

أثر استراتيجية الرؤوس المرقمة في تنمية التفكير التأملي لدى طالبات الصف الاول المتوسط
في مادة اللغة الانكليزية

الاسم :م.م غادة عبد الستار احمد
(مديرية تربية نينوى /ابتدائية يارمجة للبنات)
التخصص : طرائق تدريس اللغة الانكليزية

البريد الإلكتروني Email : ghadaabdulsatar22@gmail.com

الكلمات المفتاحية: استراتيجية، الرؤوس المرقمة، التفكير التأملي، اللغة الانكليزية، المرحلة المتوسطة.

كيفية اقتباس البحث

احمد ، غادة عبد الستار ، أثر استراتيجية الرؤوس المرقمة في تنمية التفكير التأملي لدى طالبات الصف الاول المتوسط في مادة اللغة الانكليزية، مجلة مركز بابل للدراسات الانسانية، تشرين الثاني 2025، المجلد: 15 ،العدد: 6.

هذا البحث من نوع الوصول المفتوح مرخص بموجب رخصة المشاع الإبداعي لحقوق التأليف والنشر (Creative Commons Attribution) تتيح فقط للآخرين تحميل البحث ومشاركته مع الآخرين بشرط نسب العمل الأصلي للمؤلف، ودون القيام بأي تعديل أو استخدامه لأغراض تجارية.

مسجلة في
ROAD

مفهرسة في
IASJ



The effect of the numbered heads strategy on developing reflective thinking among first-year intermediate school students in the English language subject

Research submitted by

Name: M.M. Ghada Abdul Sattar Ahmed

Workplace: (Nineveh Education Directorate / Yarmejah Elementary School for Girls)

Specialization: English Language Teaching Methods

Keywords : Strategy, numbered heads, reflective thinking, English language, intermediate stage.

How To Cite This Article

Ahmed, Ghada Abdul Sattar , The effect of the numbered heads strategy on developing reflective thinking among first-year intermediate school students in the English language subject, Journal Of Babylon Center For Humanities Studies, November 2025, Volume:15, Issue 6.



This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

ملخص البحث

يهدف البحث الحالي التعرف على أثر استراتيجية الرؤوس المرقمة في تنمية التفكير التأملي لدى طالبات الصف الاول المتوسط في مادة اللغة الانكليزية، واستخدمت الباحثة التصميم التجريبي ذا المجموعتين ادهما تجريبية والأخرى ضابطة، وتكونت عينة البحث من (65) طالبة من طالبات الصف الأول المتوسط من متوسطة صنعاء للبنات الكائن في الجانب الايسر من مدينة الموصل، واستكملا لمتطلبات البحث صاغت الباحثة فرضية صفرية، وبعد اعداد الخطط التدريسية قامت الباحثة بأجراء التكافؤ بين مجموعتي البحث لعدد من المتغيرات، كما قامت الباحثة بأعداد اختبار للتفكير التأملي المكون من (25) فقرة موضوعية وبعد التأكد من صدقه وثباته إذ بلغ (0,86)، قامت الباحثة بأجراء الاختبار بعدياً، وبعد تحليل البيانات احصائيا باستخدام برنامج الرزم الاحصائي ال (SPSS)، توصلت الدراسة الى مجموعة من النتائج أهمها وجود فروق دالة احصائيا في اختبار التفكير التأملي لصالح المجموعة التجريبية.

Abstract:-

The current research aims to investigate the effectiveness of Kolb's model in developing deep comprehension skills among fourth-grade primary school students in the English language subject. The researcher adopted an experimental design with two equal groups. The research sample consisted of (56) students, with (28) students in each group. To achieve the goal of the research, the researcher prepared a test for deep comprehension skills, and the researcher verified its validity, discrimination, and reliability, which reached (0.886). In its final form, it consists of (30) thematic items (multiple choice), and after processing the data statistically using the SPSS statistical package system, the results showed the superiority of the experimental group that studied using the Kolb model over the control group that studied using the usual method.

First - The Research Problem:

The job of an English teacher is not just to impart what is included in the English language book to the students, but rather it is a cumulative building of information and emotional and social skills. The teacher's job is to teach the student how to think and apply what he has learned in life, and to employ the information he has acquired in solving the problems he encounters, and to develop a love for the English language subject and instill in her a love of knowledge through his love for the teacher and the practical method he follows..

