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## The Effect of Tests of Higher Levels of The Cognitive Domain in Preventing Mass Electronic Fraud in Distance Education

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<b>Article History</b>	<b>Abstract</b>
<p><b>Article Submission</b> 20 September 2021</p> <p><b>Revised Submission</b> 18 February 2022</p> <p><b>Article Accepted</b> 16 March 2022</p>	<p>The research tagged with (the effect of tests of the higher levels of the cognitive domain in preventing mass electronic cheating in distance education) aims to highlight the impact of tests that are formulated according to the higher levels of the cognitive field in undermining mass electronic cheating by a large percentage in light of the COVID-19 pandemic, as the researcher adopted The experimental method in its experiment on three divisions of the second stage for students of the Arabic language department in the College of Basic Education / University of Diyala. He was alone in formulating the monthly tests for the two experimental groups that he is studying, and the final test for the semester after being presented to the teaching of the control group. 168) by (56) for each of the two experimental groups and the control group. It adopted the appropriate statistical means, and after analyzing the results statistically, the researcher concluded that the first experimental group outperformed the second experimental group in all the monthly tests and the final test, and the first and second experimental groups outperformed the control group who performed the tests in the usual format.</p> <p><b>Keywords:</b> Distance Education, Electronic Fraud, Cognitive Domain</p>

## 1. Introduction

After distance education has become an inevitable reality in educational institutions for most countries of the world, especially technologically backward countries, in light of the spread of the COVID-19 pandemic. Mass electronic cheating in remote exams has spread due to the absence of electronic supervision; Due to the poor level of services of communication companies, as well as the spread of administrative and financial corruption, and the decline in the application of the law by a large percentage. Also, most of the teachers are not proficient in the art of formulating tests according to the three higher levels of the cognitive domain (analysis - synthesis - evaluation), and they rely on the first three levels (remembering and memorizing - understanding and comprehension - application) with a large percentage in the objective and essay questions, especially the humanities, which It is easy for students to copy the answers from the content of the material they are studying, and encourage them to cheat collectively through groups they create in social media such as Viber and WhatsApp.

### 1.1 Research Importance

Students in the academic stages are subjected to various tests according to their article and substantive paragraphs. The selection of the appropriate format for the paragraphs is controlled by a number of factors, including: the nature of the study material, the age of the examinee, the purpose of the test, the number of students, the conditions of application, and the skill of the teacher in writing questions (Gronlund N. & Linn, R. 1990).

Tests play an essential role in the student's school life at all stages of education, and based on their results, the student's future is determined, and many decisions are taken against him. Tests are still the primary means of evaluating the educational process, to identify the student's educational goals. Tests, as a tool of educational evaluation, are among the oldest and most commonly used evaluation tools and are accepted by parents. Although trends in educational evaluation encourage the use of methods other than achievement tests, such as achievement files, achievement tests still have an important role in the evaluation process. The Educationalist (Abu Fouda and Yunus 2012: 24).

Distance education is described as a quiet revolution in the educational system. Its beginnings in Europe were associated with the establishment of the first regular postal institutions in Britain in (1840) when (Isaac Bateman) organized correspondence lessons. In the year (1856) the first institution of correspondence education in the true sense was established in Berlin, and since that date we have witnessed a steady growth of correspondence learning services in many countries accompanied by face-to-face learning meetings (Kai 1988: 25-26). In light of technological changes and rapid global transformations, educational systems face many challenges in the availability of new learning and teaching opportunities and increases in additional budgets, and therefore tended to develop distance education programs, as many factors appeared in the last decades of the twentieth century that made distance education seem to be An appropriate and successful means of education ... Distance education institutions practice an educational activity in providing lessons and distributing educational materials, and establishing students' work, and organizing direct learning activities at the local level, and this effective presence of educational institutions is what distinguishes distance education from independent self-learning (Siyam and two others 2010: 346-348).

