

The effect of using reading comprehension strategy to acquire problem-solving skills in mathematics among tenth-grade students in Amman

أثر استخدام استراتيجية الفهم القرائي لإكساب مهارات حل المشكلات في الرياضيات عند طالبات الصف العاشر في مدينة عمّان

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Abstract:

The current study sought to investigate the effect of using the reading comprehension strategy in the unit of systems of linear equations, for the third intermediate grade on the development of problem-solving skills in mathematics. The researcher used the experimental approach - the semi-experimental design based on one group, where the study population consisted of the tenth grade at Arjan School in Amman Governorate year (2020/2019). The sample of the study included (25) students from the Arjan School in Amman Governorate the study for the semester unit dealt with linear equations from the Tenth grade. The results of the study indicated the positive effect of teaching mathematics for the tenth grade of middle school using a reading comprehension strategy compared to the traditional method, where the results indicated that there were statistically significant differences at the level of significance ($\alpha = 0.05$) between the pre and post-test of the study sample

Keywords: Reading Comprehension Strategy, Developing Problem-Solving Skills

ملخص:

سعت الدراسة الحالية إلى تقصي أثر إستراتيجية الفهم القرائي في وحدة أنظمة المعادلات الخطية للصف العاشر على تنمية مهارات حل المشكلات في الرياضيات. حيث استخدمت الباحثة المنهج

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المنهج التجريبي – ذا التصميم شبه التجريبي القائم علي المجموعه الواحده ذات اختبار قبلي وبعدي، حيث تكوّن مجتمع الدراسة من طالبات الصف العاشر في مدرسة عرجان في محافظة عمان في الفصل الدراسي الأول من العام الدراسي (2019/2020)، وشملت عينة الدراسة (25) طالبة من مدرسة عرجان بمحافظة عمان. وكانت أداة دراسته اختبار في مادة الرياضيات للصف العاشر لمادة الفصل الأول كاملة. وتناولت الدراسة وحدة أنظمة المعادلات الخطية من الصف العاشر. وقد أشارت نتائج الدراسة إلى الأثر الإيجابي لتدريس مادة الرياضيات للصف العاشر باستخدام استراتيجيّة الفهم القرائي مقارنة بالطريقة التقليدية، حيث أشارت النتائج إلى وجود فروق ذات دلالة إحصائية عند مستوى الدلالة ($\alpha = 0.05$) بين الاختبار القبلي والبعدي لعينة الدراسة.

كلمات مفتاحية: استراتيجيّة الفهم القرائي، تنمية مهارات حل المشكلات.

Introduction:

The twenty-first century witnessed many scientific achievements in various fields of life. Therefore, educational institutions must strive to keep pace with progress in the field of education in all its forms and types when qualifying them for future teachers; to have a proud elite that contributes to building a promising educational future. There is no doubt that learning is an important thing in life, and that nations advance and prosper through learning, and learning has basics and theories identified by psychologists who have realized that learning must have scientific and philosophical theories that increase its importance. Adopting a learning theory when choosing a teaching method is important and necessary. Where the development of mathematics teaching in the past two centuries has greatly and rapidly made the traditional view of it as consisting of separate branches (arithmetic, geometry, algebra, analysis) unacceptable, as a group of scientists appeared calling for a comprehensive study of mathematics, and that mathematics from simple arithmetic to the highest levels of abstraction in algebra, geometry, and analysis can be integrated and briefly described as the study of ordered binary (group and evidence).

Many types of research, studies, and field applications conducted in this field confirm the importance of looking at the method of teaching mathematics; because mathematics is the logical study of the quantity, quality, and interrelationship of things. It is also the science of the purely abstract sequential study of mathematical problems and systems, and it is one of the most useful and exciting sections of human knowledge. The reason for the difficulty of defining the word

mathematics is attributed to the many topics it includes (Abu Amra, 2007). Accordingly, mathematics is no longer mental exercises, abstract skills, and symbolic relationships, but rather the process of providing students with a sound scientific method of thinking, making decisions, assuming responsibility, and creating full awareness among students of the uses of mathematics in social, economic, and medical life (Mina, 2002). From this standpoint, we realize the importance of mathematics contributed to the preparation of the individual by developing his ability to solve the problems he faces, regardless of their type and time. That is why those interested in the field of mathematics education advocate that all students experience problem-solving as part of their school mathematics. Problem-solving is the heart and soul of mathematics and is an important part of mathematicians' work. Hence, students can learn better about the nature of mathematics, and the activities of athletes, if they solve mathematical problems.