The problem of the current research is that the teachers English language Many of them still follow teaching methods and techniques that depend on memorization and rote learning, and thus the teacher is the focus of the educational process and the teacher is a recipient of information and skills, and thus his role becomes negative, which leads to him feeling bored and lacking interest in the lesson. All of this leads to forgetting what the student has learned after he has a stock of information without investing it or connecting it with each other, which does not contribute to benefiting from it well in his daily life, which is reflected in the decline in students' understanding of the English language subject. From the above, it can be said that there is an educational problem related to teaching English for the fourth grade of primary school, which is negatively reflected in the low level of understanding among students. Therefore, the researcher seeks to use modern educational models in teaching English, as the model is one of the clear and limited models. It is one of the models of analogies emerging from methods of learning thinking, especially creative thinking derived from the constructivist philosophy, which is based on facilitating unfamiliar abstract concepts that may contribute to raising the level of academic understanding of the student,



thus leading to increased understanding of the material and helping in addressing some of the difficulties and problems facing teachers, male or female. And students alike, and in light of the above, the problem of the current research can be formulated with the following question : what The effectiveness of Kolb's model in developing deep understanding skills among fourth- grade primary school students in the English language subject ?

Second: The importance of the research

God Almighty has blessed man and distinguished him from other creatures with the gift of reason, thought and understanding . He has subjected him to lead creation to build a better life throughout the ages extending from the beginning of humanity to the present day. His scientific and cognitive achievements were based on defining goals, charting the path and setting plans that are easy to achieve through the process of thinking, which leads to drawing the future features of a better life. If we return to the Holy Quran, we will find the preponderant evidence that confirms the importance of thinking in the life of the individual as the nucleus of the family and the family is the nucleus of society. God Almighty said in His perfect Noble Book: ((And He has subjected to you whatever is in the heavens and whatever is on the earth - all from Him. Indeed in that are signs for a people who give thought.)) Surat Al-Jathiya - verse 13). (Attia, 2015: 29-30))

Accordingly, the current century has witnessed a great interest in teaching the English language . The interest of all peoples has focused on the methods of teaching it and their diversity due to the nature of the English language subject , which depends on scientific thinking and understanding for the purpose of achieving educational goals in particular and the goals of society in general. It has worked to develop the content, teaching methods and techniques, evaluation methods and the process of assessing both the learner and the teacher who teaches the subject.

(Ambo Saidi and Al Balushi, 2018: 12)

depends on how individuals prepare themselves educationally and pedagogically, and there is growing interest not only in education itself, but also in education that prepares the individual and society for the realities and dynamics of the era of the third technological revolution, which relies on advanced scientific knowledge . (Al-Juwaili, 2001: 96)

Therefore, education is an organized and purposeful process that aims to prepare the individual to live a happy life in the society, environment and era in which he lives, according to planned teaching, learning and training programs and processes intended to provide him with experiences under the supervision of educational institutions and their cooperation with the

family, society and its social, political and media institutions. It is based on the needs of the individual and the society in which he lives and the requirements and developments of the era (Attia, 2013: 25)

The concept of education has been linked to teaching and education has become an integral part. From education and its means, as it was considered its important tool for achieving its goals is the educational institutions it possesses that provide the learner with sound thinking, enabling him to interact with the environment in which he lives and surround himself with a wealth of knowledge and science. (Al-Azzawi, 3:2012)

In order for education to be able to meet the needs of education, it must face many challenges to prepare a new type of learners capable of meeting the requirements of the present time. And the future, through building modern curricula that keep pace with our modern era. (Marai and Al-Hila, 13:2007)

In order for education to achieve its educational objectives well in society, there must be a curriculum that keeps pace with societal developments, because the curriculum is the main axis of the educational process. The curriculum is the effective means among the various learning methods that translate educational philosophies and policies into the reality of life, which is translated into the curriculum. It is the mediating element between the teacher and the student, and represents in itself the set of required and desired behaviors . (Al-Zand and Obaidat, 2010: 17)

Therefore, curricula are the means adopted by education to prepare individuals and realize the hopes and aspirations of society for its children, so that they have the opportunity to perform their roles in all fields. This can only be achieved by working to activate their mental processes and making them rely on their own minds, not on the minds of others, if continuous renewal is to be achieved in the educational process. (Jaber et al., 2001: 39-40)

English language curricula are the primary field of study for humans and their relationship with both the natural and human environment. They are also an important field that contributes to providing learners with information and facts about their country, the nature of life, and the social relationships between individuals in their own society and other societies. (Qatami, 2013: 119)

The second half of the twentieth century witnessed radical changes in curricula and teaching methods in general, and in English language curricula and teaching methods in particular, in most countries of the



world. In Arab countries, modernization began in the primary stage in the early 1970s and extended to the primary stage.