The cognitive field includes forms of human intellectual activity, especially the mental processes of memorizing, understanding, applying, analyzing, installing and evaluating that fall under this field to embody the educational and behavioral goals, and the development of mental processes. general, as well as mental abilities and skills. Bloom divided the cognitive domain into six distinct sub-levels, arranged hierarchically from easy to difficult, taking into account individual differences among learners. It includes objectives that express the cognitive aspects included in the teaching-learning process. Behavioral/performance goals in this field relate to the learner's acquisition of scientific knowledge, information, capacity development, and skills in using this scientific knowledge (Al-Hilah 2008: 117).

Cheating, in general, is a global social phenomenon represented by some students getting what they do not deserve, and perhaps they will compete with those who got what they deserve, and they will be a reason for his frustration and stifling his creativity. Tests, and achieving false results by illegal means. This cheating reflects some failure on the part of the educational system, including the teaching staff, and the educational policy issued by the ministry.

Distance education, in light of the Corona pandemic, has become the first experience for

*The effect of tests of higher levels of the cognitive domain in preventing mass electronic fraud in distance education* students and teachers. And fears, and the struggle of teachers who are not trained in distance education, and managing their classrooms from home, forcing them to seek the assistance of those who have experience from members of their families instead of entering into intensive educational courses that enable them to achieve the best level of performance, some of them even longed for the return of attendance education to get rid of these weights new covenant on his previous educational behavior.

From the foregoing, the importance of the current research was concluded to verify:

1. Identifying the formulation of tests in distance education according to the higher levels in the field of knowledge and its impact on preventing mass cheating.
2. Identifying the phenomenon of mass cheating in distance education in the absence of electronic supervision.
3. To identify the most important factors that stand behind this phenomenon and the abnormal behavior of the person who does it.

And the answer to:

1. What is the conceptual framework for the phenomenon of mass electronic cheating among university students? .
2. What are the cultural factors that contribute to the growth of the phenomenon of mass electronic fraud among university students? .
3. What is the proposed scenario to prevent the phenomenon of mass electronic fraud? .

## **1.2 Search Objective**

The current research aims to know (the effect of tests of the higher levels of the cognitive domain in preventing mass electronic fraud in distance education) by verifying the following two null hypotheses:

1. There is no statistically significant difference at the level (0.05) between the average scores of the students of the two experimental groups who are tested according to the higher levels of the cognitive domain in preventing mass electronic cheating in distance education, and the average scores of the students of the control group who are tested according to the lower levels of the domain Knowledge in preventing mass electronic fraud in distance education.
2. There is no statistically significant difference at the level (0.05) between the average scores of the students of the first experimental group, and the average scores of the students of the second experimental group who are tested according to the higher levels of the cognitive domain in preventing collective electronic fraud in distance education.

## **1.3 Search Limits**

Time limits: the academic year 2020 / 2021 AD

Spatial boundaries: Department of Arabic Language, College of Basic Education, University of Diyala.

Human limits: students of the second stage / morning study.

## **1.4 Define Terms**

Collective electronic cheating: a type of modern cheating that is done by creating groups on wireless means such as: Viber, What Sapp, and Telegram, where the answers to these groups are presented by students who publish the answers during the exams period.

## **2. Theoretical framework and previous studies**

### **2.1 Theoretical framework**

After the Corona virus began to spread in its first months, the educational institution resorted to distance education after it intensified its efforts to empower teachers with the skills of this type of education, especially specialists in the humanities, and although the beginnings were stumbling, they recorded acceptance and desire, even Although some of them stem from the application of the instructions only. This new reality was preceded by intense demonstrations by university students who participated with the rest of the community in October of 2019. Noting the large number of facilities and high flexibility adopted by the educational policy in assessing the difficult conditions experienced by the sons of Iraq, the parameters of drawing this educational environment for the university student met.

