

# The Effectiveness Of An Instructional-Learning Design Based On The Communicative Theory In The Collection Of General Teaching Methods For Students Of Faculties Of Education

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## **Research Summary:**

The aim of this research is to know the effectiveness of an instructional-learning design based on the communicative theory in the collection of general teaching methods for students of faculties of education. Experimental people who study general teaching methods subject with instructional learning design based on the communicative theory and the average scores of the control group students who study the same subject without using the instructional design based on communicative theory in the post-achievement test). On a sample of the third stage students in the Department of Educational and Psychological Sciences, their number was (101) male and female, (52) students for the experimental group and (49) for the control group. The researchers prepared a research tool to measure the dependent variable, represented by the achievement test consisting of: (40) items, including (30) items of the type of multiple-choice and (10) items of the type of essay questions, and the data were statistically processed using the statistical test. (T-test) for two independent samples, and the results showed that the students of the experimental group outperformed the students of the control group in the post achievement test. In light of the results of the research, the researchers presented a number of recommendations and suggestions.

## **Research problem:**

During their work in the teaching profession, the two researchers noticed a decline in students' academic achievement, and the difficulties and obstacles they felt in using technology and electronic applications in education while using e-learning, emphasized those difficulties and obstacles in teaching students, which in turn negatively affected their academic achievement in the subjects. Scientific. This was reinforced by scientific evidence, as the researchers surveyed the opinions of teachers and students studying general teaching methods in faculties of education for the academic year (2020-2021) about the problems and difficulties they face in teaching and studying general teaching methods. They found that the students suffer from several problems, the most important of which is the lack of a specific subject for them,

their reliance on separate and unconnected lectures, and their poor achievement in this subject.

This was confirmed by several studies such as the study (Al-Alawi, 2015), the study (Abdul-Saheb, 2016), and the study (Abdul Hamid, 2018), and was supported by conference recommendations that supported the importance of employing virtual learning environments in overcoming students' learning problems and difficulties, including academic achievement; Including the joint conference between the Association of Educational Teachers in Qadisiyah, Al-Qasim Green University in Iraq and the Holy University of Qom in Iran (2022), the Second International Scientific Conference at the University of Mosul, College of Education for Human Sciences (2022), and the Second International Conference (2016) in Dubai, all of which

recommended The necessity of developing education in line with cloud computing applications, adding the fun of learning, and developing students' educational attainment.

Among the most prominent of the need to build an educational design based on the communicative theory to raise the level of achievement of students, so the research problem can crystallize by answering the following question: -

**Is the instructional-learning design based on the communicative theory effective in collecting the general teaching methods subject for students of faculties of education?**

**The importance of the research and the need for it:** We can summarize the importance of the research in the following points:

- ❖ Directing the attention of specialists in the field of curricula to designing and building academic content for general teaching methods.
- ❖ Employs the educational principles and applications of the communicative theory, which include modern learning and teaching strategies that develop students' abilities and achievement, and enable the teacher to employ teaching and link them to the electronic aspect and websites, as advocated by specialists and officials in the Ministries of Education and Higher Education.
- ❖ Urges the design of an electronic environment based on communication applications with video files, external links and interactions that can benefit specialists in different study subjects in developing their technical skills and their various applications.
- ❖ An experimental attempt in which an educational design based on communicative theory is adopted at the level of university education, which the educational field lacks, to the knowledge of the researcher.
- ❖ It is a reference that benefits researchers, with the tool it provides to them (achievement test), and thus facilitates them to conduct later research.

- ❖ The (communicative theory) strategies work to make the learner an active focus in the educational process, because the learner spends most of his time in research and investigation, in addition to breaking the stalemate and traditional situation that exists in the educational environment.
- ❖ Directing the curriculum developers' attention towards employing technological innovations in the fields of teaching and learning.

**Research Objectives:** The current research aims to:

- Building an instructional-learning design based on the communicative theory in the subject of general teaching methods for third-grade students in the faculties of education.
- Recognizing the effectiveness of the instructional-learning design based on the communicative theory in the collection of the subject of general teaching methods for students of faculties of education.

**Research hypothesis:** To achieve the objectives of the research, the researchers put the two null hypotheses the following:-

There is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group students who study the general teaching methods subject in the instructional-learning design based on the communicative theory and the average scores of the control group students who study the same subject without using the instructional-learning design based on the communicative theory in Postgraduate achievement test.

**Research limits:** The search is determined by the following:

- ❖ Instructional-learning design based on the communicative theory in the General Instructional Methods subject.
- ❖ The academic year (2021-2022).
- ❖ Third grade students in the Department of Educational and Psychological Sciences / College of Education for Human Sciences - Wasit University.

