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The Effect of Teaching Using The Six Hats and Brainstorming on the Achievement of the Islamic Education Subject among Ninth Grade Female Students in The Southern Mazar District

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ABSTRACT
The study aimed to reveal the effect of teaching using the six hats and brainstorming on the achievement of the Islamic Education subject among ninth grade female students in the southern Mazar district. The study sample consisted of (100) female students, who were divided into three groups: the first experimental group that studied according to the six hats method, the second experimental group that studied according to brainstorming, and the control group that studied according to the usual method. Which was prepared by the researcher for the (conviction) unit, whose validity was verified, and an achievement test consisting of (25) items of multiple choice type, whose validity and reliability were verified, and the results of the study showed that there were statistically significant differences ($\alpha \leq 0.05$) in The achievement of ninth grade female students in the subject of Islamic education is attributed to the teaching method, in favor of the two experimental groups (six hats and brainstorming), while there were no statistically significant differences between the two experimental groups on the achievement test. In the light of the results of the study, a number of recommendations were proposed, including: Encouraging male and female teachers of the Islamic Education subject to use (the six hats and brainstorming) because of their clear impact on achievement.
KEYWORDS: the six hats, brainstorming, achievement, the ninth grade, the subject of Islamic education
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INTRODUCTION

Teaching is one of the necessary basics that the person concerned with the educational process must be familiar with, and the teacher must differentiate between the terms included in the educational process, the most important of which are learning, education, teaching, methods, strategies, and methods, because each of them has its own independence, concept, foundations, and meaning. Teaching is a purposeful, planned and organized human activity for the purpose of bringing about the comprehensive and integrated growth of the learner, in the light of enabling him to discover knowledge and facts, and bringing him to the level of organized thinking.

Al-Fleet (2017) indicates the emergence of teaching strategies that help achieve specific educational goals, and suit the characteristics and number of learners, and there is no better strategy than others, but there is a strategy that achieves some aspects of learning more than other strategies, and you may prefer one strategy over others in certain circumstances, And within the limits of certain material or human capabilities, and the continuous technological and informational development allowed the emergence of new learning and teaching strategies that are compatible with the progress made, and new concepts that are consistent with the current era have emerged.

Al-Shammari (2015) emphasized that mental development, relaxation, anxiety, self-confidence, and attention focus are among the most important necessities for the student's continuation in solving and facing any problem that requires finding a solution to it. In schools, it is one of the best strategies to find a solution to the problem through the cooperation of the group members, where each individual in the group contributes to giving an opinion that may be different from the opinions of his colleagues in the team, and then the group leader collects opinions and discusses them and comes up with the best solutions, and this strategy is resorted to in the group Because of the crowding of information and experiences in the minds of students, which leads to preventing some ideas from emerging, and therefore the brainstorming strategy allows these ideas to flow.

The brainstorming method is seen as a kind of group thinking, aiming at multiplicity and diversity of ideas, especially if the group is presented with a problem that is difficult to solve individually. A subject of criticism and censorship, and this may be a factor that prevents and discourages him from issuing any other ideas. The case is that group efforts are likely to be more productive than individual efforts alone (Al-Sulaiti, 2017).

Thinking is a mental process in which the individual interacts with the experiences and attitudes he encounters, generates ideas, analyzes them, and reorganizes them with the aim of integrating them into his cognitive structure. It is one of the important mental and cognitive activities in the lives of individuals. In his daily life, and a way to solve the problems he faces, it is also a primary goal of the educational process, as society needs thinking individuals and not echoing the ideas of others (Dexter & Jones, 2014).