The transformation of the educational process from physical education in classrooms to screens, the adoption of electronic platforms from the electronic classroom, and the various Google Drive applications that are full of it, such as Google Meet; Some of the teachers presented their lectures with PowerPoint presentations, and some of them contented themselves with presenting their lessons in the form of a video depicting their traditional lesson in the presence education, and the rest contented themselves with publishing their lectures in the form of compressed files in PDF format. These types were filled with homework, discussions and questioning of all kinds. The essay questions occupied the largest space in conducting the monthly and final exams for the semesters within a specific time of two or three hours, according to the study material, with the help of the material taught in the form of a book, or a group of lectures printed on paper in the absence of observers roaming among the students as is the case In the in-person education to prevent cheating, and electronic monitoring was completely absent, except in the electronic field visits to the deans of the scarce colleges, in which some students are asked to open the camera for a few seconds. The remote electronic monitoring services provided by specialized platforms, including Pretoria, Examity, Honor lock, and Proctor, were completely absent.

The faculty, after shifting towards distance education, faces a new challenge, which is how to conduct exams. To evaluate what students have learned without resorting to mass electronic cheating, bearing in mind that we will never be able to stop cheating completely in distance education or in in-person education. Another challenge facing the reduction of the mass electronic cheating process in distance education is working on reforming educational evaluation methods, which leads to diversifying them, and giving priority to formative evaluation over the final evaluation, as well as employing appropriate electronic technologies and applications, and intensifying the development of the capabilities of teachers in this field. And enhancing public awareness, especially the student segment, so that they can play a positive role in standing up to mass electronic fraud.

## **2.2 Mass electronic fraud**

Cheating represents a phenomenon that embodies an abnormal behavior that intersects with the educational values that educational institutions aim at, as well as the state, which is responsible for spreading it and promoting its continuity. Cheating encourages the pursuit of illegitimate goals in unfortunate and miserable ways to obtain success and a university degree. This leads to the fact that the mechanism of cheating is firmly established in the minds of those who commit it, a correct way of satisfying desires and meeting needs in all aspects of life and its affairs. Thus, this abnormal behavior of students who are addicted to it will turn into a permanent behavior in his educational and practical life, and it will become the method of his future life. The greatest danger is the development of cheating methods that keep pace with the latest technical developments, and the use of various technological tools and media in cheating, as well as the exploitation of their many capabilities in facilitating illegally obtaining the required information; This calls for the necessity of the Ministry of Higher Education and Scientific Research, and the university leaders working on how to confront the phenomenon of mass electronic fraud, and to prevent its continuation and spread.

## **2.3 Motives for Cheating**

The reality of the state of education in Iraq is the main motive behind cheating in the pursuit of a segment of university students to achieve success without exerting the required effort, obtain a certificate without fatigue and trouble, and pass educational levels to higher levels with non-serious study. Among the most important reasons that lead the learner to cheat:

- Some teachers focus on transferring knowledge and information to students at the expense of acquiring self-knowledge skills and abilities.
- The dependence of a large percentage of the teaching staff on written tests based on memorization, remembrance, comprehension, and application from the levels of the cognitive domain. Which facilitates the mass electronic fraud process?
- The absence of extracurricular activities, especially those provided by students without their request, and the failure to allocate part of the degrees of pursuit of them, in order to activate the higher levels in the field of knowledge, which will provide the opportunity for questions that undermine the collective electronic cheating.
- Staying away from the formulation of objective and essay questions that require analysis that indicates an understanding and comprehension that leads to the formulation of appropriate answers.

## **2.4 Forms of cheating in distance education**

Although the phenomenon of cheating among university students has emerged, it has emerged strongly in distance education in light of the Corona pandemic; The acceptance of the unjustified reservation of female students from opening the cameras helped in its spread. Closing them was facilitated by the mass electronic fraud. Most of the students resorted to this type of cheating in a variety of ways, including:

- Cheating in registering attendance at lectures, as the student registers his name and then disappears, or asks a colleague to do so instead of him, in addition to the absence of legal effect for those who exceed the permissible period of their absences.

- The use of specialized offices away from legal supervision; To answer questions from exams or homework, in addition to the acceptance of the parents of some students by their children's success without merit.

