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The Effect of Smartphone Testing and Computerized Testing on Third Grade Students Biology' Acceleration in Teaching Methods of Science and Teaching Techniques

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Abstract
   Most educational institutions in Iraq suffer from the typical exams, which may not be the true measure of the level of the student, and questions placed in a traditional way does not stimulate the student to think and answer, which is supposed to be the result of understanding the perception of relationships between cognitive experiences, which will be the most answers based on Preservation and retrieval of material that leads to some students or perhaps many of them to cheat in some way, in addition to that the paper examinations require great potential to achieve its objectives, it requires specialized staff to create all the appropriate conditions for the performance of exams Represented by various committees such as (Examination Committee), (Correction Committee), (Audit Committee), (Supervisory Committee), (Observer Committee) and (Monitoring Committee of grades), and despite all these committees many problems and errors lead to some injustice In the results of students, this leads to many objections by students at different stages and grades for different subjects in general and scientific subjects in particular in addition to the delay in giving results that may take weeks or more, on the other hand, the reasons and necessities of university teaching Develop curriculum elements and introduce technology components To teach in the joints of the main institutions of education in general and in the field of teaching and education

in particular it became imperative to adopt methods and methods and tools of assessment and evaluation commensurate with the inputs and outputs of university preparation that emphasizes the development and improvement of knowledge and skills expertise through the adoption of modern technological education technology, but we are still despite all The successes and positive results achieved by educational technology at the Arab and global levels are far from the optimal and successful use of this technology, despite the existence of some simple attempts, specifically the evaluation methods and evaluation that are supposed to Fit what let him modern theories of education and learning, it may be the reason not to use modern technology in several technical reasons for university assessment including the following:

1- Weaknesses and shortcomings in the preparation of teaching staff trained on the use of electronic evaluation programs.

2 - Weak activation of technical training activities and technology for students in different stages of study.

3 - lack of potential and lack of alternatives to test the large numbers of students.

4 - Recent experiences are unfamiliar because they do not fit the educational systems in Iraqi educational institutions.

5 - risk that may cause chaos or cheating when using electronic educational technology in the field of tests.

6 - the quality of scientific study materials, specialized or educational, which is difficult to conduct according to electronic technology, especially materials that rely on explanation or article or derivative equations.

7 - the multiplicity of quality of electronic tests and the diversity of its programming is difficult for the teaching to deal with them in the same way, especially electronic tests for different educational platforms and tests of smart phones.

8 - Most of the electronic tests need special preparation, the most important of which is the provision of the Internet and a computer and this does not fit with the exam instructions, which stresses the lack of the introduction of smart phones and cut off the Internet.

For all the reasons above and others that can not be limited in this research we find that there is an urgent and urgent need to conduct a research to identify the obstacles and difficulties that can be diagnosed and overcome when using the technology of instructional technology in formal or informal tests and identify the aspects or positive points envisaged from it, so this was The research is a necessity and an urgent need to answer the

reasons mentioned above and through the use of two advanced electronic test techniques through the answer to the following question
- What is the impact of the use of both smart phone tests and electronic tests (google classroom) on the speed of achievement of third grade students life sciences in the teaching methods and teaching techniques?

El Efecto De Las Pruebas Con Teléfonos Inteligentes Y Las Pruebas Computarizadas En La Aceleración De La Biología De Los Estudiantes De Tercer Grado En Los Métodos De Enseñanza De Las Ciencias Y Las Técnicas De Enseñanza

Resumen

La mayoría de las instituciones educativas en Iraq sufren los exámenes típicos, que pueden no ser la verdadera medida del nivel del alumno, y las preguntas formuladas de manera tradicional no estimulan al alumno a pensar y responder, lo que se supone que es el resultado de Comprender la percepción de las relaciones entre las experiencias cognitivas, que serán la mayoría de las respuestas basadas en la preservación y recuperación de material que lleve a algunos estudiantes o quizás a muchos a hacer trampa de alguna manera, además de que los exámenes en papel requieren un gran potencial para lograr sus objetivos, requiere personal especializado para crear todas las condiciones apropiadas para la realización de los exámenes Representados por varios comités como (Comité de examen), (Comité de corrección), (Comité de auditoría), (Comité de supervisión), (Comité de observadores) y (Comité de seguimiento de calificaciones), y a pesar de todos estos comités, muchos problemas y errores conducen a alguna injusticia. En los resultados de los estudiantes, este liderazgo s a muchas objeciones de los estudiantes en diferentes etapas y grados para diferentes materias en general y materias científicas en particular, además de la demora en dar resultados que pueden llevar semanas o más, por otro lado, las razones y necesidades de la enseñanza universitaria Desarrollar currículum elementos e introducir componentes tecnológicos Para enseñar en las articulaciones de las principales instituciones de educación en general y en el campo de la enseñanza y la educación en particular, se hizo imprescindible adoptar métodos y métodos y herramientas de evaluación y eval-

