



THE EFFECT OF USING THE 5E'S FIVE-YEAR EDUCATION MODEL ON THE ACHIEVEMENT OF STUDENTS IN THE FOURTH STAGE OF PSYCHOLOGY

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Abstract

In our research, we present the effect of adopting the five-year study model in the College of Humanities and Education, Tikrit University, on the academic performance of fourth-year students. The research sample consisted of (30) students, including (15) students in the experimental group and (15) students in the control group. Both groups were rewarded. The variables of chronological age, parents' educational attainment, and third-stage averages for psychology. Equivalence was done using the chi-square statistical method. After equivalence was conducted, the researcher applied an achievement test, where its validity was verified by presenting it to a group of experienced and specialized people. After that, behavioral objectives were formulated for the psychology topics for the first three semesters scheduled to be taught to the experimental and control groups. Reliability was also extracted. The test.

Based on the split-half method and using the Pearson correlation coefficient, the reliability result was 0.85. The researcher also prepared study plans. The first study plan was according to the five-year learning model, which was taught to the experimental group, while the second study plan was according to the standard method, which was taught to the control group. Using statistical methods, the results of the experiment were extracted, as it was found that there was a statistically significant difference in the final achievement test in favor of the experimental group.

Keywords: five-year education, student achievement, psychology.

المستخلص

في بحثنا هذا، نبين اثر استخدام أنموذج التعلم الخماسي في التحصيل الدراسي لدى طلبة المرحلة الرابعة كلية التربية للعلوم الانسانية جامعة تكريت، تألفت عينة البحث من (30) طالب بواقع (15) طالب في المجموعة التجريبية و(15) طالب في المجموعة الضابطة، كوفئت المجموعتان في متغيرات العمر الزمني والتحصيل الدراسي للوالدين، ومعدلات المرحلة الثالثة لمادة علم النفس. حيث تمت المكافئة باستخدام الوسيله الاحصائية مربع كاي وبعد اجراء التكافؤ طبق الباحث اختبار التحصيل حيث تم التحقق من صدقه بعرضه على مجموعه من ذوي الخبرة والاختصاص وكانت وبعده تم صياغه الأهداف السلوكية الخاصة بمواضيع مادة علم النفس للفصول الثلاثة الاولى المقرر تدريسها للمجموعتين



التجريبية والضابطه كما تم استخراج ثبات الاختبار ، وباعتماد طريقة القسمة النصفية وباستخدام معامل ارتباط بيرسون كانت نتيجة الثبات 0.85. كما قام الباحثون بصياغة خطة تعليمية، كانت خطة التعلم الأولى لتعليم المجموعة التجريبية وفق نموذج التعلم الخماسي، وخطة التعلم الثانية لتعليم المجموعة التجريبية وفق الطريقة الاعتيادية. مجموعة التحكم. واستخدمت الأساليب الإحصائية لاستخراج النتائج التجريبية، وتبين وجود فروق ذات دلالة إحصائية في الاختبار النهائي لصالح المجموعة التجريبية.

الكلمات المفتاحية: التعليم الخماسي، تحصيل الطلبة، مادة علم النفس

Research problem:

Given the changes in the psychology curricula in the fourth stage, coupled with the researcher's objective view of the reality of teaching psychology, the researcher reviewed the research, literature, fourth-stage professors, and reports of education experts. Most students have difficulty accepting psychological concepts during this transition to a new major. Platform. In addition to the poor performance of students in psychology, the researcher believes that subject teachers are still using traditional methods despite changing the content, which constitutes a burden on students to achieve the goals of teaching psychology. The researcher adopted the 5E constructivist learning model because it is suitable for teaching psychology and focuses on the cognitive environment and its effectiveness in thinking skills. Providing learners with many concepts in psychology. The model is derived from constructivist theory, one of the cognitive theories of learning that helps provide learners with concepts, experiences, and information. The model also plays a vital role in enabling learners to collect information and find solutions to problems, then discuss standard solutions, study the possibilities of applying these solutions scientifically, and evaluate them (Ibrahim, Magdy Aziz. 2003: 850).