Academic achievement is the basis for the goals that the students, the teacher, and the educational system seek to reach, by relying on various mental processes and receiving science and knowledge in a way that makes the student elevate his mind, so that he is able to understand and solve the problems that face him with an extra effort to achieve success. The student obtains marks and grades in school educational subjects that indicate his special ability, which is the extent to which students absorb what he has learned from specific experiences through academic courses, meaning the amount of change in the type and quantity of knowledge that the individual possesses as a result of completing a specific educational unit or stage (Ambo Saidi and Awad, 2016). The researcher believes that the level of academic achievement among ninth grade female students may be affected by the teaching strategy used while receiving information in the classroom. It has a great impact on getting the student out of the traditional method of teaching, which helps him to improve his academic achievement, so this study came to find out the effect of teaching with the six hats and brainstorming on the achievement in the subject of Islamic education among ninth grade female students.

STUDY PROBLEM

Thinking is a major goal of teaching in modern education, and educators believe that helping students to acquire, practice and apply thinking skills is one of the basic goals of the learning process. Which took place in all walks of life that the world witnessed, which led to a clear change in the nature of the objectives of teaching general Islamic education, so that the development of teaching methods became an important matter for those concerned with the educational process, and the students of the ninth grade are considered like other students who must learn Islamic education in different ways. Modern teaching away from the traditional method, as these methods meet their needs, and move them from the state of indoctrination and passive listening to students who interact with classroom situations, and participate in many situations, which also reflects on their academic achievement, which is the most important goal for students and parents. During achievement, measuring the student's comprehension and understanding of the material, and among the most important of these strategies are the six hats of the world Debono, and the brainstorming strategy that is considered One of the most important strategies for solving problems facing students, which was indicated by many studies, such as the Jackson study (Jackson, 2008).

The problem of the study arose from the observation of the researcher, who is a teacher in one of the schools of the Southern Mazar District, because most of the classroom teachers do not apply modern teaching strategies in teaching subjects, especially Islamic education, which makes the student learn information without developing his thinking skills, so it was necessary to draw the attention of Teachers need to use modern teaching strategies such as the six hats and brainstorming in teaching the subject of Islamic education for the upper basic grades, especially the ninth grade to the following questions:

- Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the achievement of ninth grade female students in the subject of Islamic education due to the teaching method (six hats, brainstorming, and the usual method)?

OBJECTIVES OF THE STUDY

The current study aimed to achieve the following:

- Investigating the effect of teaching using (six hats, brainstorming, and the usual method) on the achievement of ninth grade female students in the subject of Islamic education.

THE IMPORTANCE OF THE STUDY

First: Theoretical importance: This study takes care of an important category, which is the ninth grade students, and they are in an important stage of education, as they must receive knowledge in a modern way using strategies other than traditional education, and this research is also an enrichment of the theoretical knowledge of the research group in the concept of some strategies Teaching, such as: the six hats, and brainstorming, which the rest of the studies did not address for this group of ninth-grade students in the subject of Islamic education, according to the researcher's knowledge.

Second: Applied importance: The current study provides research data on the concept of modern teaching strategies such as: the six hats and brainstorming, where many researchers can benefit from the results of the study in developing a perception of the benefit of these strategies on the student's academic achievement.

STUDY LIMITS AND DETERMINANTS

This study included the following limits and determinants:

- **Human Limits:** This study was limited to ninth grade students in the southern shrine district.
- **Spatial limits**: This study was limited to basic schools in the southern Mazar district.
- **Temporal limits:** This study was conducted in the first semester of the academic year 2021/2022.

- **Objective limits:** The objective limits were limited to the effect of teaching using the six hats and brainstorming on achievement in the subject of Islamic education among ninth grade female students.
- **Determinants of the study:** The generalization of the results of this study remains dependent on the following determinants: the extent of the truthfulness of the study sample's response to the items of the study tool, and the psychometric characteristics (validity and reliability) of the study tool, so the generalization of its results will be constrained by the truthfulness of the tool used.

CONCEPTUAL AND OPERATIONAL DEFINITIONS

The study includes the following procedural terms and definitions:

1- The Six Hats Strategy: It is a strategy that activates six types of thinking called hats, so that the individual moves his thinking from a specific style to another according to the situation he is exposed to (Al-Hababi, 2017).

