study. (Al-Manizel and Al-Atoum, 2010: 101).

As for the research sample, it is a model that includes an aspect or part of the determinants of the original community concerned with the research, which is representative of it and bears its common characteristics. This model saves the researcher from studying all the units and vocabulary of the original community, especially in the case of difficulty studying all of these units. (Al-Dulaimi and Saleh, 2014: 74).

Based on the limitations of the research represented Grades for the educational administration and supervision course taught in the department Department of Science, Physics Branch University of Babylon for the two academic years (2019-2020) and (2020-2021) The research community and its sample, which was chosen intentionally and as a result Shown in Table (1)

Table (1)
The research community and its sample

Number of students	academic year	The decision	Classroom
113	2019/2020	Educational administration and supervision	the fourth
113	2020/2021	Educational administration and supervision	the fourth

Eighth Research tool: It is a suitable tool for obtaining information, facts, and data related to a specific reality. It is presented in the form of a set of questions or paragraphs, and a number of individuals, experts, or examinees are asked to answer them. (Obeidat et al., 1992: 123)

The researchers followed the following steps to prepare the research tool

1. Review the literature of educational and psychological sciences, measurement and evaluation.
2. The researchers formulated a tool with four paragraphs that represented the statistical means to achieve the research goal :
 - Pearson correlation coefficient.
 - a testt-test.

To determine the validity of the statistical research tool and its suitability to the research objective, it was presented to a group of arbitrators specialized in measurement and evaluation, the number of whom was (15) experts. Using the chi-square in Table (2), the administration obtained the approval of the experts because the calculated value was (11.26), which is higher than The tabular value (3.84) is at a level of statistical significance (0.05) and a degree of freedom (1), and thus the validity of the tool was confirmed.

Table (2) Chi-square values for expert opinions

Significance level	Ka2 value		Degree of freedom	Non-consent	Agree	Number of experts
	Tabulation	Calculated				
0,05	3,84	11,26	1	1	14	15

Ninth:Collect and analyze data:

The researchers obtained the students' grades in the final exam in the course from the department chairScience branchaFor physicsIn the College of Basic Education, University of Babylon, for the academic year 2019/2020 And2020/2021

After the data collection process The data was entered and organized to perform statistical operations appropriate to the research questions, and the data was analyzed statistically.

Tenth:Results and discussion :

To verify the questionthe first:

Are there statistically significant differences at the significance level (0.05) between the average student achievement scores in the electronic test and the traditional test? ?

To answer this question, the researchers applied a testt-test on electronic and traditional test scores (2019-2020) and (2020-2021) as in Table (3) .

Table (3) The arithmetic mean, standard deviation, variance, and T-value of electronic and traditional test scores

Statistical significance	Tabular test	t-test calculated	Degree of freedom	variance	standard deviation	SMA	the number	the test
Significant at the 0.05 level	960, 1	332,28	224	108,24	9808,4	3805,89	113	Email
				472,108	4149,10	6106,58	113	Traditional

It is clear from Table (3) that:

The average achievement score for the electronic test reached (89.3805), and the standard deviation reached (4.9808) and reached (24.108), while the average achievement score for the test reached (58.6106), the standard deviation reached (10.4149), and the variance reached (108.472). Using the testt-test to compare these two means, it appeared that the calculated t-value (332.28) is greater than the tabulated value of (960.1) at a significance level of (0.05) and degree of freedom (224).

This indicates that there are very large differences between the scores of the electronic test and the scores of the traditional test to a very large extent.

By referring to Table (3), we find that the deviation and variance are small in the electronic test, which indicates its inability to measure individual differences between students, and that the score may not be real, unlike the traditional test, which had large deviations and variance, which indicates that it is the opposite of the differences. The true individuality among students because the deviation and variance showed the amount of distance between the score and the average central point.

second question:

Is there a correlation between students' achievement scores in the electronic test and the traditional test?

To answer this question, the researchers applied the Pearson correlation coefficient to the electronic and traditional test scores (2019-2020) and (2020-2021) and the value of the coefficientCorrelation 0.13It is a weak correlation value, which indicates that there is a weak correlation between the electronic test scores and the traditional test, which indicates that the electronic test scores did not represent the student's true grade, and there is a percentage of error.With that he returnsThe electronic test provides the opportunity for students to work in groups, and each of them is responsible for solving part of the exam and sharing the solution among them.

And In light of the research results, it is concluded :

1. The error rate in electronic test scores is significantly high due to the wording of the test items and the conditions for conducting the test.
2. The high achievement of students in the electronic test does not give the true picture of the students' grade .

In light of the results, the researchers recommend:

- Apply the error rate equation to extract the true rate during the test application.
- Analyzing tests conducted electronically by comparing them with grades. The years Previous studies and Determine the nature of the differences between them.

As a continuation of the current research, we propose :

Conducting studies on electronic and traditional tests in educational stages.

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