(Abu Zeina and Ababneh, 24:2007)

It is considered English is a contributor to any scientific progress , and is one of the most important and vital subjects, as it contains concepts and skills that help learners think properly to face different situations, as it occupies a prominent position among other subjects. For requirements Many, the most important of which is that studying it contributes to developing the linguistic thinking and mental abilities of its students and provides them with certain skills that help them study other subjects, in addition to its direct or indirect applications in various life situations. (Farah, 2003: 47)

Since teaching methods and techniques are of paramount importance in language learning and retention, it is necessary for the teacher to be familiar with general and specific teaching methods and with effective methods and models that aim to increase educators' awareness of how to teach students, engage them in the lesson, motivate them, and increase their love for the subject. Among these educational models is Kolb's model , which is based on general systems theory. Its idea is that the teacher is the designer of the educational situation, sets teaching strategies, organizes work groups, determines the time required for each strategy and its distribution, allocates the space, prepares its capabilities, and organizes it, as well as selects learning resources. He also works with evaluation, whether formative or summative. In light of the latter, the extent to which the objectives of this situation have been achieved can be inferred through feedback and analysis of the results obtained from the final evaluation (Abu Sarhan, 2006: 134).

Despite this interest in teaching English , traditional methods and approaches that rely on memorization and indoctrination remain the focus of teachers' educational process. These teaching methods accustom students to listening and receiving, and discourage them from the spirit of research, investigation, creativity, thinking, analysis, and deduction. (Al-Khalayleh, 2016: 36)

Therefore, many educational projects have focused on deep understanding as one of the learning outcomes aimed at achieving for students. One such project is Project Zero, launched by the Harvard Graduate School of Education years ago. This project is based on the philosophy of learning to understand. The results of extensive research in this project have indicated that a normal level of understanding is lacking among many students, even among the best students who appear to understand the material taught in class. A large percentage of these

students fail to achieve the levels of deep understanding of the material taught in class, despite their high scores on school exams.

(Abdul Latif et al., 2020: 323)

There is no doubt that deep understanding is a mental process that goes beyond the learner's superficial knowledge to indicate exploring the depths of the learner's thinking in an integrated, multidimensional, and complex manner within his conceptual framework. The apparent perspective of deep understanding is attributed to the role of the student himself, but the teacher has two important roles: the first: presenting new ideas and strategies to students in an interactive manner, providing support and guidance while providing the appropriate educational environment. The second role: is represented in revealing and diagnosing the depth of knowledge available to the student and what he already knows, revealing the means by which activities are interpreted, and exploring to form a further and deeper understanding . (Al-Jahouri, 2012: 28)

Therefore, it has become necessary to conduct studies and experimental research to apply modern teaching methods that make the student the focus of the educational process. The researcher chose the fourth grade of primary school as the field of her research, as it is part of the primary stage , which is the cornerstone in refining and developing students' talents , adding some experience in the scientific and cognitive field, and instilling in them the values of society, its cultural patterns, behaviors and ethics. One of the most important characteristics of this stage is the student's ability to practice mental processes and understand what they read, and to interpret, analyze, criticize, evaluate and issue judgments on the results.

Based on the above, the importance of the current research is represented by :

1-To the researcher's knowledge, this is the first study that has addressed Kolb's model of deep comprehension skills among primary school students in the English language .

2-The importance of the study is highlighted by the sample that the researcher studied, which is fourth -grade primary school students, who represent the dividing line for moving from the oral examination stage to the written examination stage and studying other academic subjects in addition to the academic subjects that were studied in the first three grades .

3-It represents a modest scientific addition to the library of educational and psychological sciences, which researchers in this field can use .





Third: Research objective

The research aims to identify " The effectiveness of Kolb's model in developing deep understanding skills among fourth- grade primary school students in the English language subject .

Fourth: Research hypothesis

To achieve the research objective, the following hypothesis was formulated: "There are no statistically significant differences at a significance level of (0.05) between the mean difference (development) of the scores of the experimental group taught according to Kolb's model and the mean difference (development) of the scores of the control group taught according to the traditional method in the pre- and post -test of deep comprehension skills."

Fifth: Research Limits :

The current research is limited to

1-Fourth grade students in daytime primary schools in Mosul for the academic year (2023-2024).

2-First semester of the academic year (2023-2024).

3-The three units of the English language book for the fourth grade of primary school, 4th edition, 2019.

Sixth: Defining terms:

First - Kolb's model

Kinsella defined it as : It is an individual's natural way and preferred habits of absorbing, processing and retrieving new information." (Quoted from Qalladah, 1998: 14)

Operational definition: A cycle based on experiential learning consisting of four stages: sensory experience, reflective observation, abstract concepts, and active experimentation. The content of the first three chapters of the English language book for the fourth grade of primary school was reformulated to be consistent with these stages in a set of lessons included in a teacher's guide prepared to teach these units .