It is defined procedurally as a method that provides students with the ability to think intentionally through generating and evaluating ideas.

2- Brainstorming strategy: It is a teaching method that relies on a kind of group thinking and competition between small groups. It is a innovative method for generating ideas and encouraging groups to think creatively on a specific topic. All untested and traditional ideas alike are taken into account and used in it. Strange hypothetical questions that deviate from the ordinary (Mahmoud, 2017).

It is defined procedurally as an educational method in which students give free rein to thinking about an issue or a problem, in search of the largest number of possible solutions through the ideas flowing abundantly from the minds of students, and the search is made among the group of ideas that have been generated for the best idea without the need for Criticize or mistake the rest of the ideas.

3- Achievement: It is the student's attainment of marks and grades in school educational subjects that indicate his special ability, and his position among students, whether in terms of an adjective or in the sum of all students, as it is considered as the basic and true measure that indicates the students' mental abilities and intelligence (Nasrallah, 2017)

It is defined procedurally as the extent to which students absorb the specific experiences they have acquired through academic courses, meaning the amount of change in the type and quantity of knowledge that an individual possesses as a result of completing a unit or a specific educational stage.

THEORETICAL FRAMEWORK AND PREVIOUS STUDIES

This chapter deals with two axes: the theoretical framework, which deals with several variables, namely the six hats strategy, brainstorming, academic achievement, and the focus of previous studies that dealt with these variables.

1. The Six Hats: Educators look at teaching differently, some of them see it as a science and others see it as an art, and those who have the idea that it is a science that does not stop at providing information and knowledge, but rather is based on a set of firm rules and foundations, and is based on a number of studies and theories that guide its steps and renew its mechanisms. He sees it as an art, because it is based on skills and talents, and it is sufficient for the teacher to be familiar with them, which enables him to teach the subject concerned without being prepared for that task and without the need for specialization, but teaching in fact is a science and an art that combines preparation and talent together (Saada, 2014).

There are many definitions of teaching among researchers, according to the opinions of those concerned with it first, and the flexibility of its concept as it stems from thinking, work, feelings and feelings secondly, and the stages of development that it wentthrough the ages made it not stand under a specific definition, but there is a diversity in its definition because it is used in many different ways. While preserving and participating in the basic rules of the teaching method, teaching is defined as all the efforts made by the teacher to enable the learners to grow integrated in the light of respecting and taking into account the individual differences among them, and that it is a set of procedures that take place in the light of a dynamic process based on communication and the relationship between the teacher and the learners according to conditions and conditions. Certain, in order to reach the achievement of predetermined goals, which is to achieve comprehensive growth for learners (Al-Zoubi, 2014).

The Six Hats strategy is one of the most important modern strategies used by the teacher to develop the student's lateral thinking. Edward De Bono was the first to talk about lateral or parallel thinking, which means looking at the problem from all sides, in other words, from multiple angles. The solution is difficult or impossible. Lateral thinking provides an effective way to create creative solutions to problems. De Bono invented the six hats method for developing lateral thinking, which is based on dividing thinking into six patterns and counting each hat pattern that the student wears or takes off according to the way he thinks at that moment. The method is that it transforms a rigid situation into a creative one, and it also allows the coordination of

various factors to reach creativity (Ghadiri, 2021).

Abu Warda (2018) explained that complexity is the first enemy of thinking; Because it leads to confusion, when thinking is clear and simple, it becomes more effective, and this applies to the six thinking hats, each hat symbolizes one of the types of thinking, the white hat (neutral thinking), the red hat (emotional thinking), the black hat (negative thinking), and the black hat (negative thinking). The yellow hat (positive thinking), the green hat (creative thinking), and the blue hat (directive thinking). The following is a breakdown of each of the six hats:

(First) The white hat: The white color symbolizes purity and serenity, and therefore it was made a symbol of neutral thinking that does not carry any negative or positive tendencies, and one of the characteristics of white hat thinking is that it is neutral, objective, unbiased, devoid of emotions and focuses on information, and there are two types of information, the first type It includes proven and proven facts, which are facts of the first degree, and the second type includes facts that are believed to be true, but they have not yet been tested, and they are facts of the second degree (Al-Shuwaikh, 2021).