- ❖ Vocabulary of the general teaching methods subject to be taught for the third stage in the Department of Educational and Psychological Sciences

**Defining terms:** Many terms were used in the research, including:

**I. Effectiveness:** defined by (Allam, 2014) as “the degree or level of success that the learner achieves in a particular field of study” (Allam, 2014: 122).

❖ **Procedural definition:**

Effectiveness in the research is meant as: the extent of the impact that the instructional-learning design based on the communicative theory as an independent variable can have on the achievement of teaching methods subject for third-year students, College of Education for Human Sciences / Wasit University, and this effect is determined statistically by a square eta ( $\eta^2$ ).

2. Instructional-learning design: defined (Qatami et al., 2013) as “a scientific-technological study of the foundations of learning and teaching, identifying the best methods, and specific teaching methods” (Qatami et al., 2002: 5)

- ❖ **Procedural definition:** Instructional learning design is a set of organized steps that depend on the use of communication theory tools and applications that the researchers follow to deliver the educational material to the students of the College of Education (the research sample) in the general teaching methods subject for the purpose of achieving the goals.

3. Connectivity theory: Belkacem (2018) defined it as “a theory that seeks to clarify how learning occurs in complex electronic environments, how it is affected by new social dynamics, and how it is supported by new technologies” (Belkacem, 2018: 251).

- ❖ **Procedural definition:** The communicative theory: It is a set of organized steps that adopt an instructional-learning design for the use of second-generation (0,2) digital

tools and applications (educational blogs) in the subject of general teaching methods for third-year students in the Department of Educational and Psychological Sciences / College of Education for Human Sciences Wasit University, which the two researchers follow to achieve the research objectives.

4. Attainment: defined by Ahmed (2010): “educational achievement of the subject, which means reaching a certain level of information acquisition and performing the required skills, and this is determined by standardized tests, teacher reports, or both” (Ahmed, 2010: 32).

- ❖ **Procedural definition:** the final outcome or what the third grade students in the Department of Educational and Psychological Sciences of the College of Education for Human Sciences / Wasit University have acquired from theoretical and cognitive information related to the subjects of the general teaching methods subject, and it is measured by the degree obtained by the student in the post-achievement test prepared by the researchers for this Purpose Annex (15).

**General Teaching Methods subject:**

**Procedural definition:** the scientific material for instructional and instructional design, which was tried to be taught to third grade students, Department of Educational and Psychological Sciences in the College of Education for Human Sciences / Wasit University, consisting of six educational chapters that include information and knowledge that the researcher taught to the students of the research sample for the year Full course.

**framework:**

**Instructional learning design:** Instructional design is one of the modern sciences that has emerged in the field of education. It examines the development of the educational process, experiences, and educational environments. It describes the best educational methods that achieve the desired educational outcomes. It also describes the procedures for selecting educational materials to be designed, analyzed, organized, developed, and evaluated in

accordance with the characteristics of learners. (Students, 2016: 111)

The science of instructional design seeks to achieve a set of goals, including:

- Formulation of general and behavioral objectives.
- Defining strategies and developing educational materials whose interaction leads to the achievement of goals.
- Bridging the relationship between theoretical principles and their applications in the educational situation.
- Using different educational aids, materials and devices in an optimal way.
- Dependence on the learner's own effort in the learning process. (Mahfouz, 2016: 98)

In light of what was previously presented about the concept of instructional design, the researchers see that it is a process concerned with defining the conditions, characteristics and complete educational specifications for educational events, sources, and operations, through the application of a problem-based design that takes into account all the factors affecting the effectiveness of teaching and learning.

### **An example of an instructional design for (ADDIE)**

(Shaheen, 2011) indicated that good educational design is the beating heart of any educational program, and there is a universal model for designing e-learning, which is the General Instructional Design Model (ADDIE) that the researchers used, because it agrees with most of the models in its general framework, its ease and clarity of steps, and because it fits With the nature of the current research, it consists of five stages (analysis, design, development, implementation, and evaluation).

### **communicative theory of learning**

It is a learning theory based on the premise that knowledge exists in the world, and not within the individual in an abstract way, that is: that knowledge exists within systems that are accessed by individuals who participate in activities, and this theory has been called

"learning theory in the digital age." , because of the way it has been used to explain the impact of technology on people's lives, how they communicate and how they learn. (International Journal of Teaching and Distance Learning Technology, 2005).