Second : Deep Understanding

Al-Jahouri (2012) defined it as "a mental process that goes beyond superficial knowledge of science and refers to exploring the depths of the student's thinking in integrated and multidimensional forms within his conceptual framework. It is based primarily on thinking about the academic tasks assigned to students, in which they translate, interpret, and conclude, and all of these processes push them towards deep understanding . " (Al-Jahouri, 2012: 28)

Operational definition of gaining deep understanding: Mental ability performed by fourth grade primary school students , and is measured by

the degree that The student obtains it by answering the deep understanding test prepared by the researcher for this purpose .

Theoretical background:

introduction

Kolb developed a model to explain the learning process based on Experiential Learning Theory . He relied on three models called the traditional models of experiential learning or learning through experience. These models are:

- Dewey's model : It focuses on the importance of previous experiences in learning, as well as observation and personal judgments.
- Lewin 's model : It focuses on the necessity of the learner's activity during the learning process. It believes that the learning process depends on the following elements: concrete experience, observation, and the formulation of abstract concepts with the ability to generalize and the ability to apply them in new situations.
- Piaget 's model : It focuses on the fact that intelligence is not innate, but rather the result of interaction between the individual and the environment, and that there are four stages of cognitive development for the individual: the sensorimotor stage, the pre-operational or pictorial stage, the concrete operations stage, and the abstract operations stage .
- He theorized that there are three important factors that modify each person's learning styles. These three factors are heredity, life experiences, and the demands of our environment .
- Kolb presented his theory through his book Experience is the Source of Learning and Development .

(Razouqi et al., 2005: 184)

Stages of Kolb's model:

Kolb developed his model as a learning cycle that includes four stages, which he explains as follows:

First Concrete Experiences : This means that an individual's way of: perceiving information is based on sensory experience, and that these individuals learn best by immersing themselves in examples. They also tend to discuss the learning process with their peers rather than relying on the authority of their teacher. They benefit from discussion with their peers and external feedback, and are socially positive toward others. However, they view theoretical approaches to learning as ineffective.

Secondly - Reflective Observation : Individuals rely on reflection, objectivity, and careful observation in analyzing the learning situation to perceive and process information. They prefer educational situations that allow them the opportunity to play the role of an objective, unbiased observer. But they are introverted.





Third Abstract Concepts: : Here, the reliance in perceiving and processing information is on analyzing the learning situation, abstract thinking, and logical evaluation. Individuals who tend toward this focus on theories, organized analysis, learning through authority, and an orientation toward things, while their orientation toward other people is weak.

Fourth: Active Experimentation : Individuals here rely on active experimentation of the learning situation through practical application of ideas and participation in school work and small groups to accomplish a specific task. They are not inclined towards theoretical lectures but are characterized by an active orientation towards work.

(Al-Masoudi, 2018: 97)

Second: Deep understanding skills

Deep understanding is a mental process that goes beyond the superficial knowledge of learning and moves to the student's multidimensional thinking within the conceptual framework. Although the apparent perspective of deep understanding is due to the role of the student himself, the teacher has a distinct role in presenting new strategies to students in an interactive manner, providing support and guidance while providing the appropriate learning environment.

(Al-Jahouri, 2012: 28)

Therefore, developing deep understanding among students is considered a primary goal at various stages of education. Achieving this level of understanding contributes to creating generations who are aware and cognizant of their surroundings and capable of acting in various situations. Deep understanding also paves the way for acquiring meaning-based scientific thinking skills. It also provides learners with the ability to organize and plan information and self-reflection, enabling them to retain information, interpret scientific concepts and ideas, and apply them to new situations. (Abdul Latif et al., 2020: 320)

Features of deep understanding :

(Borich 2001) identified the characteristics of deep understanding as 1-

- A. Insistence on understanding the material
2. Critically interact with others regarding the content of the material.
3. Linking new ideas and knowledge with previous experiences.
4. Examine logical discussions and the hypotheses that follow.
5. Forecasting and decision making.
6. Use deep questions while learning.
8. Use organizational methods to integrate ideas.

(2007: 36 , Borich)

The importance of deep understanding:

(Zouin, 2018) explained the importance of deep understanding in the following points:

1- Linking causes and results, as it requires awareness of the processes of planning, exploration, monitoring and control, which provide great opportunities between processes, strategies, ideas and final results.

2- Focus on meaningful cognitive patterns, so that the resulting knowledge becomes more relevant and more likely to be remembered, retrieved, used, and applied in new fields.

3- Achieving learning in meaning, and linking new knowledge with previous knowledge within a conceptual framework of existing knowledge in the learner's cognitive structure, which leads to the interconnection of ideas, the ability to compare and distinguish, and the understanding of contradictory ideas.

