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The Effect of 5ES Strategy on Developing of Learning Engagement Among Tenth-Grade High School Students in History.

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A R T I C L E I N F O

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A B S T R A C T

The objective of the study was to assess the Effect of 5ES method on the enhancement of learning engagement among tenth-grade students in history. Employed an experimental strategy to equilibrate the two study groups. The experimental group was instructed and engaged with the subjects utilizing 5Es strategy, whilst the control group was taught the same subjects through conventional methods. The study population comprised tenth-grade high school students in central Kalar for the academic year (2025-2026). The participants are (42) students. After conducting the experiment and collecting data, the Statistical Package for the Social Sciences (SPSS) is used to analyze the data. Concluding that:

The use of 5ES strategies in teaching history to tenth-grade high school students has a significant effect on developing students' participation in learning compared to the conventional approach. At the end of the study, the researcher made several recommendations.

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أثر استراتيجية 5ES على تنمية المشاركة التعليمية لدى طلاب الصف العاشرالاعدادي في مادة التاريخ

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الخلاصة:

هدفت هذه الدراسة إلى تقييم أثر منهجية 5ES على تعزيز تفاعل طلاب الصف العاشر في مادة التاريخ مع عملية التعلم. استخدم الباحث استراتيجية تجريبية لتحقيق التوازن بين مجموعتي الدراسة. تلقت المجموعة التجريبية تعليمًا تفاعليًا باستخدام منهجية 5ES، بينما تلقت المجموعة الضابطة تعليمًا تقليديًا للمادة نفسها. شملت عينة الدراسة طلاب الصف العاشر في المرحلة الثانوية بوسط مدينة كلار للعام

الدراسي ٢٠٢٥-٢٠٢٦، وبلغ عدد المشاركين (٤٢) طالبًا. بعد إجراء التجربة وجمع البيانات، تم استخدام برنامج SPSS لتحليلها. وخلصت الدراسة إلى النتائج التالية:

– إن استخدام منهجية ES٥ في تدريس التاريخ لطلاب الصف العاشر في المرحلة الثانوية له أثر كبير على تنمية تفاعل الطلاب مع عملية التعلم مقارنة بالمنهج التقليدي. وفي ختام الدراسة، قدم الباحث عدة توصيات.

الكلمات المفتاحية: (اثر، الاستراتيجية، ES٥، التنمية، التفاعل مع التعلم).

Part 1: Introduction to the research

1-1- The Research problem

Most of the research conducted in the field of education emphasizes the weak level of student participation, Various measures should be taken to avoid imitation, use and follow the method of exchanging ideas and use of teaching materials when teaching lessons, especially language learning lessons. Let them understand and benefit from the material (Jab Allah, 1996: 723).

Since there are individual differences among students, increasing class size is important to improve active learning methods in teaching, especially in history, so teachers and program planners should develop curricula that encourage students to think and discuss.

Some history teachers do not benefit from the use of new teaching strategies, often relying on Traditional teaching strategies and methods (Al-Sudani, 2007: 2).

Drawing on the above information, the problem of the study is intended to address the inquiry:

- Does the use of learning cycle strategies promote learning participation among tenth grade students in history?

1-2- Importance of the study

Teaching is a multi-element process, which includes steps and implementation according to the nature of the subjects taught, The teacher's responsibility is to provide direction, and the student has an active role in the process (Saeeda, 2020: 7).

One of the foundations of active learning is that it requires students to interact with their peers, family members, community members, reality, needs and interests (Abdulkarim, 2009: 5).

The importance of active learning in helping students learn Information and concepts of their interest, forming positive attitudes towards the educational material and allowing the opportunity to link the content of the educational material to the student's real life (Al-Badowi, 2011: 18).

The researcher explains the importance of his research in several points, including:

1. The research will be useful for teachers teaching History in Kurdistan Region high schools.

2. The results of the study will be useful for the Ministry of Education of the Kurdistan Regional Government to include this strategy in the education policy.

3. The results of this research are expected to benefit educational administrators based on teachers' use of learning cycle strategies.

١-٣- Objective of the research

To assess the Effect of 5ES Strategy on the enhancement of learning engagement among tenth-grade students in History.