Solving the mathematical problem requires from students several skills, and mastering the skills provides the opportunity for students to better and properly direct their thinking, effort, and time in issues and solve mathematical problems a sound scientific solution, develops the ability to design an algorithm for any mathematical work and helps students understand mathematical ideas, concepts and generalizations conscious understanding. Following modern methods of teaching and strategies in teaching prepares students for a world centered on advanced technologies, and develops higher mental cognitive skills, such as problem-solving, thinking, data collection and analysis, proof, and problem-solving, and this falls within the scope of creativity and invention. The student while solving a question is like an artist. The creator exercises the pleasure, pleasure, and pain that the artist exercises in the creative process (Al-Ghurab, 2003).

Teaching methods and their differences are among the positive things in the teaching and learning process, and each educational situation has the appropriate teaching method for it, and each has its principles and foundations. Teaching methods and methods are among the basic components of the curriculum. Therefore, the educational goals and the content chosen by specialists in the curriculum can only be evaluated by the teacher and the methods he uses in teaching. Therefore, teaching can be considered as a link between students and the components of the

curriculum, and the method in this way includes the educational situations that take place in the classroom and organized by the teacher and the method he follows so that he makes these situations effective and fruitful at the same time. The teacher must also make his lesson desirable to the students through the method of teaching he follows, and by stimulating the students' effectiveness and activity. It is very important to emphasize that the teacher is the base. It is not the method that is the basis, but rather it is a method that the teacher uses to communicate his information and accompanying it to the students; The method followed by the teacher in implementing the method of teaching in a way that distinguishes him from other teachers who use the same method and therefore is mainly related to the personal characteristics of the teacher. Therefore, this study was to investigate the effectiveness of using the reading comprehension strategy to develop problem-solving skills in mathematics.

The theoretical background of the study:

Reading comprehension skills are among the most important skills that a student must master and an essential element for success in acquiring them. Reading, in addition to being the indispensable basis for obtaining information, is the means that enhances and expands the student's linguistic knowledge and develops his ability to self-learn and continue for life. Failure of the student in this basic skill can be an obstacle to his ability to master the skills. With the progress that occurred in research related to learning and teaching reading and its assimilation at the end of the seventies of the twentieth century, the student became seen as having an active role and using several skills during reading such as guessing, making predictions, arriving at results, and inference. (Silberstein, 1987)

Reading comprehension: The scientific and educational heritage indicates that the concept of reading has developed at different stages, as Ibrahim (2002) mentioned the following:

- The concept of reading was confined to a narrow circle, its limits were the visual perception of written symbols, their recognition, and pronunciation, and a good reader was the correct performer.

- This concept changed as a result of educational research, where reading became a mental intellectual process, aimed at understanding, which is, translating these symbols into their meanings of ideas.
- Then this concept developed, by adding another element to it, which is the interaction of the reader with the read text in a way that makes him satisfied, discontented, admired, longed, pleased, sad, or the like, which is the result of criticism of the read, and interaction with it.
- Finally, the concept of reading moved to use what the reader understands, and what he draws from what he reads, in facing problems, and making use of it in vital situations.

(Snow, 2002) explained that the reader in the process of reading comprehension extracts and constructs meaning through interaction with the written text and that the comprehension process requires three main elements:

1. The reader and his abilities, knowledge, and experiences.
2. The text, whether printed or electronically visible.
3. The process of reading comprehension and its objectives and results.

Al-Baja (2002) defined reading as a mental, emotional, and motivational process that includes the interpretation of symbols, drawings that the reader receives through his eyes, understanding meanings, linking experience with these meanings, deduction, criticism, judgment, taste, and problem-solving.

The researcher believes that reading comprehension is that the process of reading comprehension is a complex interactive mental process between the reader and the text represented in deciphering and understanding the written text by relying on the reader on his previous knowledge, experience, trends, and culture to reach conclusions, judgments, and problem-solving.

