The effect of an educational-learning program based on the theory of triple intelligence on the achievement of the subject of physiological psychology

1 Noor Ali Abdullah, 2 Prof. DAWOOD ABDULSALAM SABRI

University of Baghdad / Ibn Rushd College of Education

ABSTRACT

This research aims to figure out the effect of an educational program based on the theory of triple intelligence on the achievement of the physiological psychology. It adopted an experimental design with partial control, which related to the randomized control group, pre and post test. They intentionally chose the College of Education - Ibn Rushd / University of Baghdad, third stage, and randomly chose Division (A) to represent the experimental group that studied according to the educational program, with (18) students, and Division (B) to represent the control group that studied in the traditional way, with (18) male and female students. The researchers equalized the students statistically with a number of variables. As for the tool, the researchers prepared an achievement test consisting of (40) paragraphs, (30) objective paragraphs, (10) essay paragraphs. They verified the validity and reliability of the test, by extracting the discriminatory strength, the difficulty factor of the paragraphs. They established the key to the correction, and verified its validity by presenting it to a group of arbitrators, then applied them before and after the research sample students. To process the study data statistically and extract the results, the researchers used: (Mann Whitney test for small samples, Wilcoxon test, Pearson correlation coefficient, Ca2 square, and after analyzing the data, the research indicates that there is a statistically significant difference between the students of the two research groups in the achievement test, and in the favor of the experimental group. That program positively affected students' achievement rejecting the null hypothesis.

Keywords: educational learning program, triple intelligence, achievement

Introduction Research problem:

Much criticism has been directed at the low output of university education because of the outdated educational programs in Iraqi universities, the reliance of educational content on handouts and abstracts, and the lack of reliance on advanced educational programs. This results in adopting traditional teaching methods, including the traditional method of lecturing, and assigning students to write research and reports and neglecting the methods that stimulate intelligence of all kinds, which do not correspond to the modern education environment, whose characteristics imposed knowledge and its source is human resource. This led to the inadequate education outputs to meet the needs of society. Today, university education has become low and weak at all levels of study, and this effect is shown by the low level of student achievement and less interest in intelligence, especially triple intelligence, which is a basic and necessary requirement in an era characterized by increasing information and the communication revolution. Triple intelligence is the general entrance to effective cognitive development that allows the individual to use his maximum mental energies to interact positively

with his environment, and to face the conditions of life that are intertwined with interests and demands increase, achieving success and adapting to the developments of this life.

Accordingly, the current research problem emerges in the following question: (What is the effect of the educational program on the theory of triple intelligence on the achievement of the subject of physiological psychology among students of the College of Education, the third stage / Department of Educational and Psychological Sciences / College of Education / University of Baghdad)?

Importance of research:

The researchers believe that modern educational learning programs work to keep pace with the development taking place in various aspects of the school curriculum, to raise the level of learning and the learner's achievement. Research importance lies in targeting poor education as well as means, methods, activities, and organizing content according to the sequence and logical and psychological organization.

Therefore, they built an integrated program, consistent and comprehensive steps, by finding facts and information, exploring alternatives and modern scientific skills that work to attract students' attention, raise their motivation and appropriate direction for the learner's activity and move away from randomness. The practical side was employed through training them to solve real and realistic problems. It requires them to think, intelligently and develop solutions.

Theoretical importance:

1- The importance of educational learning programs, planned and coordinated according to real rules and principles that take into account the interests and tendencies of the learners, lead to enhancing their self-confidence and raising the reality of education and achieving the desired goals.

2- The importance of the triple theory in intelligence (creativity, work and facing situations and difficulties that may face the individual during his dealings and interaction with the environment in which he lives and interacts with leads to a promising investment in the educational field

3- The university stage is the basis for building the future. Through the educational outcomes, a conscious and trained group emerges who are able to solve problems and have the ability to employ learning in various aspects of life.

4- Academic achievement is the backbone of the success of the educational institution and making students able to generate ideas, rebuild ideas, and invest them.

5- Physiological psychology is a science concerned with studying the functions of the organs of a living being.

As for the applied importance of the research, it is as follows:

1- Providing the educational field with a comprehensive survey on the triple theory of human intelligence, which would provide the teachers with distinguished teaching methods.