4-Employing mental effort and the ability to learn .
(Zouin, 2018: 159)

Previous studies:

1-Study (Al-Shahri, 2018): The study was conducted in Saudi Arabia and aimed to reveal patterns. learning Favorites according to Model Kolb I have Students stage High school In the governorate Namas and its relationship Some Variables , such as specialization and gender, and the study used the descriptive approach, and the study sample consisted of (252) male and female students. The researcher also prepared a scale of learning styles consisting of (15) paragraphs. After analyzing the data statistically using statistical methods (arithmetic means, Pearson's correlation coefficient, standard deviations, two-way variance analysis, SPSS) The study reached a set of results, the most important of which are: the absence of statistically significant differences in the pattern of the auditory and reading/writing variables attributable to the same variable, the absence of statistically significant differences attributable to the scientific specialization variable (literary, scientific) .

1-Al-Hasnawi's study (2019): The study was conducted in Iraq, and aimed to know The effectiveness of teaching using the (PECS) strategy in achieving science and deep understanding among second-grade middle school students , as the study relied on the experimental design with two equivalent groups, and the study sample consisted of (90) students, distributed into two groups, control and experimental, with (40) control groups and (40) experimental groups, the researcher applied to them the deep understanding test and the achievement test, and after analyzing the data statistically, the study resulted in the presence of statistically



significant differences in the achievement test and deep understanding in favor of the experimental group.

Indicators and implications from previous studies:

1- Objective: Al-Shahri's study (2018) aimed to investigate a model Kolb I have Students stage High school In the governorate Namas and its relationship Some Variables , such as specialization and gender, while Al-Hasnawi's study (2019): The study was conducted in Iraq, and aimed to know the effectiveness of teaching using the (PECS) strategy in achieving science and deep understanding among second-grade middle school students .

2- The sample: Previous studies relied on samples of varying numbers ranging between (90-252) and gender, males and females. However, the current research was applied to fourth-grade primary school students, numbering (56) students.

3- Results: The results of previous studies proved that the experimental group outperformed the control group. As for the current study, its results will be reviewed after the experiment is completed and the sample members are exposed to the post-test.

Chapter Three / Research Methodology and Procedures

First: Experimental Design : The researcher adopted the experimental design with two equivalent groups , experimental and control.

Second: The research community and its sample (Population & Sample of The Research): The research community includes all fourth-grade primary school students in daytime primary schools in the city of Mosul for the academic year (2023-2024). The research sample was represented by fourth-grade primary school students in the Martyr Muhammad Al-Durra School for Boys, which consisted of (71) students. After excluding the failing students from the sample, its size reached (56) students, and they were distributed into two groups: the first was experimental, which is Section (A), and the number of its members reached (28) students. The second group was a control group, which is Section (B), and the number of its members reached (28) students.

Third: Equivalent of the research groups :

After the sample was selected and randomly divided into two groups and before starting to implement the experiment, the researcher conducted the equivalence process between the two groups in a number of variables (chronological age, general average For the third grade of primary school for the academic year 2022-2023, the English language score for the third grade of primary school for the academic year 2022-2023, the pre-test for deep understanding skills) and Table (1) shows that.

Table (1)

Results of equivalence of the two groups in variables

value-T Tableau	value-T The calculated	deviation Standard	Average Arithmetic	number Individu Sample	The group	Variables
2,006	0.619	6,00650	112,3214	28	empiricism	Chronological
		4,70899	113,2143	28	The office	By months
	1,886	0.83766	9,5354	28	empiricism	General average
		0.37756	9,8629	28	The office	
	0.403	1,36228	9,3214	28	empiricism	English degree
		1,29048	9,4643	28	The office	
	0.765	2,412	11,733	28	empiricism	test-Pre
		1,950	11,300	28	The office	

It is clear from Table (1) that the calculated t-value for all variables is less than the tabular value of (2.006) at a significance level of (0.05) and a degree of freedom of (54), which means that the two groups are equivalent in all these variables. The researcher also conducted equivalence between the two research groups in the educational level of fathers and the educational level of mothers using Chi-square as a statistical method after obtaining data related to the educational level of fathers and mothers in both groups by referring to the school card of each student. This data was classified into three categories for each group according to the educational levels (elementary and below, secondary, institute and university). It was found that there were no statistically significant differences between the two research groups in these two variables, as the value of Chi-square for the educational level of fathers reached (1,251), while the value of Chi-square for the educational level of mothers reached (2,558), which are both less than the tabular value of Chi-square, which is (5.99) at a significance level of (0.05) and a degree of freedom of (2), which indicates the equivalence of the two groups in these two variables, and Table (2) shows that.