uación acordes con las entradas y salidas de la universidad. preparación que enfatiza el desarrollo y la mejora del conocimiento y las habilidades a través de la adopción de tecnología educativa tecnológica moderna, pero aún estamos a pesar de todo. Los éxitos y resultados positivos logrados por la tecnología educativa a nivel árabe y global están lejos del uso óptimo y exitoso. de esta tecnología, a pesar de la existencia de algunos s implementar intentos, específicamente los métodos de evaluación y la evaluación que se supone que se ajustan a lo que le permitieron las teorías modernas de la educación y el aprendizaje, puede ser la razón para no usar la tecnología moderna en varias razones técnicas para la evaluación universitaria, incluyendo las siguientes:

1- Debilidades y deficiencias en la preparación del personal docente capacitado en el uso de programas de evaluación electrónica.

2 - Activación débil de actividades de capacitación técnica y tecnología para estudiantes en diferentes etapas de estudio.

3 - falta de potencial y falta de alternativas para evaluar la gran cantidad de estudiantes.

4 - Las experiencias recientes no son familiares porque no se ajustan a los sistemas educativos en las instituciones educativas iraquíes.

5 - riesgo que puede causar caos o trampas al usar tecnología educativa electrónica en el campo de las pruebas.

6 - la calidad de los materiales de estudio científico, especializados o educativos, que es difícil de realizar de acuerdo con la tecnología electrónica, especialmente los materiales que se basan en explicaciones o artículos o ecuaciones derivadas.

7 - la multiplicidad de la calidad de las pruebas electrónicas y la diversidad de su programación es difícil para que la enseñanza las aborde de la misma manera, especialmente las pruebas electrónicas para diferentes plataformas educativas y pruebas de teléfonos inteligentes.

8 - La mayoría de las pruebas electrónicas necesitan una preparación especial, la más importante de las cuales es la provisión de Internet y una computadora, y esto no se ajusta a las instrucciones del examen, lo que enfatiza la falta de introducción de teléfonos inteligentes y el corte de Internet .

Por todas las razones anteriores y otras que no pueden limitarse en esta investigación, encontramos que existe una necesidad urgente y urgente de realizar una investigación para identificar los obstáculos y dificultades que pueden diagnosticarse y superarse cuando se utiliza la tecnología de la tecnología educativa en forma formal. o pruebas informales e identificar los aspectos o puntos positivos previstos a partir de él, por lo que esto fue

La investigación es una necesidad y una necesidad urgente de responder a las razones mencionadas anteriormente y mediante el uso de dos técnicas avanzadas de prueba electrónica a través de la respuesta a la siguiente pregunta
- ¿Cuál es el impacto del uso de pruebas de teléfonos inteligentes y pruebas electrónicas (aula de google) en la velocidad de logro de las ciencias de la vida de los estudiantes de tercer grado en los métodos y técnicas de enseñanza?

The importance of research

A technology in education or computerized programs is a modern educational techniques through which information is communicated to the learner according to modern methods, strategies and methods of evaluative educational evaluation modern evolving non-traditional differs in its educational philosophy from the traditional methods and traditional methods, as these technologies contain multimedia technology of sound and image Graphics and video that help the teacher and the student to view or watch the article comfortably. It also provides these interactive alternative to teaching using books and tablet as a competitor to the current entertainment devices of communication and the Internet, and if we talk in particular about measuring the level of achievement of educational objectives envisaged by the use of these advanced modern technological technologies in the extent to which they successfully understand and understand the content of the subject On the one hand and its efficiency in facilitating and overcoming the difficulties and constraints in the normal assessment processes that depend on the typical use of paper tests, in addition to the emphasis of the Ministry, the university and the college to diversify and update and develop methods and Astra If we conducted a simple survey of the use of technology applications in education, we found that it is not at the required level and that all that is offered through those technological applications and techniques is only a preliminary application limited to announcements, alerts and simple experimental tests are not recognized as reliable in terms of calculating the degree. Although the tools of education at the Arab or international level in the field of the use of modern technology in education have made great strides and leap leaps and wide-ranging educational, and if we have to catch up

Research Goal: The current research aims to know:
The impact of the test of smart and computerized devices in the speed of

cognitive achievement of students in as well as facilities that will be available to the teacher and the learner.

Research hypotheses

1- There is no statistically significant difference between the average grades of the students of the first experimental group that will be tested by (smart phone test) and the average of the second experimental group that will be tested by the (computerized electronic test of the educational platform) at the level of 0.05, in the teaching methods and teaching techniques. .

2 - There is no statistically significant difference between the average scores for students of the first experimental group to be tested (smart phones) and the second experimental group that will be tested by the (computerized electronic test), in the teaching methods and teaching techniques.