In summary, the problem of the current research is the necessity of experimenting and applying a teaching model through which the researcher hopes to achieve effective learning, make students more involved in the educational process, increase their thinking, and assist them. Master some psychology concepts and help improve their psychology grades. Applying the 5 E model may be one of these approaches and techniques that can help achieve more effective teaching, eliminate difficulties among students, and improve students' performance and thinking levels.

Through the researcher's observation of the differences between traditional teaching methods and modern teaching strategies and methods, the research questions can be formulated in the following questions:

The research aims:-

The study aimed to determine (the effect of adopting the five-year education system on the performance of fourth-year students in psychology).

Research hypothesis:-

There is no significant difference at the significance level (0.05) between the average scores of students who learned using the five-year teaching method (students in the experimental



group) and those who learned using the five-year teaching method (students in the experimental group and the control group). Standard methods used in achievement testing in psychology.

Search limits:-

The current research is limited to:

- 1- A sample of fourth-year students in the Department of Psychology, College of Education for Humanities. At Tikrit University
- 2- The first semester of the academic year (20024-2023).
- 3- Chapters (first, second, and third) of the psychology book are scheduled to be taught for the fourth stage.

Definition of terms:-

First/constructivist education:

1- Maximus defines it as a cognitive example that focuses on providing appropriate opportunities for students to create their concepts and knowledge, and it is separated into four stages: the advocacy stage, the exploration stage, proposing solutions and explanations, and the application or action stage (Maximus, 2001, p. 55).

Transactional definition: An instructional model directs learners to arrange previously mastered information and subsequent information into cognitive structures to understand concepts.

Second: Five-Year Learning: The five E's Model 5E's

1- I Knew Him (Amal Gomaa Abdel Fattah, 2010).

It is "a teaching model known as the Bybee model, which is based on constructivist philosophy and consists of five stages, each of which begins with the letter E. These stages are (preparation, exploration, explanation and interpretation, expansion, and evaluation)."

2- Arafah (Al-Kurd, 2009):

"A teaching model consisting of five teaching stages (steps), which the teacher uses with his students inside or outside the classroom or laboratory. It aims for the student to build his scientific knowledge on his own. This model relies on works to excite students and attract their attention, exploration, explanation and interpretation, expansion, and evaluation. Stage.

3- Arafah (Coe 2001):

"Bybee created an inquiry lesson planning template and used it in BSC science projects. It comprises five stages: sharing, discovering, clarifying, expanding, and evaluating. (Coe, 2001, p. 11)

Procedural definition: It is a teaching model based on constructivist theory. This model was taught to the fourth-grade scientific students in the experimental group, and the five steps were implemented (preparation, exploration, explanation and interpretation, expansion, and evaluation).



Third: Collection

1-Arafa (Obaid, 2004)

It is “what students acquire in terms of knowledge, skills, thinking methods, and problem-solving abilities as a result of studying a course” (Obaid, 2004, 307).

2- Arafah (Fakher, 1988)

It is ((the level to which a school learner or someone else reaches, determined by the teacher or standardized tests)) (Fakher, 1988, 12).

Procedural definition: - The grade the student obtains after receiving information about psychology.

Constructivist learning strategy:

Characteristics of strategies that rely on constructivist theory:

- 1- Learners are not viewed as passive or influential people but as having absolute responsibility for their education.
- 2- The learning process requires the learner to play a role and requires an active meaning-construction process.
- 3- External knowledge is not designed to be known but is stored individually and collectively to create lasting poetry.
- 4- A teacher brings their ideas to an educational situation, not only their knowledge of a particular subject but also their views on teaching and learning, which affects classroom interactions.
- 5 Teaching not only imparts knowledge but also includes designing teaching situations and arranging tasks conducive to learning. (Abdel Sabour, 2004: 43).