And the problem in mathematics or the mathematical problem involves a question or issue that the student cannot answer immediately, so he is forced to make effort and use his previous experiences, and take advantage of the concepts and skills he had previously learned to reach the solution (Al-Sawa'i and Khashan, 2005). For this reason, the



concept of the problem is related to the concept of the question. Every problem necessarily includes a question, but not necessarily that every question is intended to be a problem. It is necessary to point out here the possible confusion that may occur between solving the issue and solving the problem in two aspects:

- Attitudes that give meaning to the concept, where the concept of the problem is linked to problematic situations whose solution is not immediately available and the ambiguity is wrapped up in how to reach the solution, while the concept of the issue is linked to more clear positions for the processing side, and sometimes includes clear references to it, some of which explicitly or implicitly refer to the use of Known algorithms, the application of a specific rule that has been used in the past, or the processing in a way that continues to be rehearsed.
- The cognitive level that work requires within the framework of the concept, issue calls for memorizing, remembering, and applying arithmetic rules, mathematical laws, and solving algorithms for certain categories of problems. On the other hand, working within the concept of the problem requires, in addition to remembering and applying, other skills, mental abilities, and cognitive energies at a higher level (Dagher, 2006).

(Zhang, 1992) classified reading comprehension strategies into four general types, which are cognitive strategies, such as prediction based on the reader's prior knowledge and text analysis, and compensatory strategies, which the reader uses when he encounters difficult words and concepts unknown to him, so he resorts to strategies such as the use of contextual clues, whether grammatical or Semantic text understanding, memory strategies, examples of which are making mental images about the subject of the text, classifying information into meaningful patterns, using semantic maps, and finally strategies applied by the student during multiple-choice tests, including reading questions and answers before reading the text to help them focus on the relevant information and thus their reading for a specific purpose. (Carrell and Eisterhold, 1983) stated that reading comprehension is an interactive process between the knowledge background of the reader and the text. Effective comprehension requires the ability to link the textual material with the reader's knowledge, and that understanding words, sentences, and the entire text require more than just relying on linguistic

knowledge. He explained that knowledge is organized into units called mental schemas and that understanding the text requires activating the appropriate mental schema, working on its continuous treatment, and evaluating its suitability for adoption in the process of understanding or ignoring it.

The stages of the reading comprehension strategy: (Andrei) sees that reading comprehension goes through several stages:

1. **Sensory Perception:** Sensory perception includes recognizing letters, words, and text surface indicators, meaning deciphering words by extracting the spelling and grammatical features of the readable text.
2. **The activation process:** It is related to searching in memory for information, and this activity is present at all levels of text processing. The process of distinguishing a letter requires a perceptual recognition process, and the activation does not take place letter after letter or syllable after syllable, but rather takes place comprehensively, as the retrieval occurs in Memory searches for the meaning of a word or group of words that has undergone deconstruction, and thus activation allows the reader to put into action the relevant information of the reader.
3. **Inference:** It is a cognitive strategy that uses the information that the reader has to enrich the information contained in the text, complete it, or transform it so that it is easy to understand and memorize, and inference is very important in discovering logical incoherence or confusion.
4. **Prediction:** It is a cognitive activity based on predicting information that is still not available, aiming to determine the true meaning of what is read, as it provides indicators that facilitate the selection of the best interpretation to continue reading.
5. **Memorization activity:** Long-term memorization is more achieved by semantic visualization, as the memorization of the whole text decreases more rapidly than the recall attributed to the semantic, and the information stored in the memory is prone to forgetting. Three factors affect memorization: the novelty of information, its relative importance, and its emotional value.
6. **Retrieval and presentation activity:** It is the retrieval of information that was stored in the memory after specific processing, as

the retrieval of information is largely subject to the type of processing, and the factors that affect memorization (in Abdel Bari, 2010).

Problem-solving skills as classified by Galford and Hopfenra:

Intelligence is generally considered a set of abilities, and problem-solving is an intelligence skill that reflects the student's mental abilities. They identified six special sub-factors, and a general factor related to the ability to solve problems, which is the ability to think quickly about a set of properties of the object related to the problem.

- The ability to classify objects or ideas according to a specific criterion.
- The ability to find common relationships between the different characteristics of the problem or situation.
- The ability to think of different substitutions or problems.
- The ability to make a list of characteristics associated with the objective or position.
- The ability to elicit the prerequisites for the position.
- A general ability to solve problems (Fi Ghanem, 2009).

Ahmed classified the mathematical problems into five groups, and the Al-Bado (2015) called them the classification of mathematical problems according to the areas of cognitive goals:

1. Concept or Definition Problems: This type of problem aims to measure the students' ability to identify or recall a specific mathematical or axiomatic fact, theory, or definition.
2. Descriptive skills issues: It aims to train students to apply mathematical laws or to perform routine steps in solving problems that are solved by a specific routine mechanism.
3. Application problems: They represent the majority of the mathematical problems included in the mathematics courses in the three educational stages. This type of problem aims to train students to translate the verbal problem into a symbolic expression, and then find the value of the unknown symbols in the symbolic expression.
4. Open thinking problems: In these problems, the solution does not have a fixed form and is not based on a fixed mechanism for the solution. Students are the ones who choose the appropriate method for solving, which usually varies from one problem to

another. Therefore, open thinking problems require a high level of thinking.