1-4- Research Hypotheses:

Hypothesis 1: At the 0.05 level of significance, there is no difference between the control group's mean scores and those of the experimental group's students who took the same courses using the learning cycle technique.

Hypothesis 2: Students in the experimental group that followed the learning cycle technique for history classes did not change significantly ($p>0.05$) between the pre- and post-test scores on the Learning Engagement Development Scale.

Hypothesis 3: On both the pre- and post-tests of the Learning Engagement Development Scale, there is no statistically significant difference between the mean grades of students in the control group who take the history course using the

conventional approach, at the level (0.05).

1-5- Scope of the study:

1- Human Limits: Tenth grade students.

2- Location: High schools Located in Kalar, Kurdistan Region.

3-Timeframe: Academic year 2025 - 2026.

4- Subject area: History in the book of history of grade 10 high school/ Kurdistan Regional Government, edition.

1-6- Definitions of the Basic Terms:

First: the Effect

- (Ibrahim, 2009): It is to do any work in any field after the completion of the work, we will see whether the effect has occurred or not (Ibrahim, 2009: 30).

- Definition of the measure (impact): is the change that is expected to appear, After employing learning cycle strategies among tenth-grade students in History.

Second: teaching strategies

- (Yaqub, 2015): The strategy adopted by teachers to convey information and activities included in the curriculum to students (Yaqub, 2014: 21).

- Definition of teaching strategy: A plan that is programmed and developed by the teacher and includes new methods and techniques to achieve the objectives of teaching History.

Third: Learning cycle:

- (Ibrahim, 2023): It is an active teaching strategy, which is suitable for teaching most learning subjects. This teaching strategy consists of five main steps (encouragement and engagement, exploration, explanation, expansion and development, evaluation) (Ibrahim, 2023: 169).

Definition of learning cycle strategy: It is an active teaching strategy that the researcher uses to teach History by taking five main steps during its

implementation.

Fourth: learning participation

- (Salman, 2024): It is the intensity of the feelings that students develop and encourage them to take the initiative to participate in learning and continue (Salman, 2024: 6).

- Definition of the measure (learning participation): is the activities that students perform during teaching, including increased encouragement and support for students themselves to continue to participate in learning. The level of participation is measured by the score of the scale prepared for this study.

Fifth: History

- It is the science that analyzes and interprets events and understands the visible and hidden relationships of these events, which are scattered, as well as knowing the time and place in which people lived (Abdulhadi, 2007: 2).

- Definition of history: It is the science of researching and excavating ancient materials and archaeological sites to tell the story of past events, and how students use these events in present and future lives.

Section 2: Theoretical aspect of the study and previous studies

2- 1- Basic theory

Among these theories is constructivism based on the practical philosophy of contemporary education, which believes that the student's previous knowledge is the foundation of the learning process, because the student builds his knowledge in the light of his experiences (Sulaiman, 2022: 1157).

(Ali, 2011: 70, Obeid, 2004: 133-134, Al-Asr, 2007: 20) believe that constructivist theory means that students build their scientific educational situation through their interaction with the content of the educational material, then review the information learned. It connects previous experiences and explains them based on new meanings in order to eventually create new knowledge that the student confirms. Thus, constructivism requires the student to build new experiences through active, effective learning, then combine them with previous Ones.

Constructivist theory is the way the student acquires, solves, develops, and uses information processes in cognitive situations in life (Airsian,1997:444-449)

This theory has become the basis for modern teaching strategies and has attracted the attention of educational thought to understand and acquire information from students; that is, teaching is based on active learning. Modern philosophies are considered to have several models. Active learning is one of these models and learning methods are an active process based on the cognitive effort that students make to achieve knowledge (Abbas et al, 2020: 259).

2-1-1- Strategic Concepts 5ES

This strategy was first invented by Robert Karplus at the University of California in 1959 for teaching the sciences, which is based on the theory of cognitive fundamentals (Jean Piaget), Karplus goal is to change the fundamentals of learners' cognition through the process of losing cognitive balance, so that he can eventually make the new concepts and information part of their cognitive foundation. At first, Robert Karplus, in three stages, designed the model. His steps were: (new concept discovery phase, concept invention phase, rediscovery phase), then changed the third stage to (implementation phase), then (John Rainer) changed the third stage to (concept expansion) phase. (Khidr, 2015: 26).