The 5E's learning strategy

Roger Bybee developed the teaching model based on the constructivist philosophy into a new model called the Bybee Constructivist Learning Model, which consists of five stages, each beginning with the letter E. He called it the “Five E’s” model for these stages. This teaching model focuses on integrating students into the subject of the course by placing students in situations involving new issues and urging them to participate in them, to carry out some activities to answer questions, and to discover new issues through them. Activities. Ideas, interpreting and formulating them, and then implementing activities related to the new ideas they have learned so that these activities are designed to expand or deepen their learning of these ideas and to help them transfer the impact of their learning to new situations and, ultimately, to reinforce what they have learned about the topic in terms of ideas, skills, and attitudes. (Amal Jumah. 2010, p. 167)

The 5E's learning model stages

1- Engagement stage:

Stimulate students' motivation and interest by asking them questions that include new knowledge of concepts, generalizations, skills, and problems. This attracts students' attention and invites them to learn and develop thinking skills through problem-solving and



participating in activities. Urge them to research to solve problems related to students' activities and previous experiences. (Dawood, 2003).

This happens at this level and involves typical discussion activities with small groups of students to exchange opinions, stimulate reflection, and draw their attention to the educational tasks. (Cesi, 2001, p. 4)

2- Exploration stage: Explore

The exploration stage is student-centered learning, corresponding to Piaget's achievement stage, resulting in psychological imbalance. This stage requires students to explore activity ideas in small groups (Martin et al., 1994, pp. 194-195). Students are also encouraged to work together without the direct guidance of a teacher. You observe, ask questions, and study concepts to gain basic knowledge of related ideas. You have the opportunity to collect information. You need to gather this information, discuss the results, and make a decision. Students also record their observations and thoughts and take their time making decisions. (Farmers, 2002, p. 3).

Activities at this stage should also significantly stimulate students' curiosity so that students can develop an understanding of mathematical concepts. (Al-Sabbar, 2001, p. 6)

3- The explanation and interpretation stage: Explain

Please encourage students to use words and phrases to explain concepts and definitions. Here, students must provide evidence through their experiences and begin (engage), (explore) and engage. This reflects the importance of language, communication, and communication. The teacher's role is to guide and support student learning, clarify students' ideas, explain misunderstandings, provide examples of skills, suggest additional experiences, and make everything clear and understandable until the balance is achieved. (Al-Khafaji, 2011, p. 38).

4- Expansion stage: Elaborate

In this stage, teachers provide students with activities related to new knowledge (concepts, principles, etc.) acquired in the previous stage and remind them to clarify misinterpretations or alternative explanations. (Loorsdach, 2002, p. 2).

To extend or deepen their learning of this knowledge, help them transfer the impact they have learned to new situations, apply this knowledge to solve real-world problems or problems relevant to their real lives, or use it to motivate students to learn. An activity is usually chosen through which decisions are made. Specifically related to a person or more than one group work exercise, the teacher's role in this stage is similar to his role in the exploration stage. (Amal Jumaa, 2010)

5- Evaluation stage: Evaluate

The five-stage learning cycle model allows teachers to monitor students' learning and supervise their use of questions during discussions (Saguaro, 2001, p. 6).



Different learning outcomes are assessed for students receiving constructivist learning strategies by encouraging them to evaluate their understanding and abilities. It also allows teachers to evaluate students' progress toward educational goals. The role of the teacher is to use a range of assessment procedures to judge the extent to which students have acquired knowledge, skills, and understanding. Sciences. (Coe, 2001, pp. 1-11).