5. Situational problems: In this type, an educational situation is presented to the students, asking them to get out of it and overcome its difficulties.

The importance of solving mathematical problems:

Almost every part of our lives is affected by mathematics. Mathematics interferes with the simple and complex details of our daily lives. Mathematics has played a key role in the development of modern technology such as tools, techniques, materials, and energy sources that made our lives and work easier in daily life.

The importance of solving the mathematical problem can be summarized as follows:

1. A process that leads to new learning.
2. The student learns how to transfer concepts, terms, and skills to new situations.
3. Develop the ability to discover what is new.
4. An effective way to practice Mathematical skills.
5. Attitudes towards mathematics improve and the student feels that mathematics is meaningful.
6. A way to arouse intellectual curiosity among students (Abu Zina, 1997).

Previous studies:

The study of Bou Fateh (2016) aimed to know the nature of the relationship between the reading comprehension of metacognitive and its relationship to the working memory of dyslexic students at the level of the fifth year of primary school. The study was applied to a sample of (9) dyslexic students. To collect the data, the researchers applied the working memory test, and the results were that there is a positive direct relationship between reading comprehension and working memory among the dyslexic, and there are statistically significant differences in the reading comprehension of metacognitive among the dyslexic attributable to the performance in the working memory scale in favor of students with active working memory.

In a study to Al-Bado (2015), the study aimed to investigate the effect of using the computer in teaching the topics of modeling, consonance,



and time-related rates for the twelfth-grade science on developing the problem-solving skill of female students, on the level of achievement, and attitudes towards mathematics. The researcher used the quasi-experimental method. The sample of the study consisted of (50) female students who are twelfth-grade students at Al-Riffa Secondary School for Girls in the second semester of the academic year (2011/2012) and they were divided into two divisions, where the first division was chosen as an experimental group consisted of (25) female students who studied the subjects using the computer and the second group was as a control group, which was taught traditionally. The results of the study indicated the positive impact of teaching mathematics using the computer on both the development of problem-solving skills and achievement and the formation of positive attitudes towards mathematics compared with female students who studied the same subjects traditionally. The results indicated that there were statistically significant differences at the significance level ($\alpha= 0.05$) between the experimental and control groups in each of the three variables.

In a study by Alshaya (2019). The study aimed to identify the effectiveness of using the mind map strategy in developing the reading comprehension skills of the courses among students of the College of Education at Kuwait University, by comparing it with the traditional method (recitation) used by some faculty members at Kuwait University during their teaching of the courses. The quasi-experimental approach was used in this study, by applying the study tools, which included a test of reading comprehension skills, pre, and post, on the study sample, which consisted of (145) male and female students; divided into two groups; Controller (74) male and female students, who used the traditional method of teaching, and experimental (71) male and female students who used the mental map strategy, in the second semester of the academic year (2016/2017). The results revealed the high effectiveness of using the mind map in improving the creative reading skills of the experimental group members.

The current study agreed with previous studies in the curriculum and differed in how to activate the reading comprehension strategy, as most of the previous studies dealt with it as a dependent variable that changes by the type of variable affecting it, but the current study examined the effect of the reading comprehension strategy on problem-solving skills.

Aim of the study:

The current study aimed to know the effectiveness of using the reading comprehension strategy to develop problem-solving skills in mathematics for tenth-grade female students in the city of Amman. Specifically, the study sought to verify the validity of the following hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the pre-and post-test in developing the problem-solving skill of tenth-grade students according to the method of teaching using the reading comprehension strategy.

The study Problem:

Students' ability to solve mathematical problems has occupied a large part of the interest of researchers and practitioners in the field of mathematics teaching. Because the ability to solve problems requires abstract mathematical thinking in different ways because of the verbal form or the complexity of the text and context, or because of the need for several different steps to obtain the solution and the result and may need to accumulate knowledge from several different branches of mathematics. There is almost agreed that the difficulty of solving problems in mathematics lies in the symbolic nature of the material, and its distance from the functional reality in students' lives, and that abstract mathematics is one of the reasons for students' reluctance to study it, in addition to the fact that mathematics is a cumulative science whose study requires previous information, and therefore follow-up and continuity, which leads to a noticeable deficiency in the horizontal and vertical sequencing process when studying basic concepts, facts, and skills.