### **Principles of Communication Theory:**

The principles of "communicative theory" are defined as follows:

- ✓ Learning and knowledge lies in the diversity of opinions and different viewpoints that work to form an integrated whole.
- ✓ Knowing how to obtain information is more important than the information itself, which is always characterized by rapid change and development.
- ✓ Learning is the process of linking specialized information sources, and the learner can improve the learning process by working over the local network. (Siemens, 2004, p:233)
- ✓ The ability to see connections between areas, ideas, concepts, and basic skills.
- ✓ Accuracy and up-to-date knowledge are the objectives of all communicative learning activities.
- ✓ Providing as well as maintaining communication is essential to facilitating continuous learning.
- ✓ Decision-making in itself is a learning process, testing what we know, and knowing the meaning of the information received is by looking at the changing reality; Because the correct answer now could be wrong tomorrow due to changes that may occur in the information that affect decision-making. (Fumero, Aguirre, Tapiador, & Salvacha, 2006, p: 165)

### **Educational applications of communicative theory in the educational process:**

It is clear from the following what is focused on in the educational process under the communicative theory:

- **Instructional Objectives:**  
Communicative learning is not limited to focusing on achieving specific behavioral objectives, but rather the learning environment, the availability

of resources, the learner's ability to reflect, and teaching students ways to search for information, revise it, analyze it and synthesize it, and distinguish between important information. Not important in the field of specialization. (Siemens, 2003, p:214)

The researchers were keen in setting the objectives of the instructional learning design to be in accordance with the principles of communicative theory and to make them compatible with e-learning environments in their content and content and in the means and methods of achieving them.

- **Educational content:** Learners choose most of the content from the resources available in the learning networks and environments in which they participate, and the educational content is seen as just a node among many other meeting points that the learner will deal with during his online learning activities. (Siemens, 2004, p:19)
- **Learning environment:** Learning is an activity that takes place in an environment that must have characteristics that encourage learners to continuously learn, communicate, and actively participate in learning networks, and provide ample opportunities for reflection for learners. (Siemens, 2008a)
- **Learning activities:** communicative learning provides the largest possible number of alternatives to learning activities that help the learner to integrate into, participate in, and benefit from learning networks. Examples of these activities are the preparation of some materials that help other learners to understand, and their dissemination through the web. (Lowe, 2008, p: 234)

Assessment: personal knowledge management skills, social networking, and information handling are among the basic assessment dimensions, e-business files, personal blogs that allow for personal assessment of each learner individually, collaborative projects, and others. (Darrow, 2009, p: 978)

### **Employing communicative theory in teaching and learning processes:**

**First: The RSS feed broadcast service:** The website feed broadcast service enables immediate access to the latest specialized developments, which makes it a valuable tool to be used for the purpose of accessing the latest scientific and educational developments in various disciplines.

**Second: Facebook:** Facebook is one of the prominent applications in the second generation of the web (Web 2.0). The story of the emergence of Facebook was primarily a social network between students and then between people of all categories and orientations. Facebook became the subject of study for many scholars in the field of societies and researchers in a number of From topics such as privacy, identity, community capital, adolescent uses, and finally in the field of e-learning.

**Third: YouTube:** They are websites that allow users to upload, view and share video clips in education (YouTube), comment and evaluate them, and the capabilities of university education can be employed by recording the teacher's video lectures and uploading them to his own channel, as well as using ready-made video clips available on the site.

**Fourth: Flickr:** It is a page or photo gallery on the Internet, where others can see the pictures that have been photographed and placed on this page, and comments that help in its development can be added.

**Fifth: Wiki :** It is a type of web page that allows visitors to add and modify content without any restrictions. In its simplest form, a wiki is a site that can be read like any other site, but its importance and strength lies in the ability to work on it collaboratively.

**Sixth: Blogs:** Blogs are one of the most important and most widely used applications of the second generation of Web 2.0, which is considered one of the most important means of communication, expression and interaction that has imposed itself in the twenty-first century, and blogs have become a method for social education and virtual interaction, and an electronic environment suitable for knowledge exchange and information sharing. and performances

The researchers adopted the application of blogs in the proposed educational design, because the application of educational blogs added a distinct transition and a qualitative shift that made it a strong competitor to the traditional methods. It addresses the problem of the learning impact remaining among learners, so the student can return to the application and review his lectures, and also addresses the problem of apathy and absent-mindedness in the lectures. , where educational blogs are positive attitudes among students because of their vitality, flexibility, and consideration of the dimensions of time and space.

### **previous studies:**

The two researchers reviewed a set of previous studies that dealt with the variables of their research, as the study (Al Alawi, 2015) aimed to “build a proposed teaching-learning design according to the systemic approach for students of Islamic sciences faculties and measure its effectiveness in achievement and inclination towards the teaching profession. 2016 to “Building an instructional-learning design using cognitive strategies among students of faculties of education and measuring it in the achievement of the foundations of education and high-ranking thinking”, where those studies dealt with the instructional-learning design variable and the achievement variable, while the communicative theory variable dealt with a study (Abdul-Majid, 2018), which aimed to identify the effectiveness of a participatory learning environment based on the communicative theory in developing cloud computing skills and its applications among students of the College of Education, while the study (Sabri, 2020) aimed at “preparing and designing a proposed program based on learning theories for the era of the Fourth Industrial Revolution using strategies Smart digital learning, and its effectiveness in evaluating the importance and development of mathematical prowess and achieving the enjoyment of learning among students of the preparatory year. This has resulted in aspects that benefit from them in deepening the research problem and revealing the need to use the communicative theory in education to develop academic achievement.

