The effect of the cognitive apprenticeship strategy into the achievement and memorization of literature and texts among the fifth literary students

Dr. Natiq Saeed Ghayyib

Diyala General Directorate of Education | Ministry of Education | Iraq

Abstract: The research aimed to identify the effect of the cognitive apprenticeship strategy on the achievement and retention of literature and texts among fifth-grade literary students. The researcher used the quasi-experimental method, with partial control. The researcher rewarded the two research groups in grades in the Arabic language subject for the semester. The researcher prepared behavioral goals and teaching plans. Then he prepared an achievement test consisting of (30) statements, including (26) statements of the type of objective tests, and (4) statements of the type of short-answer essay tests. The researcher intentionally chose Ali bin Abi Talib Preparatory School for Boys, and the research sample amounted to (66). students, distributed into two groups, and group (A) consisted of 33 students representing the experimental group. With whom the (cognitive apprenticeship) strategy was used, and Section (B) consisted of 33 students representing the control group with whom the usual method was used. The results of the research revealed the existence of statistically significant differences between the two groups in the post-achievement and retention test. In favor of the experimental group

Keywords: cognitive apprenticeship strategy, achievement, memorization.

أثر استراتيجية التلمذة المعرفية في التحصيل والاحتفاظ لمادة الأدب والنصوص لدى طلاب الخامس الأدبي

د/ ناطق سعيد غايب

مديرية تربية ديالى | وزارة التربية | العراق

المستخلص: هدف البحث إلى التعرف على أثر استراتيجية التلمذة المعرفية في التحصيل والاحتفاظ لمادة الأدب والنصوص لدى طلاب الخامس الأدبي، واستخدم الباحث المنهج شبه التجريبي، ذا الضبط الجزئي، كافأ الباحث بين مجموعتي البحث في درجات مادة اللغة العربية لنصف السنة، اعد الباحث الاهداف السلوكية والخطط التدريسية، ثم اعد اختباراً تحصيلياً مكونا من (30) عبارة، منها (26) عبارة من نوع الاختبارات الموضوعية، و (4) عبارات من نوع الاختبارات المقالية ذات الاجابة القصيرة، واختار الباحث قصدياً إعدادية علي بن أبي طالب بنين، وقد بلغت عينة البحث (66) طالباً، موزعة على شعبتين فكانت شعبة (أ) 33 طالباً تمثل المجموعة التجريبية والتي استعمل معها استراتيجية (التلمذة المعرفية)، وكانت شعبة (ب) 33 طالباً تمثل المجموعة الضابطة والتي استعمل معها الطريقة الاعتيادية، وقد كشفت نتائج البحث وجود فروق دالة إحصائياً بين المجموعتين في اختبار التحصيل البعدي والاحتفاظ به؛ لصالح المجموعة التجريبية.

الكلمة المفتاحية: التلمذة المعرفية في التحصيل والاحتفاظ.

1-Introduction.

Despite the scientific progress that the world is witnessing, the problem of way of teaching literature and texts subject in the schools still exists, and the students' complaint is continues. Thus, literature and texts subject has become a prisoner of traditional methods that basically depends on memorization and indoctrinate, and the style of teachers who are in charge of teaching literature and texts subject is weak and inactive. Their styles and teaching methods made a passive recipient who cannot use his thinking skills to interact as an active learner within the learning groups.

Hence the need to use the cognitive apprenticeship strategy to improve the teaching of literature and texts. Thus, the researcher identified the problem of the current research in answering the following question:

Does the cognitive apprenticeship strategy contribute to raising the level of literature and texts achievement and memorization among the fifth students stage?

The importance of literature comes from the importance of language itself. Literature, with its poetic and prose texts, is nothing but an expression whose tool is language. It is an art that motivates the reader and the listener to think and stirs the world of feeling towards imagination (Zayer and Eman: 2013: 20).