Search Limits: The current search was limited to the following:

1- The second chapter of the lectures of teaching methods for the third grades of the university stage

2 - College of Education for Pure Sciences Ibn al-Haytham / University of Baghdad / Department of Life Sciences

3 - Students of the third grades life sciences (morning, evening) of the College of Education for Pure Sciences Ibn al-Haytham / University of Baghdad

Define terms: Define terms

Computerized tests defined by:

• Jabali (2013) a set of questions designed by the teacher electronically; to measure and evaluate the level of performance of students in a subject or in a course, corrected and monitored automatically, which ensures the credibility and transparency in the correction while saving time, effort and money.

• Ahmed Salem (2011) one of the computer techniques that can be employed to overcome some of the difficulties that may hinder the implementation of traditional (paper) tests, or used to increase the student's educational attainment and consolidation of information, and the development of self-learning skill.

E-exam: known by:

• Moussawi (2014) is a continuous and regular educational process that aims to evaluate student performance remotely using the local or global Internet or Network. (Moussawi 16,2014)

• Hamdan (2011) an assessment tool that is designed, built, applied, managed and corrected electronically to measure the learner's cognitive achievement.

Definition of Speed:

☐ Jabali (2011) "The ability of an individual to pass or finish a work with the least possible period of time"

(Jabali 26: 2013)

☐ Moussawi (1995) the ability to accomplish a work or mental task or movement or skill within the level of success with the least possible time. (Moussawi 1995: 19)

Procedural definition of speed:

(The ability of students to answer the paragraphs of the electronic test in the shortest possible time, prepared by the researcher on the site (google classroom) and the test prepared on smart phones (Smart Modil), which includes substantive paragraphs and essay total of (20 paragraphs) within the course of teaching methods of life sciences for third grade students, Correct automatically and give the result to the student immediately).

Intelligent technological devices: Smart system Technology

1 - are electronic tools that can communicate, share, and interact with its user, and with other devices, within certain electronic programs, despite the small size; which has a high computer processing capacity (https://www.techopedia.com/definition/31463 / smart-device)

2 - devices operated by operating systems that allow them to connect to the Internet and browse their sites, e-mail and social networking sites using wireless networks (WiFi) or by telecommunications companies.

3 - Interactive digital devices connected to networks used to be retrofitted somewhat to suit its needs and operate somewhat independently and adopt in its work private or public electronic programs. (Ismail 2009: 25)

Theoretical definition: The researcher adopts the definition that provides (interactive digital devices connected to networks that the user can be re-configured somewhat to suit his needs and operate somewhat independently and rely in its work private or public electronic programs).

Theoretical framework

Evaluation of academic achievement is one of the main roles played by the teaching staff at the college. Instructions and scoring systems in many universities indicate that the test is the most important tools of this type of evaluation, and many faculty members of different ranks and disciplines believe that they are able to play this role easily It does not require a lot of effort, thinking and planning, but scientifically agreed in the light of

data measurement and educational evaluation that a good choice can not be easily available according to the standards spoken and reference, and any set of questions do not constitute a good test if not subject to those Standards, increasing interest in planning for the preparation of exams in the light of the multiple areas of use and breadth of deployment, and the multiplicity of sources of errors affecting their properties Alsekoumtirih, within the framework of a broader process are planning curricula, methods and teaching methods to achieve educational goals.

 The world today is witnessing a great and amazing development in the field of computer uses, especially after the development in the computers themselves (Hardware) and in computer programs as well (Software). Many faculty members felt they had to do something to keep pace with the development of computer technology in education in general and tests in particular, and therefore expected the faculty member to be more aware and aware of the technology of formulating questions in their choices, He did not spend much time convincing many of them about the importance of using computers in this field and that computerizing exams partially or totally is not a matter of technological luxury, but has become a prerequisite For the professional development of faculty members of various grades and specializations, computer in the teaching process and evaluation approved computer use and therefore we find wide disparity in the recruitment and in particular examinations ranging from printing questions and editing, through the production of samples of questions lived Distribution and accompanying models of correction, and ending with the question banks themselves supported by software that provides immediate correction and analysis of exam results, and feed the bank with statistical specifications questions or update these specifications.

Advantages and characteristics of electronic and computerized tests: -

The importance of computerized exams lies in the fact that it has several characteristics and advantages, including:

1- Contribute to alleviate the teaching effort and time in routine educational work.

2- It is compatible with the contemporary philosophy of the curricula and teaching methods that have become the methods and methods of teaching based on modern technology most widespread and most effective in the field of education

3 - helped the teacher in investing time and effort in the planning of lessons and lectures, which in turn contribute to enrich the students in the topics

at hand

4 - gives the freedom of examiners to choose the place and time that he wants in special times.