- Creating groups on social media such as: What Sapp, Viber and providing them with answers sent by students who are distinguished by the motives of various social bonds such as fellowship, friendship, and perhaps romantic relationships; For cheaters to benefit from the collective electronic fraud.

## **2.5 The responsibility of mass electronic fraud**

After 2003, strange concepts entered Iraqi society, and its children lived through compelling conditions represented by occupation, sectarian fighting, and explosions caused by terrorism and religious extremism. Corruption spread gradually until the noble values established in its circles were undermined throughout the centuries, and cheating spread to the hearts of students in palaces The performance of the Ministry of Higher Education and Scientific Research, and its policy was affected by the political class, its decisions and interventions, especially by the great facilities granted to students under difficult circumstances and the acceptance of their families for this, in addition to this being ignored by religious institutions, civil society organizations and other sectors of society. As a result of the absence of real reinforcement and differentiation among faculty members, the lazy may be rewarded, and it narrows the creative professional, and noting that a large segment of this class obtain their higher degrees by non-professional means, starting with the admission facilities in graduate studies, to the exaggerated numbers resulting from the creation of non-professional channels It is related to scientific sobriety, so the educational institution has moved away from its example, and everyone has shared the responsibility for the electronic mass fraud.

## **2.6 Ways to undermine mass electronic fraud**

It is the responsibility of all religious and social authorities to inculcate authentic values, to raise the children of society on noble ideals, and to establish self-censorship. It is incumbent on the educational institution to adopt the appropriate means and procedures in developing skills, attitudes and tendencies; To consolidate a sober university education, especially in the field of distance tests, using strategies that are compatible with modernity in teaching and learning, and to expand the space of the three higher levels in the field of knowledge that are commensurate with the initial and higher university studies in the formulation of objective and essay tests in distance education in a way that prevents mass electronic cheating. Among the steps for that are:

- Activating strategies that stimulate thinking and self-learning through research and analysis.
- Adopting classroom and extra-curricular activities to obtain degrees of pursuit, and not limited to monthly tests.
- Using questions that depend on higher levels of knowledge when answering them.
- Avoiding questions that depend on lower levels of knowledge that encourage mass electronic fraud.

## **2.7 Previous studies**

1. Al-Kandari Study (2010 AD): This study was conducted in Kuwait, College of Basic Education, and aimed to identify (the phenomenon of cheating in tests: its causes and forms from the perspective of students of the College of Basic Education in the State of Kuwait), and it aimed to:

- Identifying the causes and forms of cheating in tests among students of the College of Basic



Education in the State of Kuwait.

- Recognizing the effectiveness of the laws and regulations related to this phenomenon from the students' perspective, in order to limit its aggravation.

The researcher reached several results, including:

- The dominance of the phenomenon of cheating in exams, as 92.2% of the study sample agreed that the phenomenon of cheating in exams is widespread.
- The student's habit of cheating in exams in previous stages of education is one of the main reasons for cheating at the university level.
- Almost half of the sample believes that the secondary stage is common in the phenomenon of cheating, and this is an important indicator because its impact extends to the next stage, which is the stage of university education.
- Fear of failing the exam and the student's desire to obtain a high rate are among the most important reasons for the phenomenon of cheating from the perspective of students of the College of Basic Education.

2. Study by Kyle A Burgason & Ophir Sefiha & Lisa Briggs (2019) The study aimed to identify (the concept of cheating in courses taught through the Internet and to indicate the most important methods and methods of cheating and the extent of cheating in university circles), and to achieve this goal the researchers used a survey It was applied to two groups, the first consisting of a group of ordinary university students studying courses in the Faculty of Law, and the other group of students studying courses in criminal law and working full-time jobs in the Ministry of Justice. The researchers concluded that a large percentage of both groups had practiced behavior that falls within the scope of academic cheating, and they indicated that this behavior does not endanger the academic process. The researchers presented several suggestions that would reduce cheating in exams on the Internet.