In 1990, Rodger Bybee and Trowbridge developed the strategy into The 5E instructional model Strategy, a strategy that teachers use to teach the lesson to present concepts and content of the subject. It is divided into five parts, each related to the other: participation, exploration, interpretation, concept expansion, evaluation and innovation (Habib, 2022: 24).

2-1-2- Strategic Importance 5ES

The 5ES strategy plays an important role in student learning, as follows:

١) Pays attention to the role of students.

٢) Developing and creating novel information among students.

٣) Transforming knowledge into behavior.

٤) Deletion or modification of incorrect information.

٥) Help students to seek information and rely on themselves.

٦) Develops a spirit of cooperation and teamwork.

٧) Students are active, and their concentration is not disturbed (Al-Naimi, 2022: 452).

2-1-3- The concept of participatory learning

Participation in learning is the amount of behavioral, conscientious and cognitive efforts made by students to learn and achieve planned goals (Sinds, Yamina, 2024: 25). Participatory learning is an attempt towards improving rapport and providing a lasting opportunity for student success in the learning process, guided by the teacher, through putting their classroom instruction to work (Abdulkarim, Hussein, 2020: 9).

Several factors affect learning participation, including student-related factors, such as confidence and self-awareness, but others are school-related, such as creating a healthy educational environment and setting goals that can be, in addition to employing suitable teaching methods and strategies that motivate students to be active in lessons (Ahmad, 2025: 27).

2-2-Previous studies

	Researcher, year, place	Purpose of Research	No. of options	Research tool	statistical tools	Results and consequences
1	(Habib, 2022) Iraq	Examine how the 5Es Strategy influences students' ability to think critically, perform academically, and improve their volleyball putting and picking abilities.	30 students	Test of Academic Achievement, Contemplative Thinking Scale.	Use of statistical programs (SPSS), Pearson correlation coefficient, independent T test, and T test for two correlated groups.	In terms of academic success testing, learning receptive and positioning abilities in volleyball, and contemplative thinking, the results demonstrated that the experimental group did better than the control group.

2	(Ibrahim, 2022) Egypt	The purpose of this study is to evaluate the efficacy of the 5Es model in helping middle school business students build statistical thinking abilities and integrate their learning.	60 students	Statistical Thinking Skills Test, Learning Blend Scale.	Use of statistical programs (SPSS), Spearman correlation coefficient, T test for two independent groups, and Eta equation to extract effect size.	Based on the study's findings and the five-step learning cycle technique, the experimental group came out on top.

Part 3: Research Methodology

3-1- Research method

The researcher used the empirical method because of its suitability with the objectives, experiments, and hypotheses of the study.

3-2- Research Design

Two groups, one serving as an experimental unit and the other as a control, make up what is known as an experimental design of balanced pre- and post-test (Fandalin, 2007: 303–304). Subjects in the experiment were given instructions utilizing the 5Es strategy, while the control group received traditional learning, with pre- and post-tests for the positive thinking development variable and post-tests for the academic achievement variable, Figure (1) .

Figure (1) The study's experimental design

Group	pre-test	Teaching Method	Post-test
Experiential	Learning Engagement	(5ES)	Learning Engagement
Controlled		The Traditional Way	

3-3- The Research community

The research population is the largest group, which is assumed to generalize the results of the research (Al-Munizl and Gharayba, 2006: 18).

The research population includes tenth-grade students in Kalar city center in, Kalar Education Directorate. It consists of (14) high schools, the total number of students consists of (301) students, for the academic year (2025 - 2026), Table (1) .