(Second) The Red Hat: The red color symbolizes love and passion, so it has been made a symbol of emotional thinking and the expression of feelings, sensations and intuition. Thinking, and makes sensations visible so that they become part of the thinking map of the individual, as he takes them into account and gives them weight, and here emotions and emotions are the basis for understanding, thinking and interpretation, as they strengthen thinking and develop self-awareness, emotional competence and emotional intelligence (Tanous, 2018).

(Third)The black hat: The black color symbolizes night, gloom, pessimism, negativity, and imperfection, so it is made a symbol of negative thinking, expectation of failure, and explanations for its causes. Negatively, he draws attention to mistakes, and points out the reasons for the invalidity of an idea, as he directs his thinking to penalties, dangers, and caveats (Ibrahim, 2014).

(Fourth) The Yellow Hat: The yellow color symbolizes the sun, light, positivity, and optimism, so it was made a symbol of positive thinking, constructive thinking, and the search for positives and expected opportunities. Among the characteristics of yellow hat thinking: thinking here is completely opposite to negative thinking, as it is optimistic and depends on positive evaluation, as well. It is a mixture of optimism and the desire to see that things are being achieved in order to obtain benefits, and it is a series that ranges between what is logical and practical on the one hand, and what is dreams and hopes on the other hand (Noman, 2017).

(Fifth) Green Hat: The green color symbolizes growth and plants, renewal, development and change, so it was made a symbol of creative thinking, generating new ideas just as plants emerge from small seeds, and one of the characteristics of green hat thinking is that it is creative and creative thinking that focuses on alternatives, exciting and new things, and various possibilities It emphasizes making a creative effort, modifying ideas, removing mistakes, and exploring different alternatives. It also differentiates between the details of each method and tries to find an explanation for each situation. It focuses on the intended development of creativity and that creativity can be developed and learned and that it is not just a talent (Hassan, 2018).

(Sixth) The blue hat: The blue color symbolizes the blue sky surrounding the land, the sea surrounding the land, and the broad horizon and the comprehensive view, so it was made a symbol of holistic thinking, control and organization of thinking calmly and wisely, and one of the characteristics of blue hat thinking is that it is thinking directed to the issue in general, where The blue hat organizes and controls thinking in general. It is the hat of leadership, discipline, decision-making, judgment processing, and control of thought processes or thinking in thinking. It focuses on the agenda, summary, conclusions, and decisions (Hamoud, 2020).

The researcher believes that the six hats in itself is a skill that can be developed along with other skills, and it bases its assumptions on the psychological and intellectual nature of the individual, as individuals are different among themselves, and this method takes into account individual differences and seeks to achieve a set of goals for students.

THE VALUES AND CHARACTERISTICS OF THE SIX HATS

The six hats achieve a number of values among students, the most important of which are mentioned in Al-Madhoun (2017) as follows:

Defining roles: Hats allow those who use them to think and express opinions without hurting the ego. One of the most important obstacles to thinking is to defend the ego that is responsible for most of the scientific errors of thinking.

- Attention and direction: If the goal is to think more than just reactions, the individual must have a way to direct attention from one side to the other, and thus the hats open the way to focus attention and direct it to six different aspects of the subject.
- Appropriateness: The symbolism of the six hats provides a convenient way to ask others and the self to be positive or negative, creative or non-creative.
- Overcoming current knowledge: This is possible through extrapolation, imposing facts and balancing its positives and negatives, identifying feelings towards it, and the possibilities of developing it, which gives the

opportunity to form a future image of us.
- Setting the rules of the game: Teaching the rules of the game is one of the most important forms of education for children, and therefore the Six Hats can be considered a game with rules.