Table (2)
the square test results for the difference between the two groups in-Chi educational level variable of parents

square value-chi		Parents' educational level			nu mb er	The group
-Table chi square value	-Calculated chi square value	institu te Colleg e	High school	Element ary and below		
99 , 5	1,251	11	12	5	28	empiricis m
		14	8	6	28	The officer
square value-chi		Mothers' educational level			nu mb er	The group
square -Chi table value	-Calculated chi square value	institu te Colleg e	High school	Element ary and below		
99 , 5	2,558	6	14	8	28	empiricis m
		11	9	8	28	The officer

Fourth: Research requirements:

1- Formulating behavioral objectives : The researcher formulated (96) behavioral objectives in their initial form, and presented these objectives with the content of the subject to a number of professors specializing in the English language and its teaching methods, educational and psychological sciences, Appendix (1), to state their opinion on their soundness and the extent to which they fulfilled the conditions for formulating behavioral objectives and the suitability of their cognitive levels. In light of the observations of the specialized professors, the researcher made the necessary amendments, as a portion of them was

deleted due to their inappropriateness, and the behavioral objectives became (88) behavioral objectives .

2- Preparing the teaching plans : The researcher prepared the teaching plans for the Kolb model , and the plans for the traditional method, and in order to verify their correctness and soundness in terms of their formulation and preparation, they were presented to a group of experts in the field of teaching methods (Appendix (1) , and no modification, deletion or addition was made to them, and they were approved by them at a rate of more than (80 %).

Fifth: Tool of the Research : The researcher built a deep comprehension test based on the relevant literature, which dealt with deep comprehension skills due to the lack of a suitable test for the current study. In its initial form, it may have consisted of (26) paragraphs , with each test situation having three answer alternatives, one correct and two incorrect answers.

1 - Test validity: To verify the validity of the test, the researcher relied on apparent validity. The test was presented to a group of arbitrators and specialists in the field of teaching methods, educational and psychological sciences (Appendix (1)) and a number of specialists in the English language . The researcher obtained an agreement rate of (80%) or more, and no paragraph was deleted or modified from its paragraphs. Thus, the researcher verified the apparent validity of the test.

2 - Exploratory application of the tool : The researcher applied the deep comprehension test to a survey sample consisting of (100) students from outside the research sample of fourth-grade primary school students in the Al-Alusi and Al-Faris Al-Arabi primary schools for boys on Tuesday, corresponding to (10/24/2023), to ensure the clarity of the paragraphs and answer instructions, and to identify the ambiguous paragraphs to reformulate them and estimate the time required to answer. It was found that the test paragraphs were clear to the members of the survey sample and that the time taken to answer was (45) minutes, which is an appropriate time to answer the paragraphs of the deep comprehension skills test .

3 - Determining the difficulty coefficient for the items : The difficulty coefficient was determined for each item of the test according to the difficulty equation, which ranged between (0.425 - 0.689) . This indicates that all items of the test are acceptable and valid for application, as the test is good and valid if the difficulty coefficient ranges between (0.20 - 0.80) . (Al-Abbasi, 2018: 321)

4- The discriminating power of the items: In order to identify the validity of the test and the clarity of its items, and after calculating the discriminating power of each item of the objective test and correcting the



answers, the students were divided into two groups (50) students, an upper group, and (50) students, a lower group. Then, the discriminating power of each item of the test was calculated and found to range between (0.278 -0.7125) : This indicates that all the test items are acceptable and distinctive, meaning that they distinguish between the upper group and the lower group , as most of the items fall within this acceptable range of (0.20) and above, as the researcher extracted, and thus , no item was deleted from the items. (Alam, 2009: 325)

1- Effectiveness of the alternatives: The effectiveness of the alternatives for the test items was verified by statistically treating the results, as the alternative is considered effective if it is negative and less than (0.05). All the alternatives were negative and acceptable in percentage, as their percentage was within the acceptable range, which means that the alternatives were misleading to the students. (Al-Nabhan, 2004: 203)

6 - The reliability of the deep comprehension skills test : The test was applied to a sample of (30) fourth-grade students at Al-Janaen School for Boys. The researcher used the equation (Kuder Richardson - 20) to calculate the reliability of the deep comprehension skills test, as the method of correcting the test is (zero - one) , in addition to the ease and difficulty. It was found that the reliability degree reached (0.886), and thus the reliability rate is considered acceptable, and thus the test became ready to be applied to the members of the basic sample.

Sixth : Execution of the experiment

After the researcher completed the research tools and supplies, made the equivalence of a number of variables, prepared the educational plans and means, and obtained the class schedule, the English language teacher at the Martyr Muhammad Al-Durra School for Boys (the main research sample) began implementing the experiment actually on Sunday (10/28/2023) and ended by exposing the two groups (experimental and control) to the post-test of deep understanding skills on Tuesday (1/26/2024).