2- An educational-learning program based on the theory of triple intelligence contributes to the crystallization of the practical aspect and creative intelligence, which is put into place for experimentation through the method of testing the theory and reaching its appropriate application in the field of university learning.

3- Directing teachers' attention to test the strategies included in the program, their suitability and ability to develop creativity, analysis and action.

4- The current study provides a guide for the teacher on how to plan lessons and implement them according to the tripartite theory, enrichment

activities, and their suitability for the subject matter.

Research objective:

The current research aims at the effect of the educational learning program based on the theory of triple intelligence on the achievement of the subject of physiological psychology among the third stage students in the Department of Educational and Psychological Sciences, College of Education - Ibn Rushd / University of Baghdad. In light of the aim of the research, the two researchers put the following null hypothesis:

- ((There are no statistically significant differences at the level of significance (0.05) between the average scores of students of the experimental group who study the subject of physiological psychology according to the educational - learning program according to the theory of triple intelligence, and the average scores of the control group students who study the same material according to the traditional method of achievement test)).

Research boundaries: This research is determined by: - Students of the University of Baghdad, Ibn Rushd College of Education in the third phase, Department of Educational and Psychological Sciences, morning study, for the academic year 2019-2020 AD.

Defining terms:

Effectiveness was defined by (Zaytoon, 2001: 17) as: "The extent to which the outputs of the system conform to its objectives".

Procedural definition: the effect of the educationallearning program according to the theory of triple intelligence on student achievement - the experimental group - the third stage in the physiology subject, measured in the postachievement test.

A Learning educational program - (a structured, coordinated organization according to the foundations and dimensions of the triple intelligence theory, which includes content, activities, exercises and evaluation prepared by the researchers and applied to third-grade students in the experimental group, research sample in the Department of Educational and Psychological Sciences, College of Education, Ibn Rushd - University of Baghdad.

The theory of triple intelligence defined by Abu Jadu (2006:10) as: "A system or group of capabilities used to achieve the goals of the individual in life within the socio-cultural context through adaptation, selection and formation of the environment."

Procedural definition (triple intelligence theory).

The researcher relied on the triple theory upon which the program was built according to its steps, foundations, philosophy, and theoretical and educational principles advocated by Robert Sternberg, which the researcher intends to measure in the achievement of students of the College of Education on the research sample (experimental group).

Physiology is a subject concerned with the study of organ functions taught to third-grade students of the College of Education Ibn Rushd for Human Sciences, and this course consists of (5) chapters, which are as follows: The first chapter of the emergence of physiological psychology and the second chapter (The nerve cell), Chapter Three (Anatomy and Divisions of the Nervous System), Chapter Four (The Endocrine System) and Chapter Five (Agitation).

Theoretical background and previous studies

In this axis, the researchers will review the theoretical milestones from which the basis of this research is to define its general framework, and what the relevant sources and literature have proposed.

The theoretical background Educational-Learning Program

The term "program" is a relatively modern term compared to the rest of the terms that have ancient historical roots. According to (Reber 1952), the program can be defined as: "A plan intended to perform some carefully defined operations designed to investigate any topic pertaining to the individual or the community. It represents an integrated system of educational content in which knowledge. processes, experiences, skills. activities and instructional strategies are organized that direct the improvement of learners 'level of achievement and their abilities in finding appropriate solutions to a problem addressed to them.

The successful program is distinguished in achieving a number of points in terms of its function and nature, which can be clarified according to the following details: 1- In terms of its functions, the program seeks to: A- Clarify the intentions of each subject, i.e. what is needed from the scientific material? How can the learner find solutions to the problems they face?

B- Presenting an organized network of goals and contents. These objectives and contents should meet the needs of the educational community and emanate from it.

C- Facilitating the work of teachers, and these programs are directed to teachers so that they can facilitate and facilitate the transfer of scientific material and achieve the desired goals for learners. 2- In terms of its nature:

The program may include all materials, and it may include some specific academic subjects, or one subject or branch thereof, and this is what we are going to know about the differences that exist between each of the strategy, method, model and other names. In building educational-learning programs, the learner adopts the method or the educational method or procedure included in the program because it leads to the achievement of educational goals. Accordingly, thinking about building educational programs in order to educate young people must be planned, implemented and evaluated according to the foundations in which the educational goals are achieved. These goals should be derived from the reality of the society that emerges from. Selecting the components of the educational-learning program is made in light of its suitability to the developmental needs of learners, the nature of the academic subject, the capabilities and facilities available in educational and environmental institutions and the material and time resources, as well as in light of the specific educational goals. These educational programs include such principles and methods lead to:

1- Encouraging learners to acquire diverse thinking styles.

