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Research Article

The effect of the collaborative learning technique on students 'educational performance in math

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Abstract

The aim of the research is to determine the impact of collaborative learning on students' educational performance in math for primary school students in northern Israel. The study sample included 195 male and female primary school math educators and 80 eighth-grade students from Arab schools in northern Israel, who were split into two groups: an experimental group and a control group. The experimental group experimented with collective learning, while the control group experimented with conventional learning. The following research instruments were employed: A questionnaire to investigate the effect of collaborative learning on students' educational performance from the viewpoint of educators, as well as the methodology and strategies used. Analyze students' math performance in a post-test with the experimental and control groups. The findings of the study revealed that students' educational performance in math using the collaborative learning technique is superior to students' educational performance in math using the conventional teaching technique.

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Introduction

Because of its many positive effects on both the instructor and the learner, collaborative learning has gotten a lot of attention from researchers as an instructional learning technique. It aims to improve a teacher's professional performance. It transforms the learner into a valuable participant in the educational process. It encourages him to engage in conversation and discussion, improve his academic performance and psychological well-being, and hone his problem-solving abilities (Ali and Ali, 2011). Collaborative learning is a term that has been used to describe a variety of instructional strategies for a long time. Sharan (1980), citing Dwnetsh as the origins of collective learning, argued for its use as an instructional tool over conventional methods. Collaborative learning is a term used to describe classroom approaches in which students collaborate in small groups of two or more people. Each community is responsible for completing specific tasks in order to achieve a specific objective. Members of groups receive sufficient reinforcement based on their group's results (Al-Tarawneh, 2012). According to Al-Heela (1999), collaborative learning is one of the teaching methods advocated by the contemporary educational movement after study and studies have proven its efficacy and positive function in improving learners' educational performance and developing teamwork skills. Since it is focused on the creation of a coherent, heterogeneous community that can be organized into small workgroups, collaborative learning is considered one of the modern educational strategies that calls for linking the school reality because it fulfills the students' psychological needs on the one hand and communicates the substance of the material to them on the other hand (Abu Amira, 2000). Furthermore, students may engage in two forms of activities: imaginative activities that encourage students to communicate and cognitive activities. Their aim

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is to teach students facts and laws by acquiring information. This method also improves the efficacy of education, especially for students.

Given the above, it is reasonable to conclude that collaborative learning is one of the techniques used by several studies, all of which agree that it enhances students' performance and retention of school knowledge, mastery of it and application in other educational contexts, and increases their motivation to learn. As a result, from the perspective of middle school educators in North side schools, this study shed light on the importance of collaborative learning in improving students' educational success.

Collaborative Learning in Math Education

In past years, educators have paid more attention to practices and events that put students at the center of the learning and teaching process. The use of the collaborative learning strategy, which entails dividing students into groups and assigning them to work or an activity that they complete together with collaborative societies, is one of the most common of these activities. This ensures that learning takes place in a comfortable atmosphere where students' motivation is greatly increased (Mari and Al-Haila, 2002). Collaborative learning is characterized as the division of students into different performance classes, such as high, medium, and low performers (Al-Saadi, 2008). It's also known as a teaching technique that involves a small group of students working together to maximize each student's educational experience while students work in diverse groups to achieve a shared educational goal (Al-Omar, 2000). Collaborative learning, according to a group of researchers (Al-Wadaei, 2000; Khader, 2006; Al-Baghdadi, 2005), is a specific model among teaching models since it uses a different task or action, as well as a different incentive system, to enhance students' learning and what it takes from work to achieve goals. Cognitive, affective, and skillful elements have a lot in common. According to the researcher Yaqoub (1995), each member in the group is responsible for his or her own work as well as the work of the group, and therefore the group's work does not succeed. Its objectives can only be met if its members learn to work collaboratively and collaboratively. Collaborative learning is one of the methods for organizing a group's work with the intention of improving learning and developing educational success through a precise structural organization of how a learner communicates with other learners and their participation in achieving the goals (Toaima and Al-Shuaibi, 2006; Zaitoun, 2003).

Objectives of Collaborative Learning in Math Education

The collaborative learning model is used to reach at least four significant educational goals, according to a group of researchers (Al-Deeb, 1998; Abdel Hamid, 1999; Suleiman, 2005; Al-Qala and others, 2006).