Seventh : Statistical means : The researcher used the following statistical package (SPSS) to analyze the data : (Chi - square 2, equation of the coefficient of ease and difficulty of the paragraphs, equation of discrimination of the paragraph, t - test for two independent samples, equation of effectiveness of alternatives, Corder-Richardson equation (20))

Presentation and discussion of results:

After obtaining the students' answers to the research tool, the data were statistically analyzed according to the research hypothesis: "There are no

statistically significant differences at a significance level of (0.05) between the mean difference (development) of the scores of the experimental group that is taught according to Kolb's model and the mean difference (development) of the scores of the control group that is taught according to the traditional method in the pre- and post -test of deep understanding skills."

To verify this hypothesis, the researcher extracted the arithmetic mean , standard deviation, and calculated t-value for the students' score in the two groups.

The results were included in Table (3) as follows: Table (3) The value of the -arithmetic mean, standard deviation, and calculated t .scores of the students of the two groups in deep understanding skills

Significance level	value-T		standard deviation	arithmetic mean	Number of individuals	The group
	Tableau	The calculated				
Statistically significant at) the level of and (0.05 degree of (freedom (54	2,006	05 , 7	3,757	17,866	28	empiricism
			1,716	12,545	28	The officer

It is clear from Table (3) that the arithmetic mean of the scores of the experimental group students was (17,866) with a standard deviation of (3,757), while the arithmetic mean of the scores of the control group students was (12,545) with a standard deviation of (1,716) . The calculated t-value was (7,05), which is greater than the tabular t-value of (2,006) at a significance level of (0,05) and a degree of freedom of (54), which indicates the presence of a statistically significant difference between the results of the two research groups in the deep understanding skills test in favor of the experimental group. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

2 - Effect Size : In order to identify the effect size of Kolb's model in deep understanding skills, the researcher used the Eta square equation (n^2) to extract the effect size (D) for the independent variable in the deep skills test , then the results were compared with the standard values set by Cohen , as shown in Table (4).



(4) Table

Effect size of Kolb's model on deep understanding skills

Impact	Standards			calculated value	The worker	variable The follower	Strategy
	big	Medium	small				
big	0.14	0.06	0.01	0.852	Eta square	Deep understanding skills	Kolb's model
big	0.8	0.5	0.2	4,801	Effect size		

It is clear from the table above that the value of the effect size (D) for the independent variable (Kolb's model) on the dependent variable (deep understanding skills) reached (4.801), which is a suitable value to explain the effect size and to a large extent, by comparing the calculated value with the standards set by Cohen (Cohen, 1988) in favor of the experimental group, and thus the results of this research are consistent with the results of all previous studies.

The researcher attributes this result to the fact that the diversity of teaching procedures included in Kolb's model led to the superiority of the experimental group over the control group, because this model eliminated the boring routine procedures in the lesson when following the usual methods, which led to attracting the students' attention and urging them to communicate and follow the progress of the lesson, in addition to the fact that the students represented the focus of the educational process, and this had a positive and active impact. Also, the steps of the model, which began with presenting broad ideas, then moving to the second stage of detailed ideas, then removing obstacles, and finally diversity, had a great impact on the accuracy of the information and its importance for developing deep understanding skills that serve students inside and outside the classroom to be an effective element in society, and this is what the model focused on.

Conclusions, recommendations and suggestions

Conclusions :

1-The research results proved the superiority of Kolb's model over the traditional method in developing deep understanding skills among fourth-grade primary school students in the English language subject. Because it is It creates a spirit of competition, challenge and enthusiasm among students.

2-Kolb's model helped provide direct positive feedback and encouraged students to continue providing answers and creating new solutions.

3-The students' increased desire to learn English has facilitated the process of obtaining information and knowledge, making the teaching of science enjoyable and effective.

Recommendations :

1-English language teachers on how to employ Kolb's model in their teaching of the subject through annual training programs for teachers, conducted by the Preparation and Training Department in the General Directorates of Education in all governorates.

2-Focus on developing learners' deep understanding skills by adopting classroom and extracurricular activities designed by English language teachers and not focusing on students' memorization and recitation of scientific information.

3-Focusing on making the learner the focus of the educational process by focusing on equipping them with the ability to discover and develop their general scientific knowledge, with guidance and advice from teachers only.

Suggestions :

1-A study of the effect of Kolb's model on developing future thinking at different educational levels and for different subjects.

2-A study of the effectiveness of using Kolb's model in the English language subject on developing the learner's emotional aspects, such as: scientific trends, scientific inclinations, scientific sense, and scientific values.

3-A comparative study of the impact of Kolb's model strategy with other modern models in light of other dependent variables such as: analytical thinking, creative thinking, and others.

Sources

1-Ambou Saidi, Abdullah, and Suleiman bin Hamad Al-Balushi. (2018): Science Teaching Methods: Educational Concepts and Applications , Dar Al-Masirah, 1st ed., Amman, Jordan.