The literary texts are nothing but anthologies of poetry and prose that are read in chanting or recitation, understood, and preserved for the beauty of their casting and the splendor of their ideas, and preserving them as part of the immortal heritage (Zayer and Sama: 2016: 38). Since the lessons of literary texts lead to refining the psychological and artistic sense that aims to savor the beauty, enjoy the natural scenery, elevate the soul, and sensitize the feeling (Shahla 1972: 41). It was necessary to use special successful strategies in teaching because this is undoubtedly reflected on the students (Zayer, et al.: 2017: 81).

And that the interest in learning and teaching strategies because of their effective role in improving the learning environment and keeping pace with the spirit of the times and fulfilling the aspirations of educators (Al-Hashemi and Al-Dulaimi: 2008, 13). For the purpose of maintaining the material of literature and texts, the researcher used the strategy of cognitive apprenticeship because of its cooperative social activity that works to raise the level of achievement and memorization of the study material. Memorization represents the recall of information from memory that the student had previously learned in school (objective, essay and multiple choice) in determining the information as it was presented among other information by comparing the time spent in re-learning with the time spent in original learning (Abdul Khaleq: 1989: 327).

The strategy of (cognitive apprenticeship) focused significantly on the work of students as one team to reduce the problematic discussionn that they face in the education process in classrooms by the help of their peers and a successful teacher to achieve integration and success in work (Ahmed: 2014: p. 7).

The characteristics of the (cognitive apprenticeship) strategy are:

1- The work should be within real tasks that represent the goal to be achieved.
2- Implementation of tasks within a cooperative learning community.
3- The tasks are motivating for students through their value related to the real world. (Brill, Kim, et al.: 2001, 91)

The advantages of the (cognitive apprenticeship) strategy are:

1- Increase student motivation.
2- Increase self-confidence.
3- Develop creativity and innovation and increase social interaction skills among students. (Al-Saadi, et al.: 2006, 91)

Strategic steps (cognitive apprenticeship) and the role of students in it:

1- Modeling: is the stage (observing, watching and listening).
2- Resignation: It is a stage (presenting a group of activities to raise the level of understanding among students, and then allowing students to continue performing the activities themselves).
3- Training: It is the stage (interaction with activities).
4- Expression: It is the stage (knowledge by discussion and clarification).
5- Reflection: It is the stage of (reviewing the efforts made in the activity).

6- Exploration: It is a stage (generalizing all the results obtained by new educational situations). (Thouqan: 2012: 54) (Ibrahim: 2015: 68)

The importance of the current research:

1- Refining the artistic sense and nurturing their artistic and literary tastes in literary texts.

2- Responding to global and local trends that call for attention to teaching methods and strategies that depend on the constructivist theory.

3- Placing students in a logical practice through activities and social interaction for a real sense of exploration and problem solving.

The Aim of the Study:

The effect of the cognitive apprenticeship strategy on the achievement and memorization of literature and texts subject among the fifth literary students. To achieve the aim of the research by formulating the two Null hypotheses:

1- There is no statistically significant difference at the level (0.05) between the mean scores of the students of the experimental group who study literature and texts according to the (cognitive apprenticeship strategy) and the mean scores of the students of the control group who study literature and texts in the usual way.

2- There is no statistically significant difference at the level (0.05) between the mean scores of memorization of students' achievement within the experimental group who study literature and texts according to the cognitive apprenticeship strategy and the average scores of memorization of achievement for students of the control group who study literature and texts in the usual way.

The limits of the Study:

The researcher applied this study on a sample of fifth literary students at Ali Abin Abi Taleb high school affiliated to the Diyala Education Directorate – Almuqdadia distract. This process has been applied during the second semester of the academic year (2021/2022). He also taught the literature and text subject according to the official textbook.

2-The Study methodology and procedures

First: The researcher applied the experimental method for the purpose of finding answers to the research questions, controlling the extraneous variables, and knowing the error of the current study if there was such error. (Abdul-Rahman and Al-Safi: 2005: 122)

Second: Experimental Design:

It is one of the first steps that the researcher must implement to ensure the validity and accuracy of the findings, and the design is related to the nature of the problem and the conditions of the sample. (Abdul Rahman, Zangana:007: 487) Therefore, the researcher adopted an experimental design.