- Improving educational performance: aims to improve student performance on critical tasks. Its creators have shown that the collaborative incentive structure model enhances the importance of students' educational learning and shifts the success requirements, as well as that the group's emphasis on collaborative learning can improve the expectations of students' culture or make it more open to excellence at the end of educational learning.
- Acceptance of diversity and individual differences among students: It is the broadest and widest acceptance of people who vary in culture, social status, level of skills and success, and collaborative learning provides opportunities for students from various backgrounds and circumstances to collaborate on common tasks and to be rewarded for their efforts. Learning to respect one another in a group environment.
- Social skill development: Collaborative learning encompasses a wide range of social goals and skills, including teamwork, collegiality, discussion, conversation, engagement, self-confidence, respect for others, and appreciation of collaborative work.
- Life's social construct: Since collaboration is a fundamental feature of societies, it is important to train students in it in school, just as it is in everyday life, and therefore collaborative work is needed for modern life skills.

Conditions for Collaborative Learning in Math Education

According to a group of scholars (Johnson and Johnson, 1998; Mari and Al-Haila, 2000; Ibrahim, 2004), collaborative learning is more than just placing students in small groups and asking them what to do; many requirements in the educational setting must be met, including:

- Interdependence: This refers to the student's recognition that his performance is inextricably related to that of his peers, and that he will not succeed until they do.
- Individual responsibility: Each participant is responsible for learning the role that has been assigned to them, as well as for the learning of his or her colleagues.

- Effective face-to-face engagement: community members are in a position to participate in conversation and debate quickly and easily.
- Teamwork abilities: Implementing the interactive lesson necessitates constructive and successful training of students in working skills.
- Group programming: after completing the lesson (the task), the group discusses its work technique to see what factors assisted or hindered the group from achieving its objectives.

Collaborative Learning Strategies in Math Education

Collaborative learning is applied in a variety of ways, but all of them prioritize student teamwork. These are some of the strategies:

Collaborative group technique: This method involves putting students in groups of five in a classroom setting; each group has five randomly chosen and heterogeneous participants in the performance. Throughout the learning process, groups are created once, and the instructor assigns papers to each group so that they can deliver a joint report on their work. In this technique, the educator's job is to observe the pupils within each group, shape the members of the group, choose the educational topic they will learn and provide them with scientific material, and allocate the roles among the pupils so that each member's work is incorporated to achieve the common goals. To determine the level of cognitive development, the instructor must equate each group's output to its previous performance. The skill is for each group, and it takes four to five classes to apply this technique (Eurbo, 2012).

The method of grouping students into groups based on their performance: This technique is focused on dividing the class's pupils into small groups of tetra and between (4-5) students who are not homogeneous in results, and holding competitions in the educational subject so that every three pupils compete once. Second, based on their previous results, which means that the student learns in his team and then competes with those in another team who are positive talent equal to him, with the score he receives in this competition being applied to his main team. In this technique, the educator's job is to organize students, present papers to them, administer tests to them, and arrange the highest-ranking pupils in each team according to the following criteria: Six points for the highest, four points for the center, and two points for the lowest, then these points are applied to his main team (Solomon, 2005).

Jigsaw technique for combining fragmented data: This technique, also known as the jigsaw technique, was developed by Arntson Jigsaw and his followers at the University of Texas in 1978, and it was later adopted by Slaven (Hamdan, 2011). This methodology is characterized by the fact that it incorporates the features of some of the previous models in its implementation steps and follows the steps below:

- The topic of study is chosen by either the teacher or the students.
- The subject is divided into a group of paragraphs or sub-topics by the instructor and distributed among 5 to 6 students.
- Students decide their own duties and tasks, or the instructor assists them in doing so.
- The expert group, which is made up of students who are required to research a particular part of one group, meets to study the sub-topics and come up with common solutions.
- Each student in the expert group reports back to his peers about what he has learned or accomplished.
- Each student teaches his classmates what he has learned while also learning from them what they have learned in the expert group.
- The instructor administers a test to each community based on the topic that has been assigned to it.

Group research strategy: students work in small groups (two to six people), and sub-topics are chosen from a unit that the entire class is studying, and the sub-topics are divided into individual activities that the students work on implementing using the collective inquiry technique and group discussions. And preparing, collaborating on initiatives, and carrying out the tasks needed to gather information from different sources both within and outside the school in order to prepare reports for the community (Al-Tanawi, 2002). The instructor offers a group test at the end of the work in this technique, in which each student contributes by answering him. The community as a whole is compensated based on its members' involvement, their work, and the quality of its production.