2- Education is an effective element in the educational process.

3- The difference in IQ levels between individuals makes individual differences, and the program should reduce these differences.

4- Encouraging teamwork methods.

5- The educational community should participate in building programs and stand on the most prominent requirements of the age (parents, learners, specialists in education, the social environment of the learner). 6- Encouraging learners to search, investigate and discover.

7- Developing self-learning methods.

8- The program should be able to acquire the learners the necessary knowledge and skills, as well as be able to provide them with appropriate training, through the best use of available technologies, in order to achieve the desired learning.

9- The period of time it takes is appropriate for what has been learned.

10- The learning experiences be meaningful, exciting and impressive, and interested in the participants to increase their motivation to continue learning and to pursue studies (Al-Hamooz, 2004: 22).

Building the educational-learning program First: The planning phase

It is the process in which the approach is drawn and defined and that should be followed in directing human activity to achieve certain results in a specific period of time. It requires clarification of the objectives sought from the planning process and defining the view that the value of the learner's decision and the relationship between him and the community members. It requires considering the reality of society and the appreciation of the current conditions for it. There is no doubt that defining the goals contributes to the interpretation of the thinking styles of the learners, their motivations, and in the various forms of their behavior. (Salama, 2008: 112).

The planning stage of the educational learning program includes two basic stages:

1- Analysis phase

2- The design and construction stage

Second: The development phase

This stage is an extension of the previous design stage, in which the teaching design is transformed into real materials. At this stage, the classification of education begins according to the categories of learning that define the main and necessary lines, so the new learning takes its place and the learners' evaluation documents are prepared at this stage. The educational program and documents evaluating activities, educational aids and training, and educational materials should be subject to knowing their effectiveness and suitability to the needs of learners. (Al-Hamooz, 2004: 145). **Third: The implementation phase**

The beginning of the actual implementation of the program is represented by the use of the necessary materials and strategies that have been prepared, and the use of all human cadres and educational learning resources to support and enhance the educational process (Zayer and Khudair, 2020: 51). Fourth: Evaluation Process Importance

The evaluation process begins with the beginning of any educational process or any educational program - educational or learning, and continues through the learning process until its end. The evaluation process is the means by which a judgment is made on the extent of the occurrence of learning and this process is always necessary to make a decision to judge the learning process

The previous studies

The researchers made a scientific field tour in Iraqi universities, government libraries, and corresponded with some Arab universities and specialized research centers, via the Internet, to obtain previous studies that have a direct relationship to research variables, in addition to the researchers' knowledge of the journals, periodicals and theses available in Iraq.

Asabab's study (2018): "The effect of an educational program according to the theory of Debono in modifying the patterns of brain dominance among university students." The study aimed to measure the types of brain dominance patterns among female students. It also aimed at building an educational program according to the "Debono" theory of serious creativity. As for Al-Saadi's study (2013): "The effectiveness of an educational program based on the theory of serious creativity in developing the mental motivation of university students." The study aimed to identify the effectiveness of an educational / learning program based on the theory of serious creativity in developing mental motivation among university students. Salman's study (2009): "The effect of an educational program based on the theory of cognitive burden on developing critical thinking skills of female Teachers' Preparation Institute." The aim of the research is to know the effect of an educational program based on - the theory of cognitive burden on developing critical thinking female students of Teacher among skills Preparation Institute. To achieve the goal of the research, the researcher built an educational learning program - based on the theory of the cognitive burden to develop critical thinking skills

among female teachers of the Teacher Preparation Institute. She also adapted the California test for critical thinking skills on the Iraqi environment. As for Qasim's study (2005): "Developing an educational-learning program based on the theory of multiple intelligence and studying its effect on developing critical thinking skills among Jordanian community colleges students." The study aimed to develop an educational-learning program based on the theory of multiple intelligence and study its impact on developing the critical thinking skills of Jordanian community colleges students.