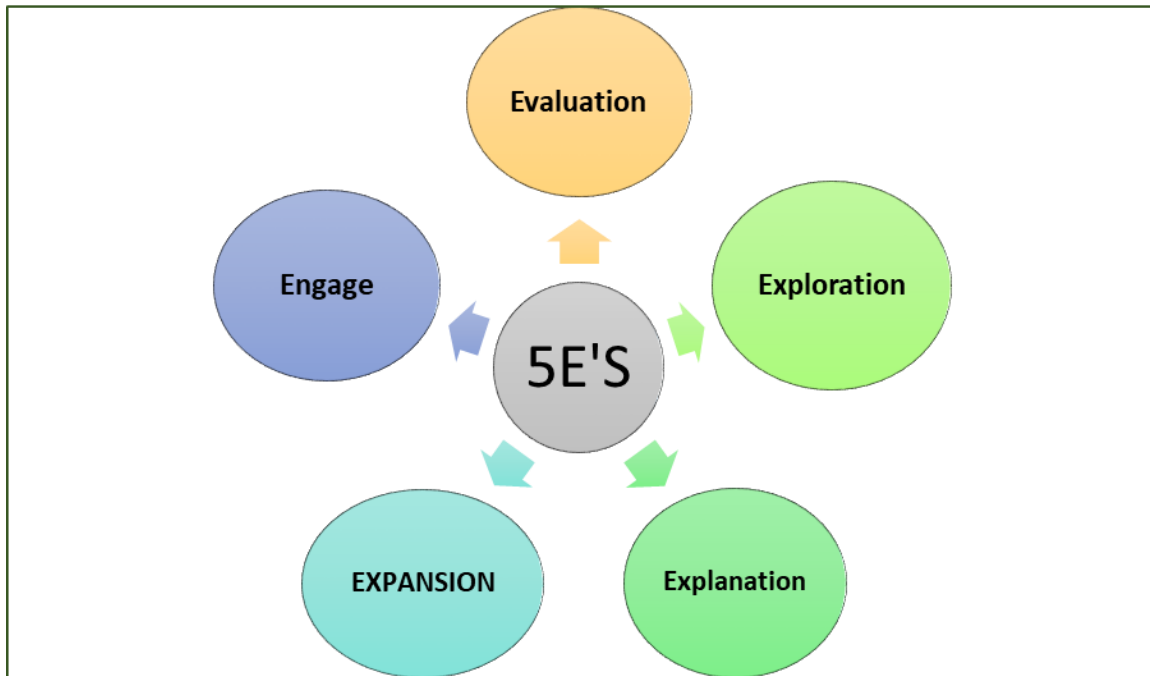


Chart (1) Stages of the Learning Cycle (5E's)

The importance of using the constructivist learning model

Using the constructivist learning model in the learning process brings many benefits to students, including:

- 1- Develop positive attitudes among learners toward science, science, and social issues.
- 2- It allows learners to practice essential and integrated scientific processes.
3. It helps develop students' scientific thinking.
- 4- It allows learners to think of the most significant possible number of solutions to a problem.
- 5- It gives the learner a fundamental role in the learning process.
- 6- It links science and technology and allows learners to meet intellectuals.
- 7- It makes the learner the focus of the educational process. Learners discover, research, and carry out activities
- 8- It provides learners opportunities for discussion and dialogue with colleagues and teachers.
- 9- It takes into account individual differences among learners.
- 10- This model links science with reality.
- 11- Corrects misunderstanding of concepts and information and develops research and reading skills.
- 12- Developing the spirit of cooperation among learners.



13-Developing students' critical thinking skills.

14- Learners acquire correct conversational language through discussions with each other and with the teacher. (Jihan Al-Sayyed and Fawzia Al-Dosari, 2003,: 95-96)

Study procedures

First: The research community:

The current research community comprises the Department of Psychology, College of Education for Humanities, and Tikrit University.

Second: Sample:-

The Department of Psychology was intentionally chosen for the following reasons:

The Psychology Department cooperated with the researcher to implement the steps of the experiment.

Collaboration with a professor of psychology.

Stability and regularity of attendance since the beginning of the academic year.