A technique for reading and speech collaboration and integration: In this strategy, students are divided into classes, and while the instructor interacts with one of these groups, students in the second group participate in a series of cognitive exercises with their peers, such as reading, summarizing stories, and writing reports on the subject he studied (Ibrahim, 1999).

Effective Collaborative Learning Factors

Scholars (Zaitoun, 2003; Faraj, 2005; El-Deeb, 2004) identified a number of factors that aid collaborative learning's progress, the most significant of which are:

School discipline: A discipline-dominated classroom environment aids collective learning.

Ample time to complete collaborative learning lessons: Collaborative learning lessons take longer to complete than lessons taught using traditional methods. As a result, research schedules should be well-planned to account for this, as if one lesson were taught in several sessions.

Class size and organization: The class size and organization must be appropriate; if the room is small and crowded with students, and it is difficult for them to move their seats, it will restrict the educator's movement and his movement between groups to notice what they are doing; therefore, the educator should look for a spacious room in the school to apply collaborative learning lessons.

The number of classmates: If the number of students in the class is large, dividing them into groups results in the presence of several groups, which can affect the process of controlling the educator to the class, following up on their work, and providing advice to those who need it. If the number of students in the class is large, more than one educator can teach per class using classroom teaching technology.

The students' sense of self-reliance and dedication to work: The students' belief that they would complete tasks or work on their own, that they were committed to collaborative work, and that their motivation to work was strong, all of which contributed to the success of collaborative learning, and the instructor should continually inspire them to rely on themselves and improve them positively.

The Importance and Benefits of Collaborative Learning in Math

Johnson and Johnson (1998) stress that, when used correctly and according to scientific methods, collective learning has a significant impact on the educational process as a whole. The following is a list of the most significant advantages of collective learning as cited by Johnson and Johnson:

- *Critical thinking competencies:* teaching facts and ideas is a secondary aim in many fields of study related to science and technology when it comes to the goal of teaching critical thinking and the use of higher levels of reasoning strategies.
- *Attitude toward classmates:* regardless of disparities in skill, gender, race, or social status, collaborative education experiences work to instill positive attitudes in learners toward their peers in the collaborative education community.
- *Attitudes toward educational subjects:* As opposed to competitive and individual interactions, collaborative experiences build optimistic learner attitudes toward educational subjects and the learning process itself.
- *Collaborative skills:* Teaching reflects something and a potential path while school-based learning seeks to prepare students for a career and the obligations that come with it.
- *Mental health:* According to some research, collaborative learning is related to a variety of mental health variables, including emotional maturity, supportive social interactions, high individual self-esteem, and individual trust in others.
- *Anticipated social control:* The ability to understand and identify the features of another individual's point of view about what you're doing, or understanding how a certain situation you're doing involving another individual, and understanding how that person deals with that situation in terms of emotional and cognitive, is referred to as expected social control.
- *The Nature of Others' Views:* When we characterize someone, we typically concentrate on a few characteristics, and our point of view about them is set and does not vary from one situation to the next. Nevertheless, we must try to reach a point of view about this person that varies depending on the situation in which we assess them.
- *Consciousness:* According to Johnson and Johnson, collaborative learning experiences boost self-esteem more than competitive or individual learning experiences.
- *Relationships with the instructor:* Collaborative learning interactions have an effect on the student's relationship with the rest of the peers in the learning community or class, as well as the student's relationship with the educator.

In addition to these advantages, collaborative learning has educational advantages as well. Higher levels of success, higher rates, increased ability to recall, increased educational task time, learning basic general concepts, and mastering them to improve the ability to apply what they learn are all examples of these benefits. Students in unfamiliar environments develop their language skills and ability to articulate themselves, which leads to a greater ability to consider various points of view. The advantages of collaborative learning are not limited to educational attainment, according to a study conducted by Johnson and Johnson. Rather, there are many advantages to collaborative learning for the student, whether in the area of relationships, mental or emotional health, or later in the individual's social and professional life. Abd Algani (2018; 2019) highlights the importance of interactivity among the students and the teachers which is very significant for education environments (p. 11549).