Table (1) the experimental design of the research sample

Groups	Independent Variable	Dependent Variable	
Experimental	Cognitive Aapprenticeship	Achievement	Memorization of Achievement
Control	Normal		

Third: The Sample:

The researcher intentionally identified a preparatory school of Al-Muqdadiya for boys, which includes two divisions of students, the fifth literary grade, and the number of its students is (70) students, so division (A) (35) students and division (B) (35) students. In a random way, Class (A) was selected to represent the experimental group that will be studied according to the cognitive apprenticeship strategy. One the other hand, class (B) is also selected to represent the control group that will be studied in the usual way. Additionally, four students are excluded from this experiment because they fail in this class for the second time. The final sample members became (66) students, with (33) students for each group, and Table (2) shows that.

Table (2) Number of students before and after enslavement

Groups	Division	Sstudents No. before exclusion	Eexcluded	Sstudents No. after exclusion
Experimental	A	35	2	33
Control	B	35	2	33
Total		70	4	66

Fourth: Equivalence between the two research groups:

The researcher provided the two groups of this study with one variable. This variable refers to the grades of the Arabic language subject for the first semester of the academic year (2020-2021).

The average score of the students of the experimental group was (56,848%), while the average score of the control group was (57,484%) in the Arabic language exam. When the t-test used for the two independent samples, it showed out that the difference is not statistically significant at the level (0.05), if the calculated t-value (0.249) is smaller than the tabular t-value (2,000) and with a degree of freedom (64). This indicates that the two research groups are statistically equivalent in degrees of the Arabic language subject, and Table (3) shows this.

Table (3) The T-test for the students of the two research groups in the grades of the Arabic language subject.

Group	The sample	SAM	The standard deviation	variance	degrees of freedom	T value		Significance level
						Computed	Tabular	It is not statistically significant at the level (0.05).
Experimental	33	56.848	9.297	86.434	64	0.249	2.000	
Control	33	57.848	11.347	128.754				

Fifth: Research Tools:

1- Determine the scientific subject:

The researcher identified the topics that will be taught to the students of the two groups estimated to be taught from the book (Literature and Texts) for the fifth literary grade, and Table (4) shows that.

Table (4) Topics of Literature and Texts

No.	Subjects	Page No.	Pages
1	Al-Mutanabi	98-89	10
2	Al-Sharif Al-Radi	104-99	6
3	Abu Al-Ala Al-Maari	130-105	26
4	Ibn al-Farid	145-131	15
5	Ibn Almoqafa'a	157-146	12

2- Formulate Behavioral Goals:

Choosing good, clear and specific teaching objectives is a necessary requirement in the educational process (Al-Fatlawi and Al-Hilali: 2006: 77). Thus, the researcher adopted the six levels of Bloom's classification, which are (knowledge, understanding, application, analysis, synthesis, and evaluation). After that, the researcher presented these goals to a group of experts and specialists in curricula and teaching methods.

The total number of these goals reached (77) and the observed group of experts agree that 80% of these goals are valid. Therefore, the goals have divided into 6 classifications according to Bloom taxonomy. It was (23) goals for the level of knowledge, (17) goals for the level of understanding, (15) goals for the level of application, (8) goals for the level of analysis, (7) goals for the level of composition, and (7) goals for the level of evaluation, and table (5)) presents them.

Table (5) Number of behavioral goals for experimental subjects

No.	Subjects	Behavioral Goals No.						Total
		knowledge	understanding	application	Analysis	Structure	Evaluation	
1	Al-Mutanabi	4	2	2	1	1	1	11
2	Al-Sharif Al-Radi	4	3	3	1	1	1	13
3	Abu Al-Ala Al-Maari	7	3	2	1	1	1	15
4	Ibn al-Farid	5	5	6	3	3	3	25
5	Ibn Almoqafa'a	3	4	2	2	1	1	13
	Total	23	17	15	8	7	7	77

3- Preparing teaching plans:

Plans are organized and drawn-out steps and procedures to achieve the objectives of the lesson (Al-Saadi: 2004: 54). The researcher prepared a specification table (test map) that included the topics that will be studied within the curriculum book for the fifth literary grade in the light of the behavioral objectives of the six Bloom levels.