From the researcher's experience in teaching mathematics for several years for several primary, preparatory and secondary levels, she noticed the students' reluctance to study mathematics, and weakness in their problem-solving skills, and there are other difficulties; Among these difficulties is the method of teaching that depends on indoctrination, giving rules and laws without focusing on allowing the student to reflect, research, investigate and discover the rules on his own. Most teachers confined their teaching to the exercises found in the textbook and did not enrich the curriculum with educational materials that help develop students' intellectual and creative abilities. Hence the idea of research in investigating the effectiveness of using the reading

comprehension strategy to develop problem-solving skills in mathematics for tenth-grade female students in the city of Amman.

The limits of the study:

The results of this study were determined by the following limitations:

- **Spatial determinants:** The study examined a sample of (25) tenth students at Arjan School in Amman Governorate.
- **Objective determinants:** The study dealt with the unit of systems of linear equations from the tenth-grade book.
- **Time limitations:** the first semester of the academic year (2019/2020).

Study significance:

- The procedures and results of this study contribute to providing scientific material that is useful in developing or introducing new teaching methods for mathematics that focus on the student and take into account his needs.
- Providing teaching methods that help develop some flexibility among students in the method of processing and initiating problem-solving, in addition to developing and improving skills by combining education and practice.
- Research on the effectiveness of using the reading comprehension strategy in developing problem-solving skills in mathematics.

Study Terminology:

- **The reading comprehension strategy:** an interactive mental process that arises between the reader and the text, that leads to the re-formulation of meaning and the creation of multiple meanings, ideas, and attitudes on a topic. Thus, the reader generates trends, motives, and expectations that are in line with the available knowledge that affects the way the reader deals with the text and the way it organizes and reviews its contents. (Zimmermann and Hutchins, 2003)
- **The problem:** The problem is defined in mathematics or a mathematical problem that involves a question or issue that the student cannot answer immediately, so he is forced to make effort and use his previous experiences, and benefit from the concepts

and skills he previously learned to reach the solution (Al-Sawa'i and Khashan, 2005).

- **The concept of problem-solving:**
 - It is the processes that include skills and information that the student uses to solve the problem the student faces, and this skill begins with identifying the problem and ends with its solution (Badawi, 2003).
 - It is a process through which the student can use mathematical information he has previously acquired, and relate it to the new problem to solve the problem, and it seems at first vague and does not know a way to it (Ibrahim, 2000).
- **Problem-solving skill:** a vital activity that a person performs, and practices at various levels of complexity, whenever he is assigned to perform a duty, or asked to decide on a topic, or asked to find appropriate and logical solutions to the problems he faces in public life (Al-Bado, 2015).

Study methodology and procedures:

Study Methodology: This study belongs to the category of quasi-experimental research in which the researcher studies the effect of one or more experimental variables on one or more dependent variable factors. Therefore, one of the designs of the quasi-experimental approach was used in this study, more specifically the design known as the design of pre-and post-measurement for one group, and this method is used in the case of selecting one group of individuals in educational research conducted on students while they are in their classrooms. This design uses the same group and compares the results of the experiment in one condition and the results in another.

Study population: The study population consisted of tenth-grade students at Arjan School in Amman Governorate. The school was deliberately chosen, and the researcher chose this school because she is a teacher in it, and this gives her the facilities to conduct the current pilot study and help her female colleagues; which leads to ease of communication with the sample members and implementation of the experimental procedures.

Study sample: The study sample included (25) female students from Arjan School in Amman Governorate.

Study tools: To carry out the current study and to achieve its objectives, the researcher built a test in mathematics for the tenth grade for the entire first semester, and the description of the tool follows.

The test: where the researcher determined the general educational goals, then analyzed the educational content and analyzed the educational experiences that should be provided to students, and the cognitive-behavioral goals, To focus on the behavioral educational objectives, the researcher analyzed the content of the material through which the study will be applied, into concepts, facts, generalizations, and algorithms. The researcher also analyzed the content according to the classification of cognitive, emotional, and psychomotor goals. And then it built the test that depends on the previous information (linear equations, linear relations, and functions, linear functions, linear inequalities), and the test may consist of 30 multiple-choice questions.