Educational Performance

Educational performance is described as the sum of the knowledge and skills acquired by a student at each point of his or her education (Abdel-Hamid, 2010). Mastering a collection of skills and knowledge that a student may possess after being exposed to educational experiences in a particular study subject or group of subjects is also known as educational success (Al-Salakhi, 2013). The definition of educational success refers to the school's assessment of a student's ability to comprehend and apply specified educational subjects using evaluation techniques (Al-Hassan, 2008). Educational success is of great interest to specialists in the fields of education and psychology because it is the product of what happens in the educational institution of numerous and multiple learning processes for different abilities, information, and sciences that show the student's mental and cognitive activity (Al-Jalali, 2011). According to Al-Shalhi (2013), educational performance is one of the educational problems students face, either as a result of the subject's difficulty or an ineffective teaching technique, or as a result of the students' lack of understanding and proper understanding of the educational subjects, which causes them to lose confidence in themselves and their abilities, and thus their compatibility with others.

According to the definitions given above, some researchers view performance as information acquired solely in school or in the school sector, as described in Abdul Hamid's definition, which emphasizes that performance is frequently used to refer to educational or educational attainment, and it is also a commodity. The information gained by a student as a result of a school program. Educational success, based on the aforementioned factors, can be described as the amount of knowledge a person gains in the educational sector. The student's total grades at the end of the school year are used to determine educational success, which is described as the amount of knowledge gained by the pupil in the educational sector.

Factors and Variables Affecting Educational Performance

As interest in studies and research on the impact of social, cultural, and other factors on educational performance has grown, educational researchers, psychologists, and sociologists have begun to investigate students' social, economic, and cultural backgrounds in order to address and overcome problems that arise as a result of these factors, as well as to adapt to changing circumstances. Training aims to improve student success in academic subjects (Kamal, 2005).

As schools are fully reliant on students, who are the most important group in any educational institution, several variables influence students' educational success. In previous studies, Ali and Al-Shehab (2008) both mentioned that students' educational success had gotten a lot of attention from researchers. It is difficult in many ways, and psychological, social, economic, environmental, and personal factors all play a role. However, the factors that influence educational success vary from person to person and from one setting to the next. Many factors and variables that contribute to the quality of learners' performance and affect the quality of students' educational performance were studied by the researchers. Among these are student-related factors (mental, emotional, social, and economic factors), family factors, school factors, and peer-related factors (Al-Khashab, 2008).

Problem of Study

From the preceding information, the following research question can be derived: What impact does the interactive learning methodology have on middle school students' academic performance?

The research assume is that at the middle stage, collaborative learning has a positive impact on students' academic performance. According to the years of experience variable, collaborative learning has a positive

Methods

Research Model

The researchers used an experimental technique in which they divided the participants into similar groups and administered a pre- and post-test. The first group is the experimental group, which learns using the interactive learning approach, while the control group learns using the school's traditional method. The two researchers tested the study's independent variable, "collaborative learning," on middle school students to see if it affected the dependent variable, "math results." During the first semester of the 2019-2020 academic year, the study sample was drawn from various Arab middle schools in northern Israel.

Participants

The quantitative curriculum, as the study sample consisted of 195 educators in middle schools in northern Israel during the 2019-2020 school year, of whom 130 were female and 65 educators. The population characteristics of the sample are shown in Table 2.

Table 2.

The Demographic Structures of Educators

	Variable	N	%
The Gender	Male	65	33
	Female	130	67
	Total	**195**	**100.0**
Qualification	Teaching certificate	64	32.8
	First degree + teaching certificate	104	53.4
	Postgraduate	27	13.8
	Total	**195**	**100.0**
Years of Experience	Less than 5 years	78	40
	From 5 to 15 years old	59	30.3
	Over 15 years old	58	29.7
	Total	**195**	**100.0**

Due to the large number of participants in the study, the researchers divided the sample into two groups: an experimental group and a control group. As shown in the following table:

Table 1.

Distribution of the Study Sample

Participants	Groups	N
8th grades students	Experimental	40
8th grades students	Control	40
Total		80

Equivalence of the Two Study Groups

According to the following variables, the researcher ensured that the two classes, experimental and control, were equivalent. Math performance: through students' performance in previous tests according to the following Table 2.

Table 2.