### **Research procedures:**

#### **• First: the descriptive approach to research**

The researchers used the descriptive approach in constructing the instructional-learning design according to the following steps:

**Stages of preparing instructional-learning design:** To achieve the research objective of preparing an instructional-learning design based on communicative theory, and given the novelty of learning in the digital age based on the technology of second generation web applications (0.2) and its specificity in designing its content, strategies and activities, the researchers used the general instructional design model for (ADDIE) after studying the literature in this field, which prompted them to use this model for the compatibility of its use in e-learning and educational applications of communication theory, and in a manner that is compatible with the learning environment through applications of communication theory; Because this type of learning is a relatively recent trend in education.

#### **First: the analysis stage: it includes:**

**1. Analysis of the characteristics of the students:** the researcher identifies the characteristics of the students during the direct interview with the students, and he identifies the characteristics of the students in terms of age, intelligence, and their social, cultural and mental characteristics to be indicators to benefit from them in determining those characteristics and taking into account the individual differences between them. The researcher identified these characteristics by following the steps the following:-

- ❖ Examining the various literature and designs that dealt with the subject of student characteristics.
- ❖ The ages of the students ranged between (19-24) years, which is the stage of abstract operations.
- ❖ The research sample members of both sexes.
- ❖ The research sample was rewarded in terms of (age, intelligence, and previous information) and the results indicated the homogeneity of the research sample as we will show later.
- ❖ There is homogeneity at the social and economic level, as they live in similar

geographical areas, which supports the equivalence procedures established for the sample members.

**2. Target group:** At the beginning of the design, the researcher identified the target group, which is the third stage students of the College of Education for Human Sciences / Wasit University for the academic year (2021-2022) and their number reached (101) students divided into two research groups, which included the experimental group (52) male and female students and the group Officer (49) male and female students.

### **3. Identification of educational needs:**

- Analyzing students' needs from their point of view: A survey questionnaire was directed by the researchers prepared for this purpose, which included an open question for a sample of fourth-grade students for the academic year (2021-2022) who studied teaching methods in the previous academic year, whose number reached (50) male and female students. The questionnaire included an open question about the most important needs and difficulties they faced in studying the teaching methods subject in the previous year, which are necessary needs that should be addressed. After that, the researchers prepared a closed questionnaire containing a number of questions and answered with yes or no. There are many needs and difficulties.
- Analyzing the needs of students from the point of view of their teachers: The researchers directed an open questionnaire to a number of teaching methods teaching in the College of Education who are studying the subject in other departments. Therefore, the researchers prepared a closed questionnaire containing a number of difficulties, which was distributed to male and female teachers of Teaching Methods; After analyzing the responses, a number of needs and difficulties were identified that helped in building the instructional-learning design.

**4. General Educational Objectives:** After the researchers reviewed the general objectives of the general Instructional Methodology course in the Department of Educational and Psychological Sciences, which were set by the Sectoral Body Committee in the Ministry of Higher Education and Scientific Research (Deans' Committee), they formulated general objectives for the educational-learning design of the General Instructional Methods subject. A group of arbitrators and specialists in this field, and the researcher has adopted an approval rate of (90%) of them to adopt these goals after making modifications to some of them.

**5. Educational content:** The researchers built an educational content based on the communicative theory according to the ADDIE model. It included building facts, principles and concepts that are carried out according to scientific progression from general to specific, and from easy to difficult, and from simple to complex in accordance with the needs of students, their abilities and their cognitive levels. In order for them to be able to absorb and interact with them effectively, it also includes theories, laws, terms, drawings, activities, exercises, and various tests. The content of the educational-learning design includes the topics of general teaching methods for the six chapters according to the vocabulary of the sectoral body or the deans' committee, and in line with the principles of communication theory and derived applied indicators. In addition to all that was mentioned, the researchers added an introduction to each chapter, as well as a list of topics that students study, a title and behavioral objectives, self-assessment questions with final questions for each chapter, and some enrichment resources and websites for general teaching methods, in addition to a map of information flow according to the communication environment. Electronic determines the level of progress of the student in obtaining information.