TEACHING STEPS USING THE SIX HATS

Malkawi (2019) showed that there are two ways to use the six hats, namely:
The occasional (individual) use of hats: when the six thinking hats are used separately, one individual hat is used for a period of time to adopt a specific thinking pattern, and this pattern is used when the individual faces a situation that requires the use of a hat, that is, the special circumstances and desires of the individual It determines which hat will be worn when it is used, and this method is usually used for the purposes of writing a report or giving a lecture.

Systematic (sequential) use: here the hats are used one after the other in a specific sequence, with the aim of exploring a specific topic in all its aspects within a short period of time, and there is no specific sequence for using the hats, but rather it depends on the topic and the individuals.

THE ROLE OF THE TEACHER AND THE LEARNER IN THE SIX HATS METHOD

Although the Six Hats method is one of the methods that is easy to apply and use, it requires an open, flexible teacher who believes in the importance of teaching thinking and the possibility of learning it. Above all, the teacher who uses the Six Hats method should determine the required thinking pattern, then present the appropriate activities and guide the students' thinking in what It is consistent with the specific thinking pattern (Serrat, 2009).

De Bono (2000) explained that the teacher's success in using the six hats method requires him to take into account several behaviors such as: listening to students, respecting diversity and being open to their new ideas, encouraging discussion and expressing opinions, accepting the learner's ideas, giving enough time to think, Develop students' self-confidence, and work to give positive feedback. He must also design activities that are appropriate to the level of abilities, preparations, and experiences of students, and that these activities are related to students' lives and the curriculum, and that their objectives are clear.

The student must also adhere to several things in order for the method of teaching with the six hats to succeed and achieve its goal. The teacher is impossible to do his work except with the cooperation of the opposite party, which is the student. Therefore, the student must adhere to the specific thinking pattern, interact with educational activities, unleash his thinking, and make efforts Intellectual effort to propose distinctive ideas or develop the ideas of his comrades, and to have the courage to present the ideas that come to his mind without fear of ridicule from his colleagues, and to formulate his ideas in understandable phrases and sentences so that the idea arrives correctly, and to avoid criticism and ridicule of the ideas of others (Figueroa 2008).

The researcher believes that the teacher of the Six Hats is not a traditional teacher, and does not follow the traditional method of education. He is a guide and a guide, not a prompter of information. His main task is to help learners discover information, suggest ideas, and adjust their thinking in proportion to each hat. In contrast, the learner is not passive, but rather an actor. And interactive in the classroom situation, and that the teacher can use other methods in addition to the six hats that would develop the collective and individual thinking of the students, and help them to solve the problems facing them and to make decisions, and the most important of these methods is brainstorming, which is closely related to the six hats.

2. Brainstorm

The brainstorming method is one of the most important methods of modernizing creativity and thinking that are used recently in the field of teaching. It is the best way to think collectively or individually in solving many different scientific, practical and life problems. It is also an opportunity for students to participate in making important decisions related to solving problems. Generating and producing creative ideas and opinions from individuals and groups to solve a specific problem, and these ideas and opinions are good and useful, and thus put students in a state of excitement and readiness to think in all directions, to generate the largest amount of creative ideas about the problem or topic at hand, so that the student is given an atmosphere of freedom Intellect allows the emergence of many original and creative opinions and ideas (Omar, 2014).

Al-Ahmadi (2017) showed that brainstorming is a meeting of a number of individuals to study and solve a problem (the problem is not always negative, but may be an idea to reach ways to implement it) through the suggestions and ideas of the group, and this method is based on producing ideas first and then modifying and developing them secondly. The brainstorming method is used to solve problems, individually or collectively, and train them, which leads to increased efficiency and creativity.