### 2.8 Balance between previous studies and the current study

- The objectives of the previous studies were consistent with the current study in identifying the causes and methods of electronic fraud in the academic community.
- The previous studies and the current study were applied to undergraduate students.
- Kyle A Burgason & Ophir Sefiha & Lisa Briggs (2019) relied on males, while Al-Kandari (2010) and the current study relied on males and females.
- The statistical methods were similar in the previous studies, and the current study differed from them in some of these means.

### 3. Research Methodology and Procedures

First: Research Methodology: The research aims to know (the effect of tests of higher levels of the cognitive domain in preventing mass electronic cheating in distance education), so the researcher followed the experimental approach; To suit the current search procedures.

Second: Experimental design: The researcher adopted the experimental design with partial control appropriate to the conditions of the current research, which is the design of the two experimental groups and the control group with a post-test according to the following figure (1):

Table (1) The experimental design adopted in the research

test	dependent variable	independent variable	group
after	Preventing mass fraud	Examination of the higher levels of the cognitive domain	first trial
			second trial
		Lower levels of the cognitive domain test	exact

Third: The research community and its sample:

a. Research community: The current research community represents the students of the Arabic language departments in the second stage of the faculties of basic education in Iraqi universities for the academic year (2020-2021).

B. The researcher intentionally chose the second stage of the Arabic language department, the morning study in the College of Basic Education, University of Diyala. Because it is the teaching of the control group of the department's teachers, so the researcher chose sections (A) and (B), the number of students in each section is (56) male and female students, two experimental groups whose students were tested at the higher levels of the cognitive domain, and section (C) whose number of students is (56) A control group that the teaching staff conducted on their students the tests of the lower levels of the cognitive domain.

Fourth: Controlling extraneous variables: the experiment was not exposed to any emergency conditions (administrative - natural) that could impede its progress, and no one was interrupted from its sample throughout the duration of the experiment, and the researcher controlled the maturity variable with equal duration of the experiment on the two control and experimental groups, as the experiment began On 6/3/2021 and ended on 06/28/2021, in addition to using it as a standardized measuring tool for the two experimental groups and the control group. The researcher kept his experience confidential by not informing the research sample about the nature and goal of his research, as well as the teaching of the control group, so that their activity and dealing with the experiment would not change in order to ensure the safety and accuracy of the results. The specific study material and its vocabulary consisting of (16) topics of psychological counseling and educational guidance for the unified experience of the research groups (Appendix 1), as well as the lecture times that were from three in the afternoon to six in the evening on Mondays weekly by using Google Meet In the online Google Classroom.

Test: To achieve the objectives of the study, the researcher prepared two achievement tests monthly, each test consisting of (16) paragraphs as in Table (2), and they went through the following stages:

\* Specifications table consisting of (16) paragraphs

Table (2) Specifications for the test

percentage	total marks	Total questions	behavioral goals			tag and number	Subject
			Evaluation	Composition	Analyses		
0,03 %	4	1	-	-	1	Questions	The concept of counseling, its types, goals and objectives
			-	-	4	Brand	
			-	-	1	Paragraph numbers	
0,03 %	4	1	-	1	-	Questions	Mentoring work ethic
			-	4	-	Brand	
			-	2	-	Paragraph numbers	
0,03 %	4	1	-	-	1	Questions	Basic information for the guiding process
			-	-	4	Brand	
			-	-	3	Paragraph numbers	
0,03 %	4	1	1	-	-	Questions	The psychological counseling process and the recipes presented to it
			4	-	-	Brand	
			4	-	-	Paragraph numbers	
			-	-	1	Questions	guiding teacher
			-	-	4	Brand	
			-	-	5	Paragraph numbers	
0,03 %	4	1	-	2	-	Questions	Means and tools for collecting information in extension
			-	4	-	Brand	
			-	1	-	Paragraph numbers	
0,03 %	4	1	2	-	-	Questions	Individual and group counseling
			4	-	-	Brand	
			2	-	-	Paragraph numbers	
0,03 %	4	1	-	2	-	questions	Direct and indirect
			-	4	-	Brand	