**6. Analysis of the educational reality:** In order to analyze the educational environment in which the instructional-learning design is applied, the selected university was visited to see the availability of materials and tools required for teaching and learning the methodologies subject, and the following was found:

It is known that the content of general teaching methods tends to the theoretical and practical side, so it can be implemented in the classroom and electronically via educational platforms. Essential in providing educational-learning design content for distance learning

**Second: The design stage:** It included the following steps

- **Formulation of behavioral objectives:** The two researchers formulated the behavioral objectives for each educational lesson in line with the nature of the educational content, and the number of behavioral objectives became (430) behavioral objectives for all classes of educational-learning design, which represents all behavioral objectives and were presented to a group of experts and arbitrators with competence in the field (Curriculums, teaching methods, measurement and evaluation), to verify the correctness of its formulation and its suitability to the research sample.
- **Learning Resources:** The blogging application, which is purely with the content of the instructional-learning design for the general teaching methods, contains an electronic library that includes sections (teaching methods, the scientific research method, measurement and evaluation, and e-learning), and it has been supplemented with many diverse enriching resources for the educational-learning design content.
- **Teaching strategies:** It is a general plan for defining how to present and present the content and choose the appropriate methods to achieve the learning outcomes (Jabbar, 2020: 92). When designing the e-learning environment, the researchers took into account that it should be based on multiple educational strategies: (virtual classroom strategy, cognitive journey strategy, educational blog strategy, participatory learning strategy via the web, and synchronous and asynchronous discussions strategy).
- **Learning and teaching activities and distance learning tasks**

**(digital education):** Two types of activities are designed for lessons by instructional-learning design, an activity that is implemented individually, and an activity that is implemented collaboratively, where students are divided into groups, each group consisting of (5-7) Students cooperate among themselves in the performance of educational activities and tasks, and a (group) has been assigned to each cooperative group to discuss the completion of activities via (Telegram), and the completed activities are delivered through the delivery icon for activities, costs and duties in the application of the educational blog (Blogger) or via (Gmail) Professor The article (the researcher) to evaluate and discuss it, and give them the appropriate feedback.

- **Tests and Assessment Tools:** The tests and assessment tools that measure learning outcomes related to performance and behavior criterions consisted of tribal assessment (tribal tests), formative assessment (constructive tests), and final assessment (final tests).
- **The feedback is divided into two parts:**
  - **Internal feedback:** in which the student is self-evaluated for his performance through the electronic pre and post tests attached to each chapter or by the (quiz) method.
  - **External Feedback:** The researcher provides instructions either online or in person.
- **Identification of production programs:** Some authoring and production programs have been identified through which content is presented in the smart learning environment, such as: (written text, charts, tables, audio, music, and video clips).
- **The course plan of the lectures:** Among the teaching methods suitable for this type of learning for teaching-learning design: discussion,



cooperative and participatory learning, communicative, exploratory and investigative learning based on research and the use of modern technology, as well as the use of the Internet, and to employ learning based on educational applications of the communicative theory. Blogs were selected. Educational (Blogger) for the course of lectures.

**Third: The production stage:** It includes:

- ❖ Preparing educational-learning design content topics. Content topics for instructional-learning design were prepared in two ways, the first by compiling available and appropriate educational content from literature and previous studies or from the Internet, such as some pictures, videos, etc. Videos...etc.
- ❖ Organizing lectures electronically in the learning environment.
- ❖ Creating group chat pages: A group was created in the application of social communication and telegram, under the name of the Department of Educational and Psychological Sciences / Phase Three.
- ❖ Create and use the blog. The educational blogging platform application (Blogger) was chosen to provide educational-learning design content as it is similar to the most used social networking sites among students.
- ❖ Building a teacher's guide for the use of instructional-learning design.

**Fourth: Implementation stage:** In this stage, the instructional, instructional, training

dependent variable	post test	independent variable	Group
Academic achievement	achievement test	Instructional learning design	Experimental
		—————	Adjuster

- ❖ **Determining the research community** The population of this research was determined from the third stage students in the departments of the College of Education for the morning study at the University of Wasit. And

design is judged before the actual application on the research sample, according to the following:

- ❖ Presentation of the instructional-learning design to the referees.
- ❖ Publication and availability of the application.
- ❖ Implementation of study plans and training activities.
- ❖ Setup for calendar tools.

**Fifth: Evaluation stage:** Evaluation is a diagnostic and remedial process that aims to know the progress achieved by the individual and the group. In light of the evaluation results, the necessary steps can be identified to improve the educational process (Zayer and Ayez, 2014: 201). Evaluation represents the judgment on things or individuals to show the advantages and disadvantages and to review the validity of the assumptions. The basic principles on which work is organized (Al-Yasiri, 2015: 135). This stage includes: (initial evaluation, structural evaluation, and final evaluation).

**Second: The experimental method:**

- ❖ **Experimental design:** The two researchers relied on the experimental method to find out the effectiveness of the proposed design in the achievement of students of the College of Education for Human Sciences / Wasit University. Accordingly, the researchers adopted the experimental design with partial control (the design of the experimental and control groups with a pre and post test) with two groups, one experimental and the other controlling, as in the following figure:

(514) female students constituted (56%) of the research community.