5 - enables the teaching of the work of the summary of the results and study the statistics of correct and wrong answers assessment exam (computerized test) self in an easy way

6 - Using the order of questions can be changed for each student to differ from those next to him in the exam room

7 - Most of them contain a self-assessment of the student (Feedback) where the program at the end of the analysis analyzes the answers of each student and indicate the correct and wrong answers with clarifying the correct answers

8. Ease of management by one or two supervisors at most

9 - relieve the burden of teaching correction tests because they contain self-assessment and are not subject to subjective factors and are not affected by psychological variables

10 - characterized by honesty and consistency and have the flexibility to absorb the largest amount of knowledge content.

Types of computer tests

Electronic and computerized tests are divided into three forms that vary in quality or quality. In terms of how there is: network testing, and in terms of type there are two choices

1. Computerized tests

2- Adaptive Electronic Testing: Adaptive Electronic Testing

- Network Testing

The tests are submitted online through the Internet. IBT is one of the latest qualitative transitions in the delivery of computerized tests. Of course, this test channel can control the delivery of the test from a place in the Ministry of Education in the capital, for example, or somewhere around the globe to start the test in other educational institutions in the city or in the country or at the far end of the test country or in Parties of the world, and from the same place can stop the test display.

The bodies responsible for providing the tests in this form of test containers ensure high confidentiality in keeping test information, and easier mechanics in the delivery of tests to the required sites, and this test method was actually used throughout the world in late year ٢٠٠٥ Foundation for Educational Testing Services ETS to provide the test of English as a foreign language TOFEL, the performance evaluation in it, has also been actually used before that in providing a test. Therefore, with the transfor-

mation of the human renaissance from the industrial revolution to the digital knowledge revolution, it is necessary to change the foundations of the educational process in the societies, where it became necessary to rebuild the educational process on a new basis consistent with the new reality, as the familiarity with digital technology and the use of its data. A fundamental issue The Internet can be used to present computer tests in two forms: the traditional computerized computer test, a one-way normal choice, and the test adapted to the ability of applicants for the test, a test that can go in two directions. The qualitative statement will also be as follows: -

- Computerized Test: Computer Best Test

The term "computer best test" (CBT) is similar to the usual paper container in terms of the content of the test, and the way the content of the test runs in one direction, the most prominent differences between them is that the new container has a greater possibility to maintain the confidentiality of the test. The most important similarities between traditional bowls and regular computer testing are that the bowls have a consistent approach to presenting the same set of questions to all members of the test group, meaning that all applicants to take the computer test answer the questions in the same order. Questions are presented in the paper version, and on this picture it is possible that the test may be two identical versions: one paper and the other computer.

- Adaptive Computer Testing: Computer - Adaptive Tests CAT

A qualitative development of computerized tests has emerged recently with the emergence of a computer test adapted to the skill or cognitive ability of the applicant in the test. In the course of the test, the direction of the test may go up or back. If the student provides the correct answer to the question, the computer will choose a question that is a little harder than the first and ask it to the applicant for the test

Conversely, if the student fails to answer the question, the computer will choose a less difficult question. Thus, the computer adapts the test based on the level of the applicant for selection. Typically ranging from ٢٠ - ٢٥ questions, the computer in this way obtains sufficient information to enable it to judge the level of the applicant for the test. They are offered on the basis of their different abilities (Sarhan: 35, 2003).

As for the difficulty level of the questions, it is done by the equation of the coefficient of discrimination, which can be easily automated by the computer, by monitoring the performance of outstanding students and weak students on a question from the test items. And the extent to which the two groups of students missed the answer to the same question, according to

the mathematical processes known in statistics in the field of discrimination of ease and difficulty.

This means that adaptive testing consists of questions in the form of disparate groups, i.e., paragraphs of multiple-choice choices that differ in their difficulty. During a specific set of questions

Methods and tools of e-evaluation: Specialists considered the identification of four methods or tools used in the evaluation of e-learning programs, namely:

:

Questionnaires and Survey: Students are asked to respond to a questionnaire towards e-learning programs, from which we obtain highly credible results.

- Interviews: We can judge the effectiveness of the program in the light of student responses. (Azmi, 2008)

- Observation and Application: In which students are placed in practice situations and practical applications, in which the progress of students' skills during practice is observed using note cards.

(Ismail, 2009)

- E-Tests:

It is concerned with the performance of the student as a result of a racial gain or skill achieved after a period of learning in educational situations within the classrooms e-Abdul Aziz believes that e-learning programs can be evaluated through the following methods of electronic evaluation:

• Short Quizzes: It measures the learner's ability to recall and understand knowledge.

Essays: These measures measure a high level of cognitive abilities, especially those related to critical thinking, creative thinking and decision making. (Ibrahim: 2009)

• E-Portfolios:

The so-called e-bags, a structured compilation of students' meaningful and direct work related to content topics, are created by the learner and under the guidance of the teacher. Or a set of courses, the components of the file vary from one student to another according to his educational philosophy in the organization of the file, and depends in the presentation of this presentation, and the transition between the components of the file works on multimedia of audio, text, video clips, still images, diagrams and presentations using Links, which can be published on the Internet or on CDs, show the learner's ability to use knowledge and apply it in real life situations.