Table (6) Achievement test specifications table.

Content	Pages	The relative importance of the content	Knowledge 29.87	Understanding 22.07	Application 19.48	Analysis 10.38	Structure 9.09	Evaluation 9.9	Itms No.
Al-Mutanabi	10	%14.49	1	1	1	1	-	-	4
Al-Sharif Al-Radi	6	%8.69	1	1	1	-	-	-	3
Abu Al-Ala Al-Maari	26	%37.68	3	3	2	1	1	1	11
Ibn al-Farid	15	21.73	2	2	1	1	1	-	7
Ibn Almoqafa'a	12	17.39	1	1	1	1	1	-	5
Total	69	100%	8	8	6	4	3	1	30

4- Formulation of test

A. The researcher formulated the achievement test items that measure (knowledge, understanding, application and analysis) from Bloom's taxonomy of the test type (completion, multiple test, right and wrong). These tests are considered the objective tests because of their ability to cover the vocabulary of the textbook and are characterized by accuracy and are not affected by subjective factors during the correction of the test, in addition to being characterized by stability and accuracy of the results (Hilali: 2000: 58).

B. The researcher formulated the achievement test items that measure the level (structure and evaluation) of Bloom's classification of the type of short-spaced essay tests. Through which the student can reach logical conclusions that are compatible with the nature of literature and texts (Al-Jallad: 2004: 412).

In this regard, the number of items in the total achievement test was (30) items, of which (26) items were of the type of objective tests, and (4) items of the type of short-answer essay tests.

5-   Validity of the test:

One of the qualities of a good test is that it is valid and measures the ability or feature that the test was designed to measure.

a.   Apparent validity: The researcher presented the achievement test items to a group of experts and validators.

b.   The validity of the content: The researcher prepared the achievement test in the light of the table of specifications, then presented it to a group of validators and experts to ensure its validity and the validity of the test items in terms of the difficulty of each one and the distinction degree.

6-   Experimental Exploratory test:

To achieve the behavioral goals, the researcher applied the test on an exploratory sample similar to the sample of the experiment on students of the fifth literary grade in Abi Hanefa Al-Naaman Preparatory School for boys on Monday (02/05/2022). This sample consisted of (100) students to verify the clarity of the test, their level of difficulty, the power of their discrimination, and the time spent in answering. So, the time was between (35-45) minutes.

7-   Statistical analysis of the test items:

After applying the test on exploratory sample and correcting their answers according to the correction key, and then arranging the scores in a descending order from the highest to the lowest score for the purpose of calculating the level of difficulty and discriminatory power for all items as follows:

a.   Difficulty level:

After the researcher calculated the difficulty coefficient for each test, it commencing from 0.20 to 0.80, and this means that all the test items are acceptable and valid for application.

b.   Discriminatory power :

After the researcher calculated the discriminatory power for each of the test items, it ranged from (0.32-0.60), which means that the test items are acceptable and valid for application.

8-   Test Reliability

For the purpose of verifying the stability of the test, the researcher used the (Krumbach alpha) equation because this equation is compatible with the objective (Allam: 2006: 93). Because the test in the current research includes both objective and essay types, and the value of stability extracted from the exploratory sample reached (0.88), which is a very good stability coefficient.

9-   Correction stability:

In order to correct the test items, the researcher prepared a standard for correction and presented it to a group of experts and specialists in measurement and evaluation.

The objective test was (one point) for each item if the answer was correct and (zero) if it was wrong. As for the essay test, it was (one point) if the answer was complete, (half a point) if the answer was incomplete, and (zero) if the answer was wrong or without an answer. As a result, the highest scores for the short answer items were (4) degrees, and the lowest score was (zero).

To verify the stability of the correction according to the standard of correcting the short-answer essay test. There are two types of agreement in correction:

The first type: the agreement between the two scorers by selecting only one corrector to assess and correct the same paper two times and then the correlation degree between the two scores is estimated.

The Second: the agreement between the scorers and the definition of the correctors' steadfastness that each one corrects his colleague paper and vice versa independently, and after that the degree of correlation between the two sets of scores is calculated (Al-Nabhan: 2004: P. 254).