			-	3	-	Paragraph numbers	counseling
0,03 %	4	1	-	2	-	Questions	Focus theory on individual traits, factors, and differences
			-	4	-	Brand	
			-	4	-	Paragraph numbers	
0,03 %	4	1	2	-	-	Questions	self theory
			4	-	-	Brand	
			5	-	-	Paragraph numbers	
0,03 %	4	1	-	-	3	Questions	behavioral theory
			-	-	4	Brand	
			-	-	1	Paragraph numbers	
0,03 %	4	1	-	-	3	Questions	educational and behavioral problems
			-	-	4	Brand	
			-	-	2	Paragraph numbers	
0,03 %	4	1	3	-	-	Questions	Lying (Causes - Prevention - Methods of Cure)
			4	-	-	Brand	
			3	-	-	Paragraph numbers	
0,03 %	4	1	-	-	3	Questions	Theft (causes, prevention, treatment)
			-	-	4	Brand	
			-	-	4	Paragraph numbers	
0,03 %	4	1	-	3	-	Questions	Aggression (causes - prevention - methods of treatment)
			-	4	-	Brand	
			-	5	-	Paragraph numbers	
100%	60	15	4	5	6	Total questions	
			20	20	20	total marks	
			20%	25%	30%	percentage	

Drafting the paragraphs of the test questions and their validity: The researcher chose the objective paragraphs of the test questions; Because one of its advantages is that it is an economical way to obtain student levels, and the answers to the question paragraphs require less time than the essay questions, in addition to the spaciousness of the space for their representation, accuracy and truthfulness of the content, which leads to high stability and good honesty in it, and correcting them electronically ensures the researcher's impartiality. Objective paragraphs create an incentive for students to build a broad base of knowledge, skills and abilities (Irving, 1970, P; 148). The researcher formulated (15) paragraphs divided into three questions, in each question five paragraphs, and for the purpose of finding the scientific foundations, he took the following steps:

1. Validity of the test: In order to verify the validity of the test prepared by the researcher, he presented it to a number of experts and specialists in the Arabic language, teaching methods, and educational and psychological sciences to express their opinions and observations on the validity of its paragraphs or not in measuring what they were designed for (Appendix 2), and after obtaining the Their observations and opinions were amended to obtain 80% of their total agreement.

2. Test reliability: The researcher calculated the reliability by the split-half method, as the students' scores were arranged in descending order and the number of odd and even correct answers for each group was extracted, and the correlation coefficient between them was calculated, which was 0.74 using the Pearson correlation coefficient, and it was corrected by the Spearman-Brown equation to extract the reliability coefficient It was 0.99.

3. Test instructions: The researcher put the following instructions:

The exam time is only three hours.

The exam is open source, open book.



Adhere to the official dress while performing the exam.

You will only have one attempt to take the exam.

Exam questions in the following formats:

A: A multiple choice question.

T. True-false question.

Th. Short answer question.

Fifth: Application of the experiment: During the experiment, the researcher followed the following steps:

1. The researcher and the teaching staff started applying the experiment at the beginning of the second semester of the academic year on 6/3/2021 and ended on 28/6/2021.

2. The researcher conducted two monthly tests for the two experimental groups, each test covering half of the prescribed vocabulary, and he used the same formulas for the final test so that the students become accustomed to them.

3. He continued my teaching colleague's test through the students of the two experimental groups who share with the students of the control group in a unified group on Viber, and he found that the lower levels of Bloom's cognitive domain depended on it.

4. He prepared the paragraphs of the final test questions and presented them to his colleague, who agreed to them without any modifications.

Sixth: Statistical Means: The researcher used the appropriate statistical means for his research procedures using the SPSS bag.