- Performance Evaluation: It is concerned with measuring the learner's

ability to perform specific skills or accomplish a specific educational task
- Interviews: The interview can be conducted in an e-learning environment in a synchronized manner using written or audio-visual texts through video conferencing.
- Journal: Journal reports are kept by the learner constantly on the performance of the work of the work, and is one of the tools of structural evaluation.
Previous studies: Previous studies
Through review and research in literature, research and studies in the field of technology in education and evaluation
For the purpose of finding studies and research that preceded this research, Arabic and international researcher did not find similar or synonymous studies that examined the impact of the test of smart devices and calculated in the speed of cognitive achievement, but he found some studies that look at the comparison of computerized electronic tests with paper tests, we mention the following:
Roy Clarian & Patricia Wallace (2002)
(Evaluation of the main factors in the impact of computerized tests compared to paper tests)
 (paper - based versus computer - based assessment: key factors associated with the test (mode effect
The aim of this study is to investigate the effect of computerized tests compared to paper tests by verifying the following hypotheses:.
- There were no statistically significant differences at (0.01) level between the experimental group evaluated in computerized tests and the control group evaluated using paper tests. - There were no statistically significant differences between students' experimental trends that were evaluated using tests Computerized and control subjects evaluated using paper-based tests.
The study included a sample of (105) first grade students from the University of Pennsylvania from the College of Business Administration were randomly selected and divided into two experimental groups (computerized tests) and control (paper tests). A computerized test consisting of (100) items of multiple choice test was prepared and the same printed paper was selected. They were tested at the same time. The researchers used the appropriate statistical methods to find the differences between the two groups. An analysis of variance (ANOVA) was used. : -
1. Statistically significant differences at level (0.01) for the benefit of the experimental group evaluated by (computerized tests)

٢. The presence of statistically significant differences at the level (0.01) and for the benefit of the experimental group in the development of trends دراسة Study (shame & zekri) 2002 (the equivalence of electronic tests with paper tests in measuring academic achievement)

The study aimed to test the equivalence between electronic tests and paper tests in measuring academic achievement, and the impact of students' exposure to electronic tests on their attitudes towards them. The experimental method has been used. The results have shown:

(A) The equivalence of electronic and paper tests in measuring students' academic achievement with significant differences in the time required to take the test in favor of electronic tests.

(B) The high attitudes of students towards electronic tests because of their exposure to them, the study recommended the adoption of the use of electronic tests in university education in similar educational and humanitarian disciplines, and to conduct similar studies in other disciplines. (Shame, 2001)

Discussion of previous studies:

The researcher did not find studies in the knowledge of the impact of the use of tests of smart and computerized devices in the speed of collection and thus is one of the leading research and the first in Iraqi universities looking at the impact of modern and sophisticated electronic tests and specifically tests of smart phones and tests of electronic educational platforms, according to the researcher science, so Roy & Karen's study shows that there is a preference for computerized tests compared to paper tests, which indicates that there are characteristics and advantages that computer tests exceed paper tests in terms of speed of performance. The results of the study (Roy & Karen) differed from the study that the methodology and design of the research was experimental, while the study, (shame & Zekri) used experimental design and conducted on A sample of students of the Faculty of Education and the dependent factor is attainment and trends and the results showed superiority in favor of the electronic test while the current study took the design of descriptive research, and the sample of the study was students in the College of Business Administration, while the sample of the current study included a sample of students of primary study third grades Department of Life Sciences, with total sample size of 230 students and students.

Search actions: Current search actions included the following

☐ Experimental design:

The researcher chose the experimental design with two experimental

groups with partial adjustment as shown in the following chart:

α	dependent variable	Independent variable	Equivalence	Experimental group
0.05	Speed of achievement	M-Mobil Test	Previous information	First trial
		Google Class room(Test)		second trial

Scheme (1) illustrates the experimental design of the two experimental groups
 illustrates the experimental design of the two experimental groups
□ Society and research sample: - Community and research sample
- The researcher chose the students of the third grades morning and evening from the students of the Department of Life Sciences for the academic year 2018-2019, who are studying the subject (methods of teaching science and teaching techniques) according to the annual system.
 The total number of students (251) male and female students divided into four divisions (A, B, C, morning, evening) as the total number of students represents the research community and at the same time the sample of research. Each division includes a number of students according to the following table:

Table (1)

Shows the number of students distributed among the people and groups for morning and evening study

Σ	Pure (N)	leaving	carriage	Reptile	Total	group	N	Groups
64	32	--	2	1	35	First	69	A3ʳᵈ /mornig
	32	--	1	1	34	second		
30	30	--	2	---	32	First	64	B3ʳᵈ/morning
	30	--	--	2	32	second		
50	25	2	2	1	30	First	58	C 3ʳᵈ/mornong
	25	1	1	1	28	second		
54	27	1	1	---	29	First	60	A3rd/ evening
	27	1	1	2	31	second		
228	228	5	10	8	251		251	Σ

- Failure of students who have failed and those who have been left out of the people as in Table (1) above

The total sample of the research was (228) students distributed in four divisions.