Equivalence of Math Performance for the Experimental and Control Groups

Groups	N	Mean	Ss	t	p
Control	40	69.93	15.01	39	2.32
Experimental	40	74.33	17.83		

As seen in Table 1, there was no significant difference before the application in the mathematics performance scores of the two groups assigned to the experimental and control groups.

The parents' cultural, economic, and social status: the students were selected by the school counselor because the experimental and control samples came from the same schools and shared a similar socioeconomic and cultural environment.

An action plan and an educator's guide have been created to ensure that the teacher and assistant can follow the lessons without difficulty or error. The guide includes guidance and guidelines to assist educators in facilitating the educational process and ensuring that it moves in the right direction.

Data Collection Tool

Teacher Perceptions' Scale about Collaborative Learning in Math (TPSCLM)

Examining the impact of collaborative learning on educational outcomes, using a scale consisting of 25 items. The questionnaire was created using previous research and presented to educational professionals. The questionnaire was sent to a random sample twice, with a two-week gap between each time. Cronbach's Alpha was 89.1 .

The research tool was developed in the form of a questionnaire using educational supervisors and previous studies to investigate the impact of collaborative learning on educational performance among middle school students from the educators' perspective. From the perspective of educators, the collaborative learning technique in middle school students' educational results, as well as the requisite additions and deletions, was accepted in its final form based on the research requirements.

Table 4.

The Results of the TPSCLM Item Statistics

Item No	Items	r	p
1	Collaborative learning aids in the development of a conducive environment and a vibrant account sharing.	0.501**	0.000
2	Students gain trust in their ability to solve math problems through collaborative learning.	0.502**	0.000
3	Collaborative learning encourages students to speak about whatever they want without being constrained by a particular subject.	0.439**	0.000
4	Collaborative learning increases students' interest in subjects outside of the classroom.	0.588**	0.000
5	Collaborative learning will help you find a solution and an answer without feeling embarrassed.	0.441**	0.000
6	Collaborative learning refers to the preparation of arithmetic problem solutions for students.	0.498**	0.000
7	Collaborative learning exposes students to a variety of scenarios, activities, and interactions that they can discuss.	0.539**	0.000
8	Collaborative learning encourages students to come up with new ways to solve the same math problem.	0.521**	0.000
9	Students may convey their sporting identity through collaborative learning.	0.537**	0.000
10	Students can be taught how to solve math problems by collaborative learning.	0.546**	0.000
11	Students are taught to use arithmetic in real-life scenarios by collaborative learning.	0.652**	0.000
12	Students participate in algorithmic debates in collaborative learning.	0.622**	0.000
13	Students will discuss their tastes and preferences about the page using collaborative learning.	0.559**	0.000
14	Via competitive activities, collaborative learning helps students to learn arithmetic.	0.631**	0.000
15	Collaborative learning encourages students to think beyond the box when it comes to math.	0.543**	0.000
16	Students can improve their math communication skills through collaborative learning.	0.631**	0.000
17	Math challenges are eliminated by collaborative learning.	0.559**	0.000

18	Students are more involved in numeracy after participating in collaborative learning.	0.474**	0.000
19	Collaborative learning is used to teach students arithmetic in a free-thinking environment.	0.612**	0.000
20	Collaborative learning helps to ensure that each student has the opportunity to share his or her thoughts about how to solve problems.	0.632**	0.000
21	Collaborative education helps students solve math problems more effectively by encouraging them to work together.	0.489**	0.000
22	Collaborative learning helps students improve their aptitude for math.	0.659**	0.000
23	Collaborative learning encourages students to present their thoughts in a variety of ways.	0.688**	0.000
24	Collaborative learning ensures that students' thoughts are in sync with one another.	0.631**	0.000
25	Collaborative learning helps students improve their ability to move ideas from one concept to another.	0.562**	0.000

The above table shows that all of the scale items have high degrees of correlation with the total degree of correlation, indicating that the scale items are realiable.

The internal consistency (Cronbach's Alpha) technique was used to determine the research tool's reliability, with the value of (alpha) determined for each paragraph in each study axis, as shown in the table below.

Table 5.

The Internal Consistency Coefficient (Cronbach's Alpha) between the Items of the Scale

Scale	Cronbach's alpha	Number of Items
TPSCLM	0.891	25

The alpha value measured between the study paragraphs was equal to, as shown in the previous table (90.9 percent). This suggests a high level of internal continuity between the analysis paragraphs, and therefore the study tool has a high level of stability.