- ❖ **Defining the research sample:** The researchers chose the Department of Educational and Psychological Sciences in the College of Education for Human Sciences / Wasit University

as a sample for its research, represented by the third stage students, to be a field for conducting the experiment of the current study. The college, and they obtained the approval of the college, and this may contribute to good application procedures and be reflected in the accuracy of the results, and for the purposes of generalization, the characteristics of this sample do not differ in substance with the research samples in other departments, as well as other colleges of education in Iraqi universities because admission is central. With the similarity of the age stage, where the sample size of the third stage students in the Department of Educational and Psychological Sciences reached (101) male and female students, and by (52) male and female students for the experimental group constituted a percentage of (51%), and (49) male and female students for the control group constituted a percentage of (49%).

❖ **Control and parity procedures:**

The random distribution would achieve parity between groups, but the researcher decided to make sure that parity was achieved between the students of the two research groups before the experiment began, especially in the variables that affect the dependent variables, depending on the opinions of the arbitrators, which are:

- ✓ **Chronological age.** The data related to the ages of the research sample students were obtained from the Registration Department at the Deanship of the College of Education for Human Sciences / Wasit University, and through an electronic questionnaire to collect general information about the students, and after calculating the significance of the difference between the two averages and using the T-test for two independent samples, it shows that there is no difference. Statistically significant, as the calculated T-value amounted to (1,796), which is smaller than the tabular value of (1.98), at a significance level (0.05) and a degree of freedom (99). This means that the

two research groups are equivalent in the chronological age variable.

- ✓ **Intelligence.** The process of equivalence of the two research groups was conducted in the variable of intelligence due to the importance of this variable. The researcher used the general mental abilities test of (Henmon - Nelson) codified for the Iraqi environment by Al-Rubaie (2005) Supplement (11) after converting it to an electronic test (Forms), which consists of (94) paragraphs, and each paragraph includes five answer alternatives, and one correct alternative, with the highest test score (94) and the lowest score (zero) with a theoretical average of (47). The researchers applied this test to the two research groups after converting it to an electronic test (forms), and to know Significance of differences between the two averages. The t-test was used for two independent samples, it was found that the difference was not statistically significant, as the calculated t-value amounted to (0.727), which is smaller than the tabular value of (1.98), at a significance level (0.05) and a degree of freedom (99), and this indicates that the two groups are equivalent in this variable.

- ❖ **Previous information.** The researchers prepared a test of previous knowledge of the general teaching methods subject, for the purpose of identifying what the students of the two research groups possess of previous information in the subject; If they prepared a test consisting of two questions, the first consisted of (10) paragraphs of the type of multiple choice, while the second question consisted of (10) paragraphs of the type of true and false, and it was applied to the students of the two research groups after it was transformed into an electronic test (forms). In order to find out the significance of the differences between the two averages, the t-test was used for two independent samples. It was found that the difference was not statistically significant, as the calculated t-value amounted to (1,271) which is smaller than the tabular value

of (1.98), at the significance level (0.05) and with a degree of freedom (99), and this indicates that the two groups are equivalent in this variable.

- ❖ **Controlling the extraneous variables in the experiment** (the internal safety of the experimental design): the researchers were keen to control them as follows:
  - ✓ **Associated Accidents:** Means the accidents accompanying the natural accidents that can occur during the experiment, such as: (disasters, floods, earthquakes, hurricanes, disturbances, etc.) which impede the course of the experiment, and the experiment was not exposed in the current research to any emergency condition or accident that obstructs its course. It affects the dependent variable next to the independent variable, so it can be said that the effect of this factor can be avoided.
  - ✓ **Experimental extinction:** Experimental extinction means the effect of leaving a number of students (the research sample), or their interruption during the experiment, which affects the results. The individual exposed to the two research groups, and a very small percentage and almost equal for the two groups.
  - ✓ **Processes related to maturity:** These processes had no effect on the current research, as the experiment began for the two groups at the same time and ended at the same time, which is the 2021-2022 school year.
  - ✓ **Differences in group selection:** The two researchers tried to avoid the effect of this variable by conducting statistical equivalence between the students of the two research groups (experimental and control) in three variables whose interaction with the independent variable could have an impact on the dependent variable.
- ❖ **Effect of Experimental Procedures:**
  - ✓ **Confidentiality of the research:** The two researchers were keen to keep the research confidential, in agreement with the Department of Educational and Psychological Sciences, not to inform the students of the nature and

purpose of the research, so that their activity or their interaction with the experiment would not change, which might affect the integrity of the experiment and its results.