Table (1) Kalar city center school enrollment and student body for 10 grade

sequence	Name of the school	Number of students in tenth-grade literary branch	Percentage
1	Shahid Aram High School	37	%12.29
2	Rausht High School	6	%1.99
3	Shahid Burhan High School	22	%7.30
4	Hamrin High School	18	%5.98
5	Kurdistani New High School	22	%7.30
6	Bakur High School	12	%3.98
7	Garmaser High School	12	%3.98
8	Bardesur High School	20	%6.64
9	Haukari High School	20	%6.64
10	Ibrahim Ahmed High School	49	%16.27
١١	Mustafa Rashid High School	23	%7.64
12	Jalal Bekas High School	18	%5.98
13	Goran High School	24	%7.97
14	Teachers High School	18	%5.98
Total		٣٠١	%100

3-4- Sample of the study

The research community Includes every individual involved in the phenomenon being studied by the researcher (Malham, 2005: 149) or a subset of the community that has common characteristics, which aims to generalize the findings to a larger society (Al-Badri, 2014:78).

The researcher chose (Ibrahim Ahmed High School) as his Study sample. After visiting the school, the researcher found that the students of grade 10 consisted of two classes (A, B), There were (49) students in both groups. The group was chosen through simple random sampling, group B (24 students) being the experimental and A (25 students) the control group, then Because seven pupils had failed the previous year, the researcher did not include them in either group, Table (2).

Table (2) group and number of students of the research option

Group	Group	Teaching Method	No. of Students	No. of Excluded Students	Final No. of Students
B	Experiential	(5ES)	24	3	21
A	controlled	The Traditional way	25	4	21
Total			49	7	42

3-5- Balance of both study groups

Balance between research groups is one of the characteristics of experimental research, because experimental research has several variables, these variables if not balanced and neutral, may affect the results of the experiment, so the researcher considered it necessary to control these variables.

3-6- Age of students

The researcher collected the age of the students through a special record in the school's (E Parwarda) system, to obtain the date, month and year of their age by month until (23/09/2025). analyzed the data in order to find statistically documented differences between both experimental and control groups, Table.(3)

Table (3) Results from the Tai test showing that the two groups' average ages are different

Group	No. of Students	Mean	Standard Deviation	T value		Evidence of the level (0.05)
				Calculated	Tabular	
Experiential	21	191.238	2.215	0.703	2.021	Not documented
controlled	21	194.667	2.331			

Table (3) shows that At the 0.05 level of evidence, the computed (T) value (0.703) is lower than the tabular value (2.021), indicating that the experimental and control groups do not vary significantly in this variable.

3-7- Pre-test for the Learning Participation Development Scale

After the researcher corrected the experts' notes and prepared the final learning participation measure, applied to students in after which we determined the means and standard deviations of the two groups (experimental and control), Table.(4)

Table (4) Results from a t-test comparing the pre- and post-test means of students' learning participation development assessments

Group	No. of Students	Mean	Standard Deviation	T value		Evidence of the level (0.05)
				Calculated	Tabular	
Experiential	21	108.810	12.801	0.633	2.021	Not documented
controlled	21	106.571	9.912			

Table (4) shows that with a computed (T) value of 0.633 and a Table value of 2.021 at the 0.05 level of evidence, it can be concluded that the experimental and control groups do not vary statistically in this variable.

3-8- Students' previous course grades in history

The researcher took the grades of both experimental and control groups from the school records last year, then extracted the average of both groups in 2025-2024. To find a balance between the groups, the researcher analyzed the data for two independent groups.

Table (5) Tai test results for the difference between the average score of the previous course in history subject of students of both groups

Group	No. of Students	Mean	Standard Deviation	T value		Evidence of the level (0.05)
				Calculated	Tabular	
Experiential	21	65.857	7.637	0.152	2.021	Not documented
controlled	21	65.476	8.583			

Table (5) shows that A statistically insignificant difference between the experimental and control groups in this variable was found since the computed (T) value (0.152) is lower than the tabulated value (2.021) at the level of evidence (0.05).

3-9- Intelligence level

The researcher relied on the John Raven test to assess intelligence, which is suitable for the Iraqi environment. This test was divided into five groups (A, B, C,

D, E). Questions were sorted according to the check key. Students received one score for every right response and a score of 0 for every incorrect one. The researcher then calculated the geometric mean for every student after obtaining the data. The researcher used a t-test to find out whether there was a statistically significant difference between the two groups (experimental and control) in order to get a feel for how each one was doing, Table (6).