2-Jaber, Abdul Hamid Jaber, Safaa Al-Aasar and Nadia Sharif. (2001): A Guide to Science in the Dimensions of Learning, Institute of Educational Studies and Research - Quba House for Printing, Publishing and Distribution, Hashemite University Library - Cairo.

3-HLWK strategy in developing deep understanding, self-reported concepts, and metacognitive skills among eighth-grade students in the Sultanate of Oman, Journal of Arab Studies in Education and Psychology , Volume 32, Issue 1.

4-Al-Jawili, Maha Abdel-Baqi. (2001): Education and Society: Modern Trends in the Social Employment of Education , Dar Al-Wafa Printing, Alexandria, Egypt.

5-Al-Hasnawi, Ali Nazim Nasser (2019), The effectiveness of teaching using the PECS strategy in achieving science and deep understanding among second-year middle school students, (unpublished master's thesis) , College of Education, University of Al-Qadisiyah, Iraq.

6-Razouki, Raad Mahdi, Fatima Abdul Amir and Abdul Zahra Abbas Saleh. (2005): Educational Methods and Models in Teaching Science , First Edition, Al-Ghafran Library, Baghdad, Iraq.





The effect of the numbered heads strategy on developing reflective thinking among first-year intermediate school students in the English language subject

7-Al-Zand, Walid Khader, and Hani Hatmal Obeidat. (2010): Educational Curricula: Design, Implementation, Evaluation , and Development, Modern World of Books, 1st ed., Irbid, Jordan.

8-Zouin, Suha Hamdi Muhammad (2018), The effectiveness of the HWLK self-schedule in teaching geography on developing deep understanding and motivation towards learning among second-year secondary school students, Journal of the Educational Association for Social Studies , Issue 100, pp. 136-196.

9-Al-Shahri, Dhafer Abdullah Muhammad. (2018): Patterns learning Favorites according to Model Kolb I have Students stage High school In the governorate Namas and its relationship Some Variables, International Journal of Specialized Education , No. (8), No. (7), 133-143.

10-Al-Abbasi, Amel Fadhel. (2018): Scientific Research Methods and Statistical Analysis in Behavioral Sciences , 1st ed., Noon House for Printing, Publishing and Distribution, Baghdad, Iraq.

11-Al-Azzawi, Muhammad Adnan Muhammad. (2012): Evaluating the performance of history teachers at the intermediate level in light of historical thinking skills, unpublished master's thesis , University of Diyala, College of Human Education, Department of Educational and Psychological Sciences.

12-Attia, Mohsen Ali (2015), Thinking - Its Types, Skills, and Teaching Strategies , 1st ed., Safaa Publishing and Distribution House, Amman - Jordan .

13-Attia, Mohsen Ali. (2013): Modern Curricula and Teaching Methods , 1st ed., Manahj Publishing and Distribution House, Jordan.

14-Farah, Abdul Latif (2003): Basic Concepts of Child Rearing , Dar Al Mars, Riyadh.

15-Qatami, Yousef. (2013): Cognitive Learning and Teaching Strategies , 1st ed., Dar Al-Masirah for Publishing and Distribution, Amman, Jordan.

16-Qalladah, Fouad Salman. (1998): Teaching Strategies, Methods and Teaching Models , Part 1, Dar Al-Ma'rifah, Alexandria University.

17-Marai, Tawfiq Ahmad and Al-Hila, Muhammad Mahmoud. (2007): General Teaching Methods , 3rd ed., Dar Al-Masirah for Publishing, Distribution and Printing, Amman - Jordan.

18-Al-Nabhan, Musa. (2004): Fundamentals of Measurement in Behavioral Sciences , 1st ed., Dar Al-Shorouk for Publishing and Distribution, Amman, Jordan.

19- Borch , D. (2007). Vital impression: The KPA Approach to children , www. Aver. Org and www. Sam's school , Org. (80) Butler , D.

APPENDIX (1)

THE JURY MEMBERS

	Names	Academic Status and Specialization	The Job Place
1	Dr. Wayis Jallod Ibrahim	Prof. Applied Linguistics	University of Mosul/ College of Basic Education
2	Dr. A.S. Hussein Ali Ahmed Al-Jarjary	Prof. Applied Linguistics	University of Dohuk/ College of Languages Newroz
3	Dr. A.S. Shuaib Saeed Abdulfattah	Assist. Prof. Methodology	University of Mosul/ College of Education
4	Dr. A.S. Ansam Ali Al- Hlwanj	Assist. Prof. Methods of teaching English.	University of Mosul/ College of Basic Education
5	Dr. A.S. Khalid Ibrahim Al-Ahmed	Assist. Prof. Applied Linguistics	University of Mosul/ College of Education
6	Dr. A.S. Omar Ali Elias	Assist. Prof. Applied Linguistics	University of Mosul/ College of Arts