- ✓ **Teaching:** The researcher himself taught the students of the experimental and control groups, and this imparts accuracy and objectivity to the results of the experiment. Because individual teachers for each group make it difficult to return the results to the independent variable, it may be attributed to one of the teachers being able to study the material more than the other, or to his personal characteristics or other factors.
- ✓ **Class distribution:** The weekly schedule was organized in agreement with the Department of Educational and Psychological Sciences, so that the General Teaching Methods course is taught electronically for the two research groups on the same days, with two classes for each group.
- ✓ **Teaching aids:** The teaching aids for the two groups (experimental and control) were similar in a number of teaching aids, such as the smart board, oil pens, and PowerPoint presentations via the meet application.
- ✓ **Teaching place:** The researcher applied his experience electronically according to ministerial instructions in teaching general teaching methods - as I came back from the subjects taught electronically - through the Google Classroom application, electronic classes, telegram and (Google meet) for both experimental and control research groups.
- ✓ **Duration of the experiment:** The duration of the experiment was one and equal for the students of the two groups, as it lasted for a full academic year, it started on Sunday 12/10/2021 and ended on 1/6/2022.
- ✓ **Preparation of Teaching Plans:** The two researchers prepared the necessary teaching plans for teaching the academic content, and the models of the teaching plans were presented in detail in the teaching guide, explaining in each teaching plan the educational content and the general and behavioral

teaching objectives. In light of this, the necessary modification was made and plans became applicable to help the researcher perform his work.

### **search tool:**

**Achievement test:** The achievement test is defined as a set of procedures that are characterized by organization and accuracy, the aim of which is to measure the extent to which learners acquire information and experiences in a specific subject or educational content (Al-Yaqoubi, 2013: 84). For the purpose of preparing the achievement test, the researchers performed the following procedures:

- **Determining the main objective of the test:** The objective of the test is determined by knowing what the third-grade students in the Department of Educational and Psychological Sciences - College of Education / Wasit University have obtained from theoretical and applied information in the subject of general teaching methods for the two research groups (experimental and control) after the end of the experiment, and knowing the difference between The experimental group, which was taught by the instructional-learning design, and the control group, which was not taught by the instructional-learning design, studied according to the vocabulary established by the (Deans Authority).
- **Determining the test items:** The two researchers identified the test items from the specific behavioral objectives of the instructional-learning design content, and they were (40) items out of a total of (430) cognitive objectives from the six levels of Bloom's classification (remembering, understanding, application, analysis, synthesis, and evaluation), based on the opinions of experts after reviewing them.
- **Preparing the specification table (exam map):** The test map obligates the teacher to distribute his test questions according to the relative importance of each topic in the educational content, thus verifying the validity of the test in terms of content. (Al-Sultani, 2013: 124) The percentage was for the level of remembering (40%), understanding (22%), application (19%), analysis (7%), synthesis (6%), and evaluation (6%).
- **Formulation of achievement test items:** (40) test items were prepared, including (30) objective items, and they were multiple-choice with four alternatives to measure levels (remembering, understanding, application), and that this type of paragraphs is characterized by high stability and comprehensiveness of the educational content, in addition to To the ease and objectivity of correction (Atiya, 2008: 213), and (10) essay paragraphs to measure the levels of (analysis, synthesis, evaluation), because the essay test provides an opportunity for the student to think and express (Salama et al., 2009: 368).
- **Psychometric characteristics of the achievement test:**
  - ✓ Virtual honesty: In order to verify the validity of the apparent test, its paragraphs in its initial form were presented to a number of experts and arbitrators, along with the test map to ensure its scientific validity and comprehensiveness for the subjects of the general teaching methods subject. The test paragraphs, and some paragraphs were reformulated in the light of the opinions of experts and arbitrators, as it was agreed on the appropriateness and validity of all paragraphs, using statistical analysis and emptying data for the opinions of experts and using a chi-square, the researcher obtained the percentage of agreement on the paragraphs, and thus the apparent honesty was verified.
- **Discriminatory power of the items:** The power of item discrimination: When calculating the power of discrimination for each of the test items, it was found that the power of discrimination of the objective items ranged between (0.31 - 0.66), and the power of discrimination was calculated for each item of the essay test, which amounted to (10) items. In the final achievement test using the power of discrimination that takes into account

partial knowledge in correcting its answer and it turns out that it is equal, according to the order (0,32, 0.51), as (Allam, 2014) considers that the paragraphs are acceptable and the discrimination is real if its discriminatory power is (20%). and above (Allam, 2014: 116).

- **The effectiveness of wrong alternatives:** the researchers extracted the effectiveness of wrong alternatives for the objective achievement test paragraphs, and it was a multiple choice, as the results of applying the equation for the effectiveness of wrong alternatives for all paragraphs were negative, and this means that the wrong alternatives have camouflaged the students with low level, which indicates the effectiveness of the alternatives Wrong achievement test.
- **The stability of the test:** The stability of the achievement test for the objective items was extracted using the Kewder-Richardson 20 method. Odeh (1998) indicates that if the degree of stability is (0.70) or more, it is a good indicator of stability (Awda, 1998: 27). As for the stability of correction with regard to article paragraphs, the researchers made sure of it by assigning two professors of the subject to correct two papers withdrawn Randomly and then the consistency between it and each corrector was calculated individually using the (Cooper) equation, and the percentage of agreement reached (94%, 95%) respectively. 1984: 68).