Table (٦) he results of the Tai test for the difference between the mean scores of students in both groups in intelligence

Group	No. of Students	Mean	Standard Deviation	T value		Evidence of the level (0.05)
				Calculated	Tabular	
Experiential	21	48.810	6.306	0.366	2.021	Not documented
controlled	21	48.095	6.347			

Table (6) shows that At the 0.05 level of evidence, the computed t-value (0.366) is less than the tabulated t-value (2.021), indicating that the experimental and control groups do not vary significantly in this variable.

3-10- Educational level of students' parents

The purpose of the education level of the students' parents is to understand what educate the kids' parents on both research groups have at the levels determined by the researcher (Unqualified, primary and secondary, Diploma, BA, or higher).

Table (7) Educational level of the students' parents

Sequence	Level of literacy	Values
١	Unqualified	١
٢	Primary and secondary education	٢
٣	Diploma, BA, or higher	٣

3-11- Fathers' Literacy Level

The researcher used a form to assess how literate the pupils' fathers were. Once all of the forms were returned and completed, the researcher used the chi-square

test to compare the experimental and control groups and find out if there was a statistically significant difference, Table (8).

Table (8) The chi-square test's findings regarding the disparity in the educational attainment of the fathers of the two sets of pupils

Group	Unqualified and primary	Secondary and high school	Institutes and Colleges	The student	Price of Chi-Square		Evidence of the level (0.05)
					Calculated	Tabular	
Experience	8	7	6	21	0.150	5.991	Not documented
controlled	9	7	5	21			
Total	17	14	11	42			

Table 8 shows that the calculated chi-squared value (0.150) is less than the tabulated value (5.991) at the evidence level (0.05), which means that there is no statistically evidenced difference between the experimental and control groups.

3-12- Mothers' Literacy Level

The researcher obtained the literacy levels of the students' mothers using a form to balance the groups. The researcher analyzed the data through the chi-square test to find out whether there was a significant difference between the control and experimental groups, Table (٩)

Table (٩) The Chi-square test's findings regarding the disparity in the levels of education held by the mothers of the two groups' children

Group	Unqualified and primary	Secondary and high school	Institutes and Colleges	The student	Price of Kai Square		Evidence of the level (0.05)
					Calculated	Tabular	
Experience	6	8	7	21	0.154	5.991	Not documented
controlled	7	8	6	21			
Total	13	16	13	42			

Table 9 shows that the calculated chi-squared value (0.154) is less Table 5.991 has a lower evidence level (0.05), indicating that no statistically significant difference exists between the experimental and control groups.

3-13- The teaching process

The researcher established the prerequisites for the experiment and subsequently commenced its execution on September 28, 2025. In accordance with the devised 5ES strategy, the experimental group received instruction, while the control group was taught using traditional methods, with three lessons per week, each lasting 40 minutes.

3-14- The research tool

In scientific research, several tools are used to collect data and information, but no single tool is suitable for all types of research (Bokani, 2020: 132).

3-14-1- Preparation of learning participation development criteria

After reviewing previous research related to the variable of learning participation, the researcher relied on the criteria prepared by (Ahmad, 2025), It consists of 40 questions with the answers (completely applies to me, usually applies to me, sometimes applies to me, rarely applies to me, never applies to me), By giving the code (5, 4, 3, 2, 1), the students' scores fall between (40 – 200).

3-14-2- Validity of the Learning Engagement Development Scale

1- Apparent truth

The validity of a criterion is its ability to measure the characteristics it is set to measure (Mustafa, 2023: 75). To determine the validity, the researcher assessed the validity of the measure. Dispatched the study instrument to a cohort of specialists in pedagogy and psychology to ascertain their evaluations regarding the suitability of the scale items for ten-grade students. Subsequent to restoring the scale and employing the equation (J Cooper) and relying on the satisfaction rate (70%) and above, the rate (87%) was obtained, which is a reasonable rate.