Abu Jaoudeh's study (2004): "The effect of an educational-learning program based on the cognitive burden theory in developing critical thinking skills." The study aimed to identify the effect of an educational-learning program based on the theory of cognitive burden in developing critical thinking skills.

Research methodology and procedures

For the purpose of identifying the effect of the educational learning program on the achievement of the subject of physiological psychology, the researchers followed the quasi-experimental approach in identifying the effectiveness of the proposed program First / Experimental design The more the experimental design is chosen based on the objectives of the study, its variables, and the conditions under which it will be implemented, the more results obtained through analyzing data are more accurate, honest and objective. (Raouf, 2001: 179); Therefore, the researchers adopted one of the designs with partial control, which is the design of a non-random choice control group, and Figure (1) shows that.

Second: Population Research and its Sample

The community of this research consisted of thirdyear students in the departments of educational and psychological sciences in the Faculties of Education for the academic year 2019-2020. The research sample refers to that part that is sufficiently representative of the parent community to allow generalization of its results to it. In order to define the characteristics of that society, it gives the researcher the results at the lowest cost, in the fastest time and effort. The researcher chooses it in different ways according to the problem or phenomenon. Since societies are often large in size, the researcher cannot study the entire phenomenon; therefore, he resorted to selecting a sample from that community (Sabry, 2006: 24). The researchers chose the Department of Educational and Psychological Sciences in the College of Education, Ibn Rushd for Human Sciences -University of Baghdad, because they are in the same department. The researchers found that the third stage in the department includes two divisions, namely sections (A and B) and by the simple random selection method (2), the researcher chose Division (A) to represent the experimental group by (18) male and female students. Division (B) to represent the control group by (18) male and female students also after excluding students who had failed, their number being five, two in Division (A) and three in Division (B). Thus, the number of students of the research sample became (39) male and female students

Experimental design adopted in the research

The traditional program used in teaching physiological psychology.

The researcher wrote the names of the two divisions in two small papers, put them in a bag, and pulled out a paper bearing the name of Division (A) to be the experimental group, and the other paper bearing the name of Division (B) was considered the control group. The sample represents the net number after excluding students who have failed, because the researcher believes that they have previous information that may affect the results of the research. So, the researcher excluded them from the statistical results only, and kept them in class in order to preserve the academic system.

GROUP	INDEPENDENT VARIABLE	INDEPENDENT VARIABLE	TOOL
Experimental	Achievement	Educational program	Achievement test
Control		(1)	

Research	sample	e students	(3)
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Class- Division	Group	No. Students
Third -A	Experimental	18
Third -B	Control	18
	36	Total

Third: Equivalence of the two research groups:

The researcher tried to find statistical equivalence between the students of the two groups of research in a number of variables, so as not to have an effect on the dependent variable, which is achievement alongside the independent variable, which is the educational learning program. The procedures were as follows:

Chronological ages are calculated in months:

2- IQ test scores:

2- Scores of the previous information test:

The researcher prepared a test in the previous information consisting of (50) paragraphs in the type of multiple choice, and applied it to the two research groups before the start of the experiment to know the equivalence between them in the previous information that they possess. After obtaining the grades, she used Mann Whitney test to equalize between the two groups. The results of the research were that there was no statistically significant difference between the two calculated and tabular values for Mann Whitney, as the calculated value (70) was higher than the tabular value. Thus, the two research groups were equalized with this variable.

Third / Controlling extraneous variables (external safety of experimental design)

1. Processes related to maturity 2. Differences in sample selection 3. Statistical regression 5. Measurement tool

Fourth / The Impact of Experimental Procedures:

1. Scientific Subject 2. Class Distribution 3. Instructor 4. Department Building 5. Duration of Experience:

The duration of the experiment was uniform and equal for the two research groups, as it began on Sunday 11/22/2019 and ended on Wednesday 12/2/2020.

Fifth: Experiment Requirements: - Determining behavioral goals: - Teaching plans:

Sixth: Research Tool (Achievement Test):

The following is a detailed explanation of the steps for building the test:

Determine the purpose of the test:

The test aims to measure the achievement of students in the two research samples after teaching them the prescribed chapters of the physiological psychology of the third course in the educational and psychological sciences departments.

Determine test dimensions:

The research is determined by the six levels of knowledge field from Bloom's cognitive classification (knowledge, understanding, application, analysis, synthesis, evaluation).