THE IMPORTANCE OF BRAINSTORMING STRATEGY

The brainstorming strategy is of great importance in the teaching process, and the researchers have worked hard to search for the importance of this strategy in the classroom situation of the student, and many of them indicated

that the main goal of using the brainstorming strategy is to generate new creative ideas to solve problems, by putting the mind in a state of excitement and thinking In more than one direction, in order to reach a solution through the prevailing of an atmosphere of freedom to express different opinions, and stems from this goal several goals, which are as stated in Qamar (2015) as follows:

Removing the fear complex among students, so that each student gives his opinion freely in solving the problem presented from his point of view without restricting or ignoring his idea, so that all students' ideas are taken into account without exception.

- Making the student an effective element in solving problems so that the student is trained to face the difficult situations he faces through developing his mental abilities, and developing his ability to intellectual creativity, which leads to increasing his self-confidence and the independence of his personality.

Spreading the spirit of participation and cooperation between the student and his colleagues in the group through joint work to solve problems, within the collaborative work groups, where through this strategy ideas are put forward and exchanged, which results in ideas of added value to his ideas, where the opinion of each student is taken into account in the group then discusses solutions and selects the most appropriate ones.

BRAINSTORMING SESSION STEPS

Al-Salman (2019) explained the most important steps of the brainstorming session, which are in three stages as follows:

The first stage: the problem is clarified and analyzed into its primary elements, then classified, in order to present it for discussion in the brainstorming session.

The second stage: This stage begins with the leader of the activity explaining how to work, and asking the individuals to avoid evaluating the ideas put forward by the participants and to accept any idea, no matter how imaginary or imaginary, and to present the largest possible number of ideas, while making sure to follow up on the ideas of others and build on them.

The third stage: which is the stage of evaluating ideas and testing them in practice. This stage may take a long time, as other new ideas may appear that can be used.

As for Qamar (2015), she mentioned five stages and steps for brainstorming, which are as follows:

Defining and discussing the problem: by giving the participants the minimum amount of information so that they can understand the topic and participate in it effectively.

- Reformulating the topic: by deviating from the scope of the topic as it is known, and for the participant to define its various dimensions and aspects, by asking questions, as the topic may have other aspects.

Creating a creative atmosphere and brainstorming: This process takes about five minutes. Participants are trained in questions and how to answer them, by means of one or two questions that the leader of the session puts to the participants.

- Beginning the brainstorming process: the leader writes down the question or questions that he has chosen, and the participants begin to present their ideas freely, and the writer of notes writes them down quickly on the board or a flipchart in a prominent place for all, with the numbering of ideas according to the sequence they are received, and the leader invites Participants reflect on the ideas presented and generate more of them.
- Determine the strangest idea: When the number of ideas among the participants is about to end, the session leader can ask the participants to identify the strangest idea from the ideas that were presented, and ask them to think about how this idea can be turned into a practical idea.
- Evaluation of the ideas obtained: The aim is to evaluate ideas, identify what can be taken from them, and classify them into useful ideas that are directly applicable, useful ideas that are not applicable so that they need approval from other parties, funny and impractical ideas, and exceptional ideas.

The researcher believes that the use of modern teaching methods such as the six hats and brainstorming may affect the students' academic achievement, as our method works to develop the student's thinking and change the way he solves problems.

ACADEMIC ACHIEVEMENT

Academic achievement is one of the important areas that have received the attention of parents and educators as one of the educational goals that seeks to provide the student with science and knowledge that develops his perceptions and paves the way for his personality to grow properly. Achievement, which are tools for measuring the extent of a student's achievement of the knowledge or skill he has acquired as a result of learning or training (Abdul Nabi, 2019).

Nasrallah (2017) referred to achievement as the student's attainment of grades and grades in school educational subjects that indicate his special abilities, and his position among students, whether in his class or among all students, as it is considered as the basic and true measure that indicates what students have. Mental abilities and intelligence.