3-14-3- Stability of the learning participation Development Scale

Criterion stability is that a close or the same result is obtained if it is applied more than once in similar circumstances (Kazem, 2020: 67), The researcher stability of the test by taking an option away from the main option of the research, this is through testing and re-testing, which included (29) students from the school (Shahid Aram High School) in Kalar Education Directorate, As a result, the

stability of the test was determined at the level of (0.91) through the Person statistical correlation, Table (10).

Table (١٠) Pearson's correlation coefficient, mean, and standard deviation for learning participation criteria

Implementation	No. of Students	Mean	Standard Deviation	Free score	Pearson coefficient value
The First Trial	33	109.455	12.918	31	0.91
The Second Trial	33	109.818	13.630		

3-15- Implementation of research and correction tools

3-15-1- Implementation of research tools

1- Implementation of the Learning Participation Development Criterion Test

The researcher, with the assistance of the history teacher, simultaneously on (30/11/2025) implemented the learning participation development criterion test on the students of both experimental and control groups to determine the expected growth, as previously implemented on (28/9/2025) on both research groups.

2- Examination of the Learning Participation Development Scale Test

The researcher had previously checked the balance of the groups for this test, and the students' scores will be between (40 - 200) points, because the number of items is (40).

Section 4: Presentation and discussion of results

4-1- Presentation of results

The researcher presents the results of his research by proving the hypotheses as follows :

Hypothesis 1: Using an independent sample t-test, we can see that there is no statistically significant difference ($p < 0.05$) between the control group's mean scores on the same subjects and the experimental group's mean scores on those same subjects taught using the learning cycle strategy. See Table 11.

Table (١١) T-test results for the difference between the mean posttest scores of the learning development measures of students in both groups

Group	No. of Students	mean	Standard Deviation	T-value		Evidence of the level (0.05)
				Calculated	Tabular	
Experiential	21	159.333	10.423	15.662	2.021	It's documented
Controlled	21	109.143	10.345			

Table (11) shows Hence, at the 0.05 level of evidence, the computed t-value (15.662) is higher than the tabular value (2.021). The results show that the two groups did not perform similarly on the post-test of the learning participation development scale, which means that the null hypothesis cannot be accepted and the alternative hypothesis must be accepted.

Hypothesis 2: The experimental group's mean scores on history courses taken using the learning cycle technique do not differ significantly from one another at the 0.05 level. The researcher compared the Learning Engagement Development Scale's pre- and post-test scores using a paired-samples t-test in order to examine this hypothesis. Table (12).

Table (12) Findings from a t-test comparing the experimental group's mean posttest score on a learning progress measure

Group Experiential	No. of Students	mean	Difference	Standard Deviation	T value		Evidence of the level (0.05)
					Calculated	Tabular	
Before	21	108.810	50.523	12.801	13.761	2.086	It's documented
After	21	159.333		10.423			

Table (12) shows that the computed T value of 13.761 exceeds the tabulated value of 2.086 at the significance level of 0.05. This indicates a statistically significant difference between the mean scores of the two study groups on the post hoc assessment of the Positive Thinking Development Scale. Consequently, the null hypothesis is rejected, and the alternative hypothesis is accepted. To ascertain the effect size, we employ Eta and Cohen's equations, Tables (13) and (14).

Table (13) Criterion levels (η2) and (d)

Used	Effect size		
	small	Medium	Large
η2	٠.٠١	٠.٠٦	٠.١٤
D	٠.٢	٠.٥	٠.٨

(Yusuf and Ayman, 2021: 60)

Table (١٤) Calculated T-value (n2) and (d) experimental group effect size

Value (T)	(n2) Value	Value (d)	Effect size
13.761	0.831	4.328	Large

Table (13) shows that the effect size is large, which means that the (5ES) strategy has a large effect on the pre- and post-test of developing learning participation among tenth-grade students in history.

Hypothesis 3: At the 0.05 level of significance, there is no difference in the mean scores of the control group pupils who take the subject according to the traditional method for the subject of history, in the pre- and post-test of the Learning Engagement Development Scale, to prove this hypothesis the researcher used Paired sample t test, Table (15).