The stage contains (30) students in the fourth stage in the Psychology Department, divided into two parts. Part (A) was chosen randomly to represent the experimental group, consisting of (15) students, and Part (B) was chosen to represent the control group, consisting of (15) students as well.

Third: Experimental design

Experimental design refers to the plan and working procedures for how to experiment. Experimentation refers to mapping the conditions and factors of the phenomenon under study in a specific way. To achieve the objectives of the current study, an experimental design was chosen consisting of two equal experimental and control groups as follows (Daoud, Aziz, et al., 1990).

Table (1) Experimental design for the experimental and control groups

the group	Independent variable	Dependent variable	Dependent variable scale
Experimental group	5E's Education	-Collecting psychology	- Achievement test
Control group	The usual method		

Fourth: Equality of groups:-

Equality was conducted between the two study groups to control variables that may affect the experimental results through interaction with the independent variables. These variables include:

- 1- The chronological age of the applicant, calculated in months.
- 2- General average grades for the third stage of the academic year 2023-2024.
- 3- Grades for the psychology subject for the third stage of the academic year 2023-2024.
- 4- Intelligence test.



5- The father's academic achievement and the mother's academic achievement.

The Mann-Whitney test is an experiment on two equal independent samples to determine the significance of the differences in some of the variables mentioned before the experiment, extract the calculated values for the variables from them, and compare them with the table values. The equivalence of the two groups was verified, and for some other variables, a chi-square analysis was performed, and their values were extracted, compared, and verified. From their equivalence through a spreadsheet, as follows:

Table (2) Equivalence of the experimental and control groups

No.	Variables	Man-Whitney calculated value	Tabular value
1	The chronological age of the applicant is calculated in months	0.43	2.021
2	General average grades for the third stage of the academic year 2023-2024	1.4	
3	Grades for the psychology subject for the third stage of the academic year 2023-2024	1.45	
4	IQ test	1.70	
	Variables	Chi-square	Tabular value
1	Father's academic achievement	7.6	11.07
2	Mother's educational attainment	8.51	

Fifth: Experiment requirements

5-1 Determine the content of the article:-

The subjects to be taught for the learning samples in the first semester have been determined, so they include some of the topics of the first, second, and third semesters from the psychology textbooks prescribed for this stage, per the five-year education stage 5E. These topics are as follows:-

5-2 Setting behavioral goals

Behavioral objectives were identified, distributed at three levels (memory, comprehension, and application), and presented to several arbitrators and experts to determine the clarity and accuracy of their formulation and the extent to which they contain specific goals and objectives. The content of educational materials and determining the level at which each item is measured. These procedures resulted in the distribution of behavioral objectives.

Sixth: Research tools:-

To achieve the research objectives, the researcher used the following tools:

1- 6 achievement test

The researcher prepared an achievement test for the psychology subject, as this test aims to measure the extent of their academic achievement of the topics related to the first, second, and third chapters of the psychology textbook scheduled for the fourth stage of the



Psychology Department. This test consists of (30) items. The researcher applied the test to a random sample consisting of (100) students from the fourth stage in four universities in Baghdad (Iraqi University, Al-Mustansiriya University, Al-Nahrain University, and the University of Baghdad) to find the following:

A - Validity of the test

The achievement test was presented to a group of experienced psychology professors to ensure its validity and suitability for students in the fourth stage. The percentage of agreement on the validity and scientificity of the test was 85%.

B- Test stability

The stability of the test means that the test gives the same results if it is repeated on the same individuals under the same conditions (Al-Dulaimi and Al-Mahdawi, 2005, p. 128). By relying on the law of the Pearson correlation coefficient, the stability of the test was extracted, which reached a value of (0.86). This indicates that the reliability coefficient is sufficient for measurements on the study sample.