- The researcher conducted the selection of the people according to the method of random selection of the research sample, which represents the first experimental group as well as the second experimental group. The two divisions (3A morning + 3C morning) represent the second experimental group which is tested by (computerized electronic test) on the site (Google class room).

- The researcher prepared a paper test of the methods of teaching science and teaching techniques according to multiple choice.

The test was conducted for the purpose of parity between the two experimental groups on Thursday 28/2/2019 for the four groups in Hall (8, 7 for Sabahi and Hall (3) for the evening at (12.00) noon.

- The paper test was corrected according to the standard answer prepared in advance, where the total test score was (20%) as the correct answer to the paragraph is given (1) and the wrong answer (0) Appendix (3)

- The results were processed using t-test using SPSS.V.18.

As shown in Appendix 1

Table (2) below shows the arithmetic mean between the two experimental groups as follows:

Table 2

The mean scores of the experimental groups and the variance and the computed and tabulated T value for the calculation of equivalence are shown

α=0.05	Sig.	t	df	Variance	mean	N	Groups
Nul	3.63	1.89	226	2.06	10.03	114	Expe. 1 Smart M.-test
				2.029	11.07	114	Expe.2 Computer -test

- The results showed that the two experimental groups are equal in the paper test and therefore the two groups are considered equal.

☐ Preparation of search tools:

1- Computerized Electronic Testing (www.google.com/drive):

- The researcher, with the help of the supervisor, prepared a test consisting

of (20) test items, where (17) items of multiple choice and (3) paragraphs, were given to each paragraph (2) if the answer is correct and (0) if the answer False, as the total score of the test (40%) and re-test in an electronic test form from the site (www.google.com/driv) after the preparation of electronic classes within the site (google Classroom), which was created by the supervisor for the four grades as shown In Appendix 2.

- Preliminary tests were conducted between the researcher and the supervisor to indicate its validity and the extent of its application.

2- Smart Mobil Electronic Test (SMET)

- It is an application of electronic tests with optional questions or essay available on the smart phone shop operating systems (Android, IOS, IPad… etc.) It is easy to use and self-correction or manual for essay questions is within the version (0.0.50) and was updated in 2017 5/10 and registered on the site

- (https://play.google.com/store). Developed by Specialist (Fahed Abed), Supplement (1)

- The test was prepared in the above form with the same number of paragraphs (20) paragraphs that were prepared in the computerized electronic test in the same manner and the sequence of alternatives and essay questions

- It was applied empirically examined by the supervisor and researcher and set his same rate of time (45) minutes to perform the test. For clarification and accuracy more researcher reviews the difference between the two tests in the comparison chart as follows:

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s	Electronic Testing (Smart Mobil)	Google Classroom
.1	Needs at the beginning and delivery does not need when performance	Needs internet length of test time
.2	It is distributed through a test number from the Internet on all smartphones or smart devices	It is distributed to students via google classroom or Gmail
.3	No website or email required	Each student must have an email
.4	Limited to essay questions, multiple choice, health, error and blanks.	Different questions can be formulated from essay and thematic types
.5	Cannot upload photos or videos	It can be downloaded with pictures, formats or video
.6	Use it with smartphones and IPLT and does not work on computers	It can be performed using computers, smartphones and other smart devices.
.7	Correct the subjective questions while the essay is directed to the teacher and the test maker.	Self-correction or control by the teacher in all test items
8.	Results can be shown in Excel format	Results can be shown in Excel format
.9	There is security control when trying to cheat.	There is no security control for fraud
.10	The setup process is easy and simple	The setup process needs many steps

Chart (2) shows the comparison between the advantages of computerized
electronic testing and testing of smart devices
☐ Believe search tool (test)
1. The test was applied in a paper sample to a random sample of 5 students
from each division and conducted a paper test to know the characteristics
of the test represented by the ease and difficulty of the substantive para-

graphs and the strength of discrimination for each paragraph and to calculate the time required to complete the test. When processing the data of the survey sample (20) students

2. To find the psychometric characteristics of the research tool, the researcher used the appropriate statistical methods using the statistical package of the program (SPSS.vion.17).

☐ The average paper test time (38.9) minutes for the survey sample.