Table (١٥) T-test results for the difference between the mean posttest score of the control group of the students' participation in the learning development scale

Controlled Group	No. of Students	mean	Difference	Standard Deviation	T value		Evidence of the level (0.05)
					Calculated	Tabular	
pre	21	106.571	1.858	9.912	1.490	2.086	It is not documented
post	21	108.429		9.745			

Table (15) shows that the mean at the level of evidence (0.05), the computed T value (1.490) is greater than the tabular value (2.086), indicating that there is no

statistically significant difference between the pre- and post-test scores of the control group on the development measure. The pre-test score for the control group was (106.571), and the post-test score for the same group was (108.429) of learning participation among the students in the control group, therefore, we accept the (null) hypothesis, which was formulated by the researcher at the beginning.

4-2- Discussion of results

From the results presented in Tables (11, 13,12, 14, 15) it appears that:

Teaching history according to the 5ES strategy had an effect on the development of learning participation among students in the experimental group of grade 10 literary high school, compared to the control group who received teaching in the normal way.

According to the researcher, the success of the experimental group students and achieving better results is due to the fact that the 5ES strategy makes students actively participate in the lesson and skillfully think about creating questions and answers.

The researcher found that the use of 5ES strategies promotes students' learning engagement in history, thinking better and comparing historical events.

The results of this study agree with the results of the studies of (Habib, 2022), (Ibrahim, 2022).

Section 5: Conclusions, Recommendations and Suggestions

5-1- Conclusions

After the experimental period, through the analysis of the data and presentation of the results of the study, the following conclusions are presented:

1- The use of the learning cycle strategy in teaching history in the tenth grade of high school has a significant effect on the development of participation in learning, compared to the traditional method.

2- The use of learning cycle strategies is a new teaching method that makes students more active and develop sense of responsibility.

3- The learning cycle strategy is a reason to encourage students to participate in learning history subjects in the tenth grade of high school.

5-2- Recommendations

After presenting the findings and discussing the results, the following are made:

1- Opening pedagogy courses for teachers who teach History in grade 10, to train them on the use of effective teaching strategies, especially learning cycle strategies.

2- Emphasizing the teachers of history in the tenth grade of high school to participate in teaching courses, so that teachers do not detach themselves from contemporary teaching strategies.

3- The attention of history teachers in high school to the criteria for developing participation in learning, which was prepared for this study .

5-3- Suggestions

At the end of the study, the researcher makes the following suggestions for future research in the field:

1- The effect of learning cycle strategies on the achievement and development of critical thinking in Geography among high school students.

2- The effect of learning cycle strategies on the acceptance of information among eleventh-grade students.

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Appendix (١) Experts who checked the validity of the questionnaire

Sequence	Third Name	Scientific Title	Specialty	Affiliation
1	Dr. Rawa Saleh Mohammed	Asist Professor	Teaching Methods	Salahaddin University - Erbil
2	Dr. Narin Kamal Shikho	Asist Professor	Teaching Methods	Salahaddin University - Erbil
3	Dr. Karzan Mohammed Arif	Asist Professor	Teaching Methods	University of Sulaimani
4	Dr. Kurdistan Mohamed Azad	Asist Professor	Teaching Methods	University of Sulaimani
5	Dr. Rzgar Hamlaw Khalid	Asist Professor	Teaching Methods	University of Sulaimani
6	Dr. Shuan Faraj Saeed	Asist Professor	Teaching Methods	University of Garmian
7	Dr. Manazel Abbas Qasim	Asist Professor	Teaching Methods	University of Garmian
8	Dr. Azhi Hama Qazi	Lecturer	Teaching Methods	University of Sulaimani
9	Dr. Shara Rauf Saleh	Lecturer	Teaching Methods	University of Sulaimani
10	Dr. Goran Ahmed Hamid	Lecturer	Teaching Methods	University of Garmian
11	Dr. Khalid Elias Bashir	Lecturer	Teaching Methods	University of Zakho
12	Dr. Awat Karim Mustafa	Lecturer	Teaching Methods	University of Charmo
13	Dr. Hiwa Ghaffar Ali	Lecturer	Teaching Methods	Directorate of Education/ Garmian