Seventh: Statistical methods

Due to the small sample, nonparametric statistical methods were used, as listed below, to reach the results of sample equality (experimental group and control group). It was also used to reach the results of the experiment between the experimental and control groups, as follows: -

- 1 - Mann-Whitney test for two independent samples.
- 2- Pearson correlation coefficient.
- 3- Chi-square

Results

1- Results related to the null hypothesis

The arithmetic mean and standard deviation was calculated for the two research groups (experimental and control) in the achievement test, and then the maintenance was extracted for two independent samples in their respective conditions, as shown in Table (3): -

Table (3): The arithmetic mean, standard deviation, and t-value calculated in the achievement test for the two study groups (experimental and control)

The group	Number of students	Main	standard deviation	Calculated Mann-Whitney value	Tabular value
Experimental	15	60.230	21.825	3.13	2.056
control	15	58.384	16.505		



We note from Table (3) that the arithmetic mean of the grades of the students in the experimental group is (60.230) and the standard deviation is (21.825). The arithmetic mean of the student's grades in the control group is (58.384), and the standard deviation is (16.505). By conducting the Mann-Whitney test on two independent samples, it was found that the calculated Whitney value was (3.13), which means that this value is greater than the tabulated value (0.05) at the significance level, which indicates the existence of a relationship with a statistically significant difference in the achievement test. This difference is in favor of the test group.

Conclusions:

From the results obtained, the following can be concluded:

- 1- Adopting a five-year education in teaching can achieve many goals in the educational process because it makes every student the focus of the educational process.
- 2- Five years of education help students develop different forms of thinking through five steps, giving students the opportunity for discussion and dialogue with colleagues and the university.
- 3- A five-year education is essential in enhancing self-confidence among fourth-stage students through their active role in the educational process.

Recommendations

Inferred practical research recommendations could include the following:

1. Applying the five-year education model: Using the five-year education model as an effective tool to improve the psychological performance of fourth-year students. The five stages of learning can be used to design courses and employ teaching strategies that encourage students to think critically and activate knowledge.
2. Developing teaching skills: Motivating teachers to develop teaching skills and effective communication with students. These skills may include using interactive technology, engaging students in learning, and providing effective responses and support to student needs.
3. Diverse assessment methods: Providing diverse and comprehensive assessment methods to assess students' psychological performance and understanding. Student achievement can be measured comprehensively using tests, projects, presentations, discussions, and other assessment methods.
4. Promoting interaction and cooperation: Encouraging student interaction and enhancing work group cooperation. This can be achieved through interactive activities, group discussions, and collaborative projects to enhance interaction and develop teamwork skills.
5. Linking science with practical applications: Strengthening the link between theoretical concepts in psychology and their practical applications in daily life. Examples, practical applications, and current research can be used to illustrate the relationship between theoretical concepts and practical applications in students' lives.



6. Providing academic support and guidance: Providing academic support and guidance programs for students during review and preparation for exams and projects. These programs may include review meetings, personal consultations, workshops, and mentoring.

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Supplement:

Module: Psychology General Objective:

To provide students with a comprehensive understanding of psychology and its applications in everyday life. Scientific content: 1. Introduction to Psychology:

- Definition of psychology and its importance.
 - Historical development of psychology.
 - The main branches of psychology.
2. Neuropsychology:
- The nervous system and its functions.
 - The influence of neurological factors on human behavior.
 - The relationship between the brain and behavior.
3. Social Psychology:
- The influence of society and culture on human behavior.
 - Social relationships and social interactions.
 - Social factors in the formation of personal identity.
4. Applied Psychology:
- Educational psychology and its impact on the learning process.
 - Practical psychology and its applications in the fields of work and professions.
 - Health psychology and its importance in maintaining mental health.
5. Practical and applied activities:
- Conducting experiments and practical exercises to understand psychology concepts.
 - Discuss real situations and problems and apply the principles of psychology to solve them.
 - Conducting research and applied reports in different fields of psychology.
- Teamwork and interaction with colleagues to enhance learning. ...