☐ Difficulty Coefficient: It was calculated for the paper achievement test items

  (0.85 - 0.35), so it is acceptable (Bloom, 1971: 66)

زييمتلا Coefficient of discrimination: The coefficient of distinction between paragraphs ranged between (0.85 -0.30), and the coefficient of discrimination is good (Al-Huwaidi, 2004: 85)

☐ The effectiveness of the alternatives: The effectiveness of the alternatives was calculated by applying the equation of the effectiveness of the wrong alternatives in all the test items that are of the type (multiple choice) and the number of (17) items and found that the coefficient of the effectiveness of all alternatives negative ie they attracted more answers from students.

☐ Stability coefficient: To calculate the coefficient of stability from the data of the exploratory sample by adopting the half-split of the test paragraphs where the value of the coefficient of stability (0.90), which is a good value, so the test is a high degree of stability. The results are described in Appendix 4 (Alam, 137: 2000).

☐ Application of the experiment:

• Students were instructed two weeks before the start of the application of the preparation and preparation for the test in the teaching methods and techniques of teaching in accordance with the vocabulary lectures for the article (Part IV), which was published on the website of the College of Education for Pure Sciences / Ibn Al-Haytham (http: //ihcoedu.uobaghdad.edu.iq/) for the third grades Department of Life Sciences / morning and evening.

• The halls prepared for the electronic test (smart phones) have been configured Hall (7) and (8) the common building

• The experiment was conducted on Thursday, 18/4/2019 at (12.00) noon of the same day, and the start time of the test was set exactly (12.00) and a time (45) minutes was determined to perform the test on the electronic test program for smartphones that will be shown to the student Once the answer started directly and tested the first experimental group according to

(test smartphone) of the first experimental group.

• The researcher hired the supervisor (professor of material) to supervise the students who were tested as a second experimental group which included (3 morning + 3 c morning) (computerized electronic test, where the number of students (114) annex (5)).) Accurate.

  (Note: The test paragraphs are randomly arranged when the students answer.

• Informed the second experimental group (Division 3B morning + 3a evening) and those who are tested by (computerized electronic test) from the site (Google Classroom), as the start time is set on Friday at (9.00 pm) corresponding. 2019/4/19 in 40 minutes.

• The test for the second group was conducted by the supervisor (professor of material), who used the program (Zoom.com) to follow up and make sure the presence of students themselves through their live appearance on the computer screen of the supervisor (professor of material) with the access code for the test through the special electronic classes .

• The supervisor (professor of material) accurately followed the steps of taking the test through the monitoring screen on the site (Zoom.com) in the monitoring of irregularities or address the technical problems encountered by students when taking the test.

• The test ended at (10.35) hours if the average time of taking the test (58.69) minutes in addition to the delay of two students due to the interruption of the Internet to them, so they were excluded to deliver the tests the next day.

• The results data were classified immediately by the computerized electronic test on the Internet and give accurate detailed data for each paragraph and a graph to repeat the scores as shown in Annex (6).

• Statistical means: After obtaining the raw grades from the application of the tests on students and for the purpose of the difference between the two experimental groups, the researcher used the appropriate statistical means to process the raw data, including the following statistical methods:

• The formula for calculating the mean of the two groups
• Equation of calculation of plains and difficulty between the test paragraphs
• The formula for calculating the discriminatory strength of the test items
• T-test equation
• Coder Richardson 21 equation for correction
• Electronic Statistical Portfolio (SpSS. V 18)
• Equation of impact size.

View experiment results: results

☐ After classifying the raw grades of computerized and paper test data and processing the following:

1) Collection speed: - To calculate the collection speed, the electronic computerized test statement and the electronic test for smartphones were processed in the variable (speed) performance time taken by the two groups in answering the tests as shown in Table (3):

Table (3)

Shows the average collection speed between the two groups in computerized electronic testing and smart phone testing

α=0.05	t-test value		df	Std. Deviation	Variance	mean	Σ	groups
	Sig.	t						
positive	3.623	4.859	226	1.34	7.51	36.04	114	Expe. 1 Smart M.-test
				1.34	7.51	43.55	114	Expe.2 Computer -test

From the table above, the mean value of the mean speed of the first experimental group tested smartphones (36.04), while the average collection speed of the second experimental group (43.55) where the calculated T value was greater than the tabular value, where it was a function at the significance level (0.05) , Which means that there is a statistically significant difference in favor of the second, that the speed in the answer of the computerized test group is lower than the answer speed of the computerized electronic test group.
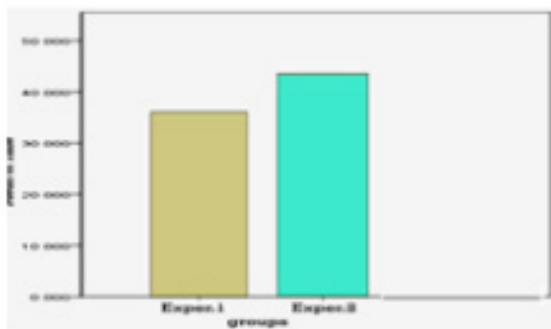
Therefore, rejects the null hypothesis, which states (there is no difference between the average scores of the group of students tested by (smart phone test) in the average of the scores of the group of students who tested by (computer class electronic test) in the speed of collection, and accepts the alternative hypothesis, which states " Statistically significant difference at the level (0.05) between the mean of the two groups and in favor of the first group used (smart phone test)