- **The achievement test in its final form:** After the completion of finding the test's validity, stability, and statistical analysis of its paragraphs, the test is ready in its final form for application to the students of the experimental and control groups. Each paragraph contains four alternatives, one true and the other three false, and (10) paragraphs, including essays.
- **Statistical tools:** The researchers used the SPSS statistical package

### Show results:

null hypothesis results which stated that There is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group students who study the general teaching methods subject in the instructional-learning design based on the communicative theory and the average scores of the control group students who study the same subject without using the instructional-learning design based on the communicative theory in the post-achievement test).

In order to verify this hypothesis, the researchers calculated the arithmetic averages and standard deviations of the two research groups (experimental and control) and calculated the T-value to indicate the difference in the level of achievement between the experimental group that was taught using the educational design based on the communicative theory, and the control group that was not taught using the educational design based on the theory After the results obtained by students in the post-test of achievement and the use of the T-test for two independent samples were tabulated and organized, the results were as illustrated in the following table:

indication	T value		Freedom degree	standard deviation	SMA	Number of samples	Group
	Tabular	Calculated					
function at significance (0,05) level	1,98	8,764	99	7,699	42,769	52	Experimental
				4,520	31,673	49	Adjuster

By observing the above values, we find that the arithmetic averages of the experimental group in the post-achievement test were higher than the

arithmetic averages of the control group, and the calculated t-value was (8,764) higher than the tabular t-value of (1.98) with a degree of freedom

of (99) at the level of significance ( In order to show the effect size of the independent variable (educational-learning design based on the communicative theory) on the dependent variable

(achievement), the researcher used the effect size equation, depending on the value of the Eta square as shown in the following table.

effect size	D	( $\eta^2$ )Value	dependent variable	Independent variable
Very big	2.61	0,64	attainment	nstruactional design based on communication theory

Through the above table, we conclude that the degree of the effect size of the independent variable (the educational program based on the educational design based on the communicative theory) reached (2.61) in achievement, which is a high value according to the Cohen standard of 1988.

**Interpretation of the results:** The researchers believe that the superiority of the students of the experimental group over the students of the control group is due to the following reasons:

- The instructional-learning design by which the students were taught had a major role in raising the level of their achievement, as it gave a comprehensive picture of the topics that were taught, and had the effect of consolidating the information in the minds of the students.
- The role of the selected strategies from the communication theory strategies in e-learning in fixing information in the minds of students.
- researcher's use of modern techniques, methods, methods and individual and group activities was consistent with what is emphasized by modern trends in teaching.
- The instructional-learning design made students the focus of the educational process, which has a great impact on raising students' excitement and motivation, as it positively affected increasing their academic achievement and this is what the research results showed.

### **Conclusions:**

The researchers concluded in the light of their findings, which were presented and explained as follows:

- Teaching general teaching methods using the instructional-learning design based on the communicative theory increases the achievement of the experimental group students, and this is confirmed by the research results.
- The learning based on the communicative theory contributed to giving the students an opportunity to learn in the way they prefer, which leads to positive results that contribute to improving their knowledge structure.
- The interaction and cooperation of students who studied according to the instructional design based on the communicative theory is better than the interaction of the students who studied without the use of the instructional design.

### **Recommendations**

In light of the results reached by the researcher, he recommends the following:

- Adopting the communicative theory strategies because they are compatible with the technologies required in contemporary and future education, and because they are able to activate learning based on the use of modern educational technologies, and accelerate the learning process.
- Designing curricula, especially the general teaching methods course, in a manner inspired by the principles of communicative theory, and trying to expand the training of faculty members in coordination with the continuing education centers concerned with e-learning in universities.
- Forming workshops and drafting educational brochures that confirm and clarify the importance of

communication theory and its strategies in the educational process.

- Building educational designs and programs based on communication theory and its teaching strategies for all university levels.
- Organizing training courses that aim to use the communication theory and its strategies in teaching all courses for all stages.

### **Suggestions:**

- Conducting a similar empirical study related to the effect of communicative theory on different stages (elementary, intermediate, preparatory).
- Conducting a study that reveals the impact of communication theory on other variables such as (computer culture, technology ethics, technological knowledge, scientific skills).
- Conducting a similar study to the current study and its impact on students' tendencies towards learning teaching methods.
- Conducting a study similar to the current study and its impact on the trend towards the use of technical innovations.
- Conducting a descriptive study to identify the level of technological enlightenment among university students.

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