Test Validity: Validity is the validity of the scale's scores in making certain interpretations. The researcher relied on finding the content validity, which requires matching between the test content and the content analysis of the subject and its teaching objectives. To the extent that the teaching objectives are represented in the test, the test is valid. The researcher presented the initial formulation of the test to a group of mentors and teachers in the Education Department in Amman Governorate, whose number was (6), to explore their opinions on the test in terms of:

- The integrity and scientific accuracy of the question.
- The appropriateness of the question to measure the goal.
- The integrity and clarity of the linguistic formulation of the question.
- Record notes on the test or question in it.
- Determine the test time

The researcher then avoided the notes and modified the test in light of that, and all the experts agreed with the questions asked in these tests, and thus the tests were ready for implementation.

The difficulty and discrimination coefficient of the pre-test: The difficulty coefficient and the discrimination coefficient were calculated, which is one of the indicators of validity of the tests, and the difficulty coefficient is useful in clarifying the ease or difficulty of a question in the test, and the value of the difficulty coefficient is equal to (43%), which is a statistically acceptable value. The discrimination coefficient was also calculated, as the task of the discrimination coefficient is to determine the effectiveness of a question in distinguishing between a student with high ability and a weak student to the same extent that the test differentiates between them in the final grade in general. The value of the discrimination coefficient was (70%).

Calculation of reliability: The split-half method was used, by dividing the ten questions into two parts. The first with odd numbers and the second with even numbers. Spearman Brown's equation was used to calculate the reliability coefficient of the test, and the results showed a high degree of reliability of the study tool, as the value of the correlation coefficient was (0.86), By taking the square root, we get the subjective validity coefficient, which is (0.93), which is a high value that indicates the high test validity. The reliability was also calculated using Cronbach's alpha method, and the reliability coefficient was (0.90).

Study results and discussion:

To answer the hypothesis of the study, which states (there are no statistically significant differences at the level of significance ($\alpha = 0.05$) between the pre-and post-test in developing the problem-solving skill of tenth-grade students according to the method of teaching using the reading comprehension strategy). To test this hypothesis, the researcher used the t-test of the interconnected groups to calculate the differences between the pre and post-application on the test preparation for the study, and the results came as in the table.

Table No. (1): T-test for interrelated groups to calculate the differences between the pre and post-application on the test preparation for the study.

pre-application n=25		Post application n=25		Freedom degree	T value	Effect size d	Effect size η^2	level of significance
36.53	2.71	44.03	3.39	24	5.6	2.045	0.511	0.01

It is clear from Table No. (1) that the value (T) of the differences between the pre-and post-application of the group in the direction of the post-application; Where the mean of the post-application was higher than the mean of the pre-application in the total score of the test preparation for the study; Which means that the null hypothesis which states that "there are no statistically significant differences at the significance level ($\alpha = 0.05$) between the pre-and post-test in developing the problem-solving skill of tenth graders according to the method of teaching using the reading comprehension strategy" was not achieved. This indicates the effectiveness of using the reading comprehension strategy on developing the problem-solving skill of tenth-grade students according to the teaching method. To find out the effect size, eta square η^2 was calculated, and the d value was also found, which expresses the effect size.

Table No. (2): The suggested reference for determining the levels of the effect size for each of the measures of the effect size.

Used Scale	Effect size		
	Small	Medium	Large
d	0.2	0.5	0.8
η^2	0.01	0.06	0.14

Through what was shown by the results of Table No. (2) of the effectiveness of using the reading comprehension strategy in developing the problem-solving skill of tenth-grade students according to the teaching method, the effect size is large and this indicates that the

effect of using the reading comprehension strategy on improving the students' problem-solving skills.

The researcher attributes this result to the fact that reading comprehension is a solution to the problem, as it includes selecting the correct elements, classifying these elements with logical relationships, and determining the size of the impact and strength of each element, all with a mental process to try to understand each of the words that make up the subject. That is, it is an interactive constructive process practiced by the reader through reading content to derive the general meaning of the text. This process is inferred by the reader's possession of a set of behavioral indicators expressing this understanding, which contributes to identifying the elements of the problem. When the student meets the text, the reception process begins, i.e. taking the existing meaning, and from here the process of interaction between the student and the written text takes place, followed by processes of explanation, interpretation, analysis, and conclusion. The reader, interacting with it, judging it, and benefiting from it.

Recommendations:

1. Holding training courses for teachers to familiarize them with the advantages and methods of using the reading comprehension strategy.
2. Teachers adopt modern teaching methods and strategies paying attention to increasing their capabilities and developing their teaching skills by enrolling in training courses in modern teaching methods.
3. Conducting other studies similar to this study in the secondary stages, focusing on problem-solving skills.



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