Determine the number of test items:

The researchers sought the opinions of a number of teachers of the Department of Educational and Psychological Sciences and the opinions of experts after reviewing the behavioral objectives of the content of the prescribed material. It was agreed to define the test items with (40) test items (according to their relative importance) in order to be more representative of the material.

Material content analysis:

It is intended to analyze the content of the subject matter and determine its topics and the vocabulary of each subject that the test will cover. This analysis is based on appropriate divisions in order to ensure that the test paragraphs represent the vocabulary of the material content in a balanced representation in achieving the comprehensiveness of the test (content validity), which is regarded as the most important characteristic of the good test (Majeed 2007: 237).

Accordingly, the researcher analyzed the content of the teaching material into its components of concepts and generalizations, and showed the relative weight of each part of the different topics that were taught in the experiment.

Virtual validity:

The test, in its initial form, along with the list of behavioral purposes, was presented to a group of experts in curricula, teaching methods, educational and psychological sciences in Appendix (1). To verify the criteria for the formulation of paragraphs, scientific accuracy, and the consistency of the paragraphs with their behavioral objectives, in light of the opinions of experts, some paragraphs were amended to reach the final version. This type of validity is also called the veracity of arbitrators, as (Obaidat et al., 1992) believes that it can be calculated by presenting it to experts and specialists. If the experts confirm that the test measures the behavior that was set to measure it, the researcher can rely on their judgment, i.e. the test is valid (Obaidat et al., 1992: 164).

Exploratory application of the test:

The first exploratory application:

In order to reveal the clarity of the test instructions, the clarity and wording of its paragraphs and the time it takes to answer the test, the researcher applied the test to an exploratory sample consisting of (20) male and female students from the research community in the Department of Educational and Psychological Sciences in the College of Education at Al-Mustansiriya University. The researcher noticed that the answer instructions and the test items were clear and the average response time for students was (50) minutes.

The second exploratory application of the analysis of the test items:

The analysis of the test items is intended to extract the factors of difficulty, ease and coefficient of distinction, the validity of the test items, and determine the effectiveness of the wrong alternatives (Al-Kubaisi, 2007: 168).

After the researcher ascertained the clarity of the test and its instructions, she applied the test again to a sample of (100) male and female students from the Department of Educational and Psychological Sciences in the College of Education at the University of Wasit. The students were informed by the test time before a week. The researcher herself supervised the application, then the grades arranged the answers in descending order, and (27%) chose a higher group, and (27%) a lower group. Anastasia, 1988: 209).

Eighth / statistical means

The two researchers used the social statistical bag (SPSS) to process the study data and extract the results.

Presentation and interpretation of the result:

The research hypothesis stated that:

(There is no statistically significant difference at the level of 0.05 between the average achievement scores of the experimental group students who study on the educational learning program and the average achievement scores of the control group students who study according to the traditional program in the achievement test)

To verify the validity of the hypothesis, the researchers used the Mann-Whitney test, as the results indicated that there is a difference between the average grades of the experimental group students of (495). The average ranks of the grades of the control group students of (176), where the calculated value was (zero) less than the tabular value, and this indicates the existence of a statistically significant difference between the students of the two research groups in the achievement test, and in favor of the experimental group. The educational program had a positive effect on students 'achievement. In so doing it rejects the null hypothesis.

Conclusions

In light of the results presented above, the researchers concluded the following:

1. The educational program has proven effective in increasing the achievement of third-stage students in the educational and psychological sciences departments in the subject of physiological psychology.

2. The possibility of teaching with proposed programs according to the theory of triple intelligence, describing triple intelligence as a lengthy intellectual process, and an integrated system, with its foundations, principles, skills, and practices, in our educational institutions and with the available capabilities.

Recommendations:

1- Presenting students with educational material in the form of problems affecting their lives, which encourages finding creative solutions that increase achievement.

2- Moving away from stereotypical teaching and from the method of indoctrination used in educational institutions to the use of programs that develop students' skills of various kinds.

Suggestions

1- Conducting a study to know the effectiveness of the educational-learning program in other variables such as: practical intelligence, creative intelligence, problem-solving, conceptual investigation, visual intelligence, etc.

2- Conducting a study to know the effectiveness of an educational-learning program according to the theory of triple intelligence in developing teaching skills.

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