The researcher relied on the type of agreement between the correctors, the researcher and his colleague (prep school teacher Ali bin Abi Talib) and when using the Pearson correlation coefficient, the stability coefficient was (0.86), which is a very good stability coefficient.

10- Applying the experiment

a. The researcher examined the experimental and control groups by himself, according to the teaching plans, at a rate of two classes per week.

b. The researcher applied the achievement test to the experimental and control research students at the same time on Wednesday corresponding to the date (04/05/2022) at ten in the morning for the purpose of measuring achievement.

c. The researcher re-applied the achievement test on the students of the experimental and control research groups on Thursday corresponding to the date (05/19/2022) at ten in the morning for the purpose of measuring their memorization of achievement.

3-Presenting and interpreting the results:

1-Viewing the achievement result:

After analyzing the result, it becomes clear that the score average of the students of the experimental group who studied literature and texts according to the strategy (cognitive apprenticeship) was (19,424). The average score of the control group who studied literature and texts in the usual way was (14,242), and when using the t-test for two independent samples to find out the significance of the statistical difference between the two research groups, it becomes clear that there was a statistically significant difference at the level (0.05) with a degree of freedom (64) in favor of the students of the experimental group. The experimental, according to the calculated t-value (4,717), was greater than the tabular t-value of (2,000), and Table (7) shows this.

Table (7) the results of the post-test for the students of the two research groups in the achievement test.

Group	The sample	SMA	The standard deviation	variance	degrees of freedom	T value		Significance level
						Calculated	Tabular	It is statistically significant at the level (0.05).
Experimental	33	19.424	4.630	21.439	64	4.717	2.000	
Control	33	14.242	4.286	18.376				

It is clear from Table (7) that the mean scores of the experimental group students are greater than the mean scores of the control group, and the calculated t-value is a statistical function in favor of the experimental group. Thus, the Null hypothesis is rejected and the alternative is accepted. This indicates that the strategy (cognitive apprenticeship) had a clear impact on raising the level of achievement of the students of the experimental group.

2-Viewing the memorization result:

After re-application of the achievement test to measure students' achievement memorization. The researcher analyzed the results and the average score of the students of the experimental group was (19,272) and the average score of the students of the control group was (15,393) at the level of (0.05). Therefore, the calculated t-value (3,254) was greater than the tabular t-value of (2,000), with a degree of freedom (64), and Table (8) shows this.

Table (8) the results of the post-test for the students of the two research groups in the memorization test.

Group	The sample	The arithmetic mean	The standard deviation	variance	degrees of freedom	T value		Significance level
						Calculated	Tabular	It is statistically significant at the level (0.05).
Experimental	33	19.272	5.069	25.694	64	3.254	2.000	
Control	33	15.393	4.602	21.178				

It is clear from Table (8) that the mean scores of the students of the experimental group are greater than the average scores of the control group, and the calculated t-value is a statistical in favor of the experimental group, thus the Null hypothesis is rejected and accepting the alternative hypothesis. This indicates that the strategy (cognitive apprenticeship) had a clear effect on retaining the achievement of the students of the experimental group.

3-Interpretation of the results.

1- The strategy (cognitive apprenticeship) is one of the various integrative strategies that contribute to directing teaching practices in the classroom, because it contains sequential steps and procedures arranged in a logical order.

2- The strategy (cognitive apprenticeship) contributes to students' motivation to participate and group interaction within the classroom, and it also provides students with sufficient room to think and deduce the essential features to explain and explain the topic of the lesson.

3- It has a significant impact on the level of performance of both the teacher and the student. For the teacher, it is seen as a planner, organizer and director within the classroom. As for the student, it helps him to retain knowledge for a longer period of time and work to increase the student's mental capacity.

4- It works to change the direction of the student's mental processes and urges continuous and renewed productivity according to teamwork in the development of raising the level of achievement and maintaining it.

5- It works on the diversity of educational activities and holds the student responsible for implementing them in the lesson. It is a support for the knowledge organization that they reach and gives them the opportunity to evaluate what has been achieved, and it may be a key factor in stimulating students' minds and continuing to learn.