Post-test: The first group is experimental and learns by collective learning, while the control group learns by the school's traditional method. The study's independent variable, "collaborative learning," was tested on middle school students to see how it affected the dependent variable, "math results." The questions were chosen from the MITZAV Math Aptitude and Development Exam, which is accurate and truthful, based on the findings and experiences of experts in the field.

Results

The following are the findings in relation to the research question: What impact does collaborative learning have on middle school student performance?

Survey results: To answer the initial post, the following table (6) shows the arithmetic averages and standard deviations for the study paragraphs on the importance of collaborative learning in student performance:

Table 6.

The arithmetic means and standard deviations of the study items on the impact of collaborative learning on the student's educational performance

	Mean	SS	Degree/ Grade
TPSCLM	3.87	0.414	High

The total score of the participant's answers to the study items on the effect of collaborative learning on students' educational success from the educators' perspective was high, as shown in the above table. The survey members' responses had an arithmetic mean of (3.87), with a standard deviation of (0.414). This indicates that the sample was

heavily weighted in favor of what was stated in the study paragraphs about the role of collaborative learning in positively influencing students' educational success.

According to the years of experience of the educators, collaborative learning has a positive impact on students' educational success at the middle stage, as shown in Table 7.

Table 7.

Arithmetic averages, numbers, and standard deviations of sample members' answers to the effect of collaborative learning on educational performance, broken down by years of experience.

Seniority	Mean	N	SS
Less than 5 years	4.005	22	0.320
From 5 to 15 years' old	4.006	65	0.356
Over 15 years' old	3.716	43	0.447
Total	3.905	215	0.414

To test the validity of the fourth hypothesis, a single study of variance (ANOVA) was used to compare the differences in the respondents' responses to the effect of collaborative learning on educational performance as years of experience changed, as shown in Table 8.

Table 8.

The findings of the mono-analysis of variance test for discrepancies in the degrees of response of the sample participants regarding the effect of collaborative learning on educational performance according to the educators' perspective based on the years of experience variable.

The source of the contrast	Sum of squares	Degrees of freedom	Average of squares	F	p
Between groups	2.357	2	1.178	7.606	0.001
Within groups	18.745	121	0.155		
Total	21.102	123			

The value of statistical significance (0.001) is less than the degree of importance (= 0.05), as seen in the previous tables. This means dismissing the hypothesis: there are statistically significant discrepancies in the impact of collaborative learning on students' educational success from the educators' perspective according to the years of experience variable at the level of significance (0.05). It means that the sample members' views on the effect of collaborative learning on middle school students' educational success differed due to their different years of experience.

The findings show that using the collaborative learning approach has a major effect on students' math performance.

Discussion and Conclusion

The study's aim was to see how collaborative learning affected middle school students' academic success in northern Israel. During the research process, it became evident that the respondent's overall score on the study questions about the effect of collaborative learning on educational performance among middle school students in northern Israel was extremely high. The sampled individuals' reactions had an arithmetic mean of (3.87), with a standard deviation of (0.414). And, as a result of this finding, it appears that collaborative learning plays a significant role in providing the student with the opportunity to improve his athletic skills, which helps him to comprehend the subject matter, which contributes to the student's ability to perform well in school. This result is in line with previous research that has shown that collaborative learning has a major effect on students' academic success.

The post-test results showed that there is an effect of collaborative learning in improving educational performance between the average results of the experimental group students and the intermediate results of the control group in favor of the experimental group, which agrees with the findings of Alissa (2013), Naylor (2013), and Oren (2014) studies.

It can be explained as follows: Students' imagination increased as a result of the variety of activities and events. Solving math problems, including student engagement and group work, with several and incremental steps to broaden

students' knowledge at each level, and inclusion of students in grades to help improve their creative thinking, math skills, and problem-solving abilities. Collaborative learning improved students' comprehension of the mathematic topic, which improved their fluency of solutions, versatility of methods, originality of resolution, and innovative thinking, as well as their ability to deal with sports exercises, resulting in improved educational success.

Recommendations

To assist educators and improve students' learning performance, the following steps are highly recommended: using borderline learning strategies, such as a collaborative learning strategy, which effectively teaches multiple educational materials and levels, and training educators to be able to use modern teaching strategies throughout the learning process, such as a collaborative learning strategy.

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