#### 4. Presentation and interpretation of results

First, show the results

The first null hypothesis:

There is no statistically significant difference at the level (0.05) between the average scores of the students of the two experimental groups who are tested according to the higher levels of the cognitive domain in preventing mass electronic cheating in distance education, and the average scores of the students of the control group who are tested according to the lower levels of the cognitive domain in Preventing mass electronic fraud in distance education.

The researcher used the arithmetic mean of the scores of the experimental and control groups to extract the standard deviation for them, as shown in the following table (3):

Table (3) means and standard deviations of the research sample

standard deviation	SMA	No.	the group
6.430	48.50	56	first trial
6.581	45.43	56	second trial
5.229	40.00	56	exact
7.022	44.64	168	Total

The researcher used one-way analysis of variance (ANOVA) and the results were as in Table (4).

Table (4) Analysis of variance (ANOVA) according to the higher levels in the cognitive domain for the degrees of the research sample

Significance at 0.05	Value) F(		mean squares	Degree of free	sum of squares	Contrast source
	tabular	calculator				
statistically significant	3.05	27.790	1037.429	2	2074.857	between groups
			37.332	165	6159.714	within groups
				167	8234.571	Total

Table (4) shows the calculated (F) value (27.790) greater than the tabulated (F) value (3.05), and this means that there is a significant difference at the level of significance (0.05) between the three groups.

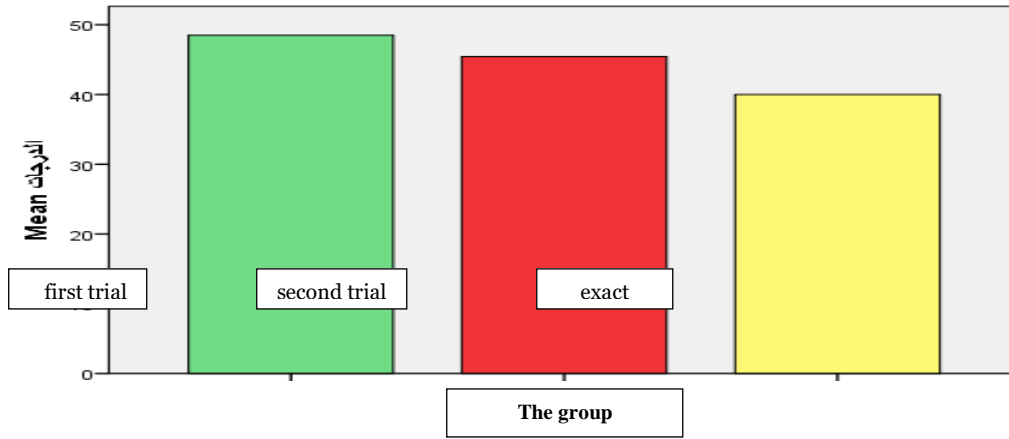


Figure (1) The degrees of the search engine

The second null hypothesis:

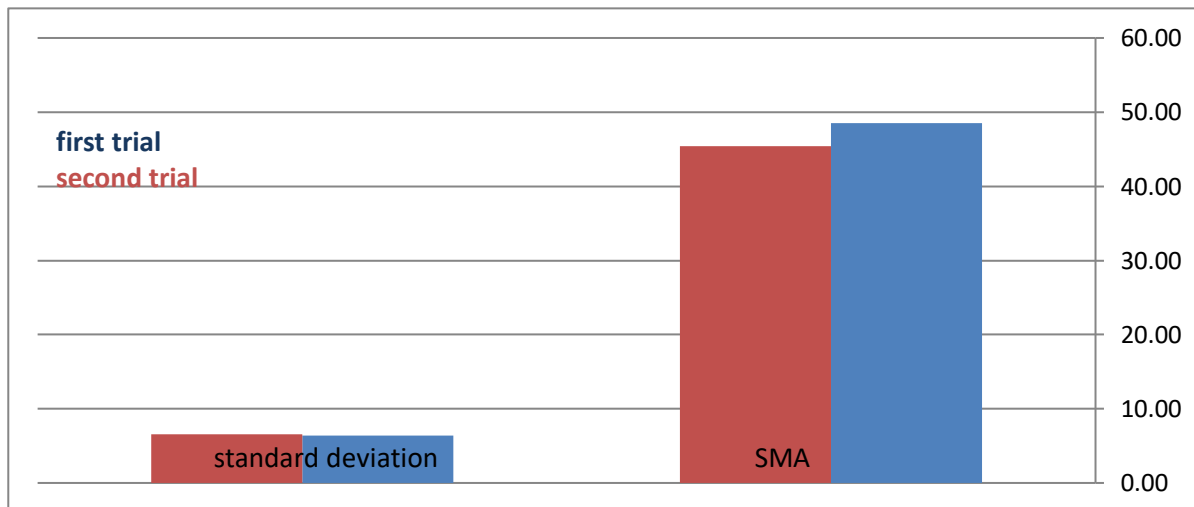
There is no statistically significant difference at the level (0.05) between the average scores of the students of the first experimental group and the average scores of the students of the second experimental group who are tested according to the higher levels of the cognitive domain in preventing mass electronic fraud in distance education.

The researcher used the (t) test to find out the differences between the first and second experimental groups of the research sample, as shown in the following table (5):

Table (5) T-test for the differences between the first and second experimental groups of the research sample

Significance at 0.05	Value t		Degree of free	standard deviation	SMA	No.	the group
		calculator					
statistically significant	statistically significant	2.498	110	6.430	48.50	56	first trial
				6.581	45.43	56	second trial

Table (5) shows the calculated (t) value is greater than the tabulated (t) value, and this means that there is a significant difference at (0.05) between the first experimental group, whose arithmetic mean reached (48.50) with a standard deviation of (6.430), and the second experimental group, whose mean was (45.43) with a standard deviation of (6.581), in favor of the first experimental group.



The first experimental group.

Figure (2) Arithmetic mean and standard deviation

Secondly, display the results

The results showed that the students of the two experimental groups outperformed the students of the control group in the achievement test that was conducted after the end of the experiment, and this superiority is attributed, according to the researcher's opinion, to one or more of the following reasons:

1. The use of the higher levels test for the cognitive domain is commensurate with the age level and academic level of the research sample.
2. The test of the higher levels of the cognitive domain effectively contributes to reaching the correct solutions by analyzing the content of the test paragraphs and deriving the correct answers.
3. The researcher believes that the tests of the higher levels of the cognitive domain contribute to the prevention of collective electronic cheating in distance education in the absence of electronic supervision and educational values.
4. The high level of achievement of some students as a result of training and practicing on tests at the three higher levels of the cognitive domain was behind the difference between the first and second experimental group.

## **5. Conclusions, recommendations and suggestions**

First: the conclusions

1. The use of higher levels of cognitive domain tests has a positive effect on increasing the achievement of primary university students.
2. The use of tests of higher levels of the cognitive domain has a positive effect in preventing mass electronic cheating in distance education, especially in the absence of electronic supervision and the low level of educational values.
3. The use of tests of higher levels of the cognitive domain requires greater effort in preparing its paragraphs.
4. The use of tests of higher levels of the cognitive domain provides the opportunity for students to demonstrate their abilities in analysis, synthesis and evaluation; To get the correct answers, and to score high marks.

Second: Recommendations

In light of the research results, the researcher recommends the following:

1. The necessity for teachers of subjects in the initial university study, especially the humanities subjects, to pay attention to the use of tests of the higher levels of the cognitive domain.
2. Intensifying courses and workshops for teachers to provide them with skills for drafting tests at the higher levels of the cognitive domain.

Third: Suggestions

To complement the findings of this study, the researcher suggests conducting similar studies as follows:

1. Similar studies to the current study in other academic subjects.
2. Similar studies to the current study include essay questions, especially for study subjects whose contents predominate in narration, such as literature in all its colors, and history in all its forms.

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