4-Conclusions.

1- The (cognitive apprenticeship) strategy helps to use information and knowledge and employ them in different educational situations.

2- The use of the (cognitive apprenticeship) strategy in teaching leads to quality interaction between teachers and learners and helps to stimulate the mind and brighten the thought in an unfamiliar way.

3- It makes the student the focus of the educational process by activating his role. In this strategy, the student discovers, searches, and implements the activities himself.

5-Recommendations and Suggestions.

1. Adopting the strategy (cognitive apprenticeship) in teaching literature and texts.
2. Training Arabic language teachers on the use of the (cognitive apprenticeship) strategy.
3. Conducting a similar study to identify the effectiveness of the strategy (cognitive apprenticeship) in other branches of the Arabic language such as (criticism, rhetoric, expression, and dictation).
4. Conducting a study similar to this study on undergraduate students.

References.

- Abd al-Rahman, A., and Al-Safi, F. (2005). Research Methods between Theory and Practice, Dar Al-Tameem for Printing and Publishing, Karbala.

- Abdel-Khalek A. (1989). Foundations of Psychology, House of Knowledge, Alexandria University.

- Abdul Rahman, H., and Zangana, H. (2007). Methodological patterns and their applications in the humanities and applied sciences, Al-Wefaq Printing Company, Baghdad.

- Ahmed, N. (2014). Cognitive apprenticeship, independent research, Tanta University, Faculty of Education, Curriculum Planning and Development.

- Al-Fatlawi, S., and Al-Hilali, A. (2006). Educational Curriculum and Ideological Orientation, 1st Edition, Dar Al-Shorouk for Publishing and Distribution, Jordan.

- Al-Hashemi, A., and Al-Dulaimi, T. (2008). Modern Strategies in the Art of Teaching, 1st Edition, Dar Al-Mashreq, Amman, Jordan.

- Al-Jalad, M. Z. (2004). Teaching Islamic Education - Theoretical Foundations and Scientific Methods, 1st Edition, Dar Al-Masira for Publishing, Distribution and Printing, Amman.

- Allam, S. M. (2006). Educational and psychological tests and measures, 1st edition, Dar Al-Fikr, Amman, Jordan.

- Al-Nabhan, M. (2004). Fundamentals of Measurement in Behavioral Sciences, 1st Edition, Dar Al-Shorouk for Publishing and Distribution, Amman.

- Al-Saadi, A., Meligy, T., & Al-Sayed O. (2006). Scientific education, its entrances and strategies, Modern Book House, Cairo.

- Al-Saadi, Q. (2004). Teaching and training skills (training models on skills), 1st edition, Al-Warraq Foundation for Publishing and Distribution, Amman, Jordan.
- Al-Sayed, G. (2015) The use of cognitive apprenticeship in teaching geography to develop metacognitive skills and scientific reasoning among primary school students, Journal of the Educational Association for Social Studies, Egypt.
- Brill, j. Kim, B, Gailloway, C, (2001). Cognitive apprentice ships as an instructional model. 1n M. orey (Ed), Ewerging perspectives on learning and technology.
- Hilali, A. (2000). Teaching competencies required for teachers of the Arabic language in the light of alternative evaluation and building a teaching program for its development in the State of Bahrain, (unpublished doctoral thesis), College of Education, Ibn Rushd, Baghdad.
- Shahla, G.,(1972) Educational awareness and the future of the Arab countries, Dar Ghandour for printing and publishing, Beirut.
- Thouqan, M. S. (2012). The effect of using the cognitive apprenticeship method in teaching science on the achievement of tenth grade students and the development of their scientific thinking in Nablus Governorate, (unpublished master's thesis), An-Najah University, Nablus, Palestine.
- Zayer, A. (2017). Contemporary Educational Encyclopedia, Dar Safaa for Publishing and Distribution, Amman, Jordan.
- Zayer, A., & Dakhil, T. (2016). Language skills between theory and practice, Dar Al Masirah, Amman, Jordan.
- Zayer, S., & Eman A. (2013): Arabic language curricula and teaching methods, Dar Safaa for publication and distribution, Amman, Jordan.