Table (4)

Shows the average scores between the two groups in the smart phone test and the google classroom test

α=0.05	t- test			df	Std. Deviati on	Varianc e	mean	Σ	groups
	Sig.	t							
Null	3.623	1.107	226		.419	4.476	23.44	114	Expe. 1 Smart M.-test
					.381	4.064	23.43	114	Expe.2 Computer -test

Table (4) shows the data of the results of the two groups in the average scores of students in the first two groups, which included (the students tested by the smart phone test), where the average score of students (23.44), while the average score of the students of the second experimental group that was tested by The computerized electronic test (google classroom) (23.43) and when processed by t-test of the two independent samples, the calculated T value (1.107) is smaller than the tabular value (3.623), which means that there is no statistically significant difference at the level (0.05), so accept the hypothesis Zero rejects alternative hypothesis.
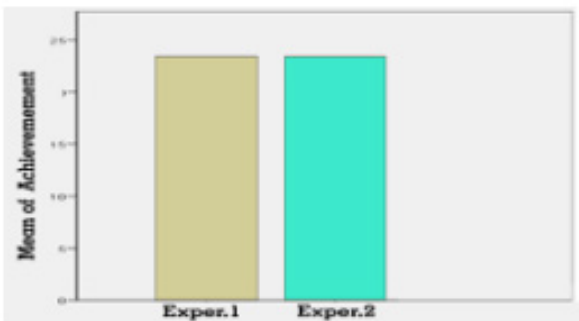
(2) A graph showing average scores between the two experimental groups

Interpretation of the results: - Through what has been presented in the tables above can be interpreted the results in this light as follows: -

1) Speed of Achievment

Table (3) showed that there is a statistically significant difference in the average time (speed of performance) between the two groups and for the first experimental group tested by (smart phone test) which was mainly examined under the supervision of professor of material and researcher in Hall (8.7) and in the use of Their smart phones may be due to the following:

A) Direct supervision by the professor and the researcher may be the reason for restricting students and not allowing room to speak or attempts to cheat or direct alert or explanation and to provide direct assistance in solving technical or technical problems.

B) Interruption of the Internet at the beginning of the answer and flight mode to prevent any communication or attempt to cheat technically, and away from opening books or lectures that may cause waste at the time of the test.

C) get used to the use of private mobile by the student gives him speed and ease in the use of programs on the smartphone and how to print.

D) The students' commitment to the time specified in the college hall, which is considered official, is an incentive and encouraging to focus to answer in the shortest possible time

E. The timing shown at the top of the screen in the test program is a catalyst for delivery before the end of the allotted time.

The reasons that made the time longer in the computerized electronic test on (google classroom) either:

1- Timing in the evening and outside the scope of the college gives the student the opportunity to contact others or open lectures to search for the answer before the end of time.

2 - The absence of a guide or guide to address problems or technical errors may be the cause of wasting the time of answer.

2) Cognitive achievement: Cognitive achievement

The results of Table (4) did not show a statistically significant difference between the mean scores of the first and second groups at the level of (0.05), which means that the electronic tests are characterized by honesty, consistency and objectivity in terms of not giving a chance to re-correct the answer if he tried to cheat. The error is non-existent, so they are tests that can be trusted if used correctly.

3) Conclusion: Conclusion
 We conclude from the experience of this research the following:
1 - The electronic tests in various programs and qualifications give accurate results, stable and high credibility in the results of students, in addition to its speed in giving the result directly to the student after the completion of the test and delivered.
2 - If we are to obtain more stable and reliable results and not waste time allocated to the test should be under the supervision of the educational institution directly, to avoid unwanted cases.
3 - We also conclude that electronic tests for smart devices (smart phones) can be easily applied in the substantive and article paragraphs without the need for specialized computer laboratories or expensive equipment and therefore they are better than computerized electronic tests or online (Online).

4) Recommendations: Recommendations
Based on the results of this research, the researcher recommends the following:
Using electronic tests in specialized scientific, humanitarian and educational subjects because they reduce a lot of time and effort, in addition to reducing the problems of complaint and objections by students.
B- Conducting training workshops and introductory seminars for students and faculty members to learn how to use computerized or online electronic tests or smart phone tests.
5) Proposals: suggestion s
Based on its findings and interpretations, the researcher proposes the following:
A- Conducting a study to show the view of teachers and students

in the preference of computerized electronic tests and smart phone tests.

B - Conducting a study to demonstrate the effectiveness of electronic tests in the various electronic educational platforms in the study stages of the Department of Life Sciences.

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