FACTORS AFFECTING ACADEMIC ACHIEVEMENT

The interest comes from specialists in identifying the factors that affect the academic achievement of students from the standpoint of identifying success factors to support them and failure factors to avoid them, and these factors include the following:

The teacher: The teacher plays a decisive role in students' academic achievement, positively or negatively, through his classroom practices, diversification of teaching strategies, the extent to which he takes into account the individual differences between students, his moods, the nature of his personality, and his ability to generalize academic achievement tests in a good and objective manner. Where the teacher performs the desired role that leads to the desired results when he is proficient in the scientific material presented in the curriculum, the general knowledge related to the various fields of science, and his possession of the skill in teaching practice (i.e. possession of academic and professional skills) and other necessary educational skills, and his possession of inclinations and trends. Positivity towards education and educators, that is, towards the teaching profession and work in it (Al-Zahrani, 2020).

Motivation for achievement: Motivation is a driving force responsible for perseverance, orientation, and movement towards achieving goals. It is an intellectual and psychological stimulus that leads to muscular and intellectual effort to reach the desired and desired goals. It is also a physical or psychological condition that pushes the individual towards behavior in certain circumstances and directs him towards satisfying a need. Or a specific goal, that is, it is a driving and directing force at the same time, and it is an internal state of the individual that stimulates his behavior and works to continue and direct it (Colman, 2014).

Hadef (2017) showed that motivation stimulates behavior and excites it in individuals, as it provides strength and energy that drives behavior and pushes the individual to activity and effort after a state of stillness, as it is directly proportional to the degree of activity. The way to reach the goal and vice versa, it is the motivating force that directs the energy needed to implement the desired goals to be reached, and the efforts necessary to achieve the expected work in a good way according to capabilities, and to maintain survival, and motivation performs important functions in learning as it is a function of moving and activating behavior in order to achieve learning And it works to direct learning to the specified destination, and thus the educational behavior is a purposeful behavior, and it works to maintain the continuity of the behavior in order to achieve the learning of the individual.

Academic readiness: The academic readiness of an individual is defined as the extent of his susceptibility or ability to acquire certain skills or behavior if the necessary conditions are created for him, and this behavior varies in degree of difficulty, as it may be a mental skill such as learning mathematics or learning motor activities, and academic achievement differs from Academic readiness, academic readiness depends on the general educational experience, that is, it reflects the multiple aggregate effect that the individual acquires in the course of his life, so it depends on specific educational experiences in one of the fields of study, just as academic achievement tests measure learning that takes place under specific conditions to a relative degree and in conditions that can Control it, and the focus is on what has already been learned by the individual. As for preparation tests, they predict subsequent performance, that is, what the individual can perform in the future if he is given the appropriate conditions (Pagan, 2012).

Self-concept: One of the factors affecting students' academic achievement is self-concept and the student's self-evaluation, as students' self-evaluation gives them confidence in their work, perseverance, and certainty of success and passing the academic stage without difficulties, which leads to an improvement in students' behavior in school as well as their performance (Romos 2012).

Curricula: The school curriculum is all the experiences, activities, and planned practices provided by the school, to help students achieve results according to their own capabilities. Therefore, the level of academic achievement may be related to the curriculum, in terms of its suitability for individual differences, the extent to which it meets the needs of students and satisfies their desires and tendencies, and the extent to which it takes into account the elements of suspense and excitement. The discrepancy between their capabilities and preparations (Al-Jammal, 2019).

The school: The psychological and social services provided by the school to the students reflects the school's relationship with them. Positively in students' performance and levels (Ahmed, 2021).

PREVIOUS STUDIES

The previous studies were presented in two axes, which are the studies that dealt with the six hats strategy and its impact on achievement, and studies that dealt with the brainstorming strategy and its impact on achievement, and were arranged according to the chronological order from the oldest to the most recent:

(First) Studies dealing with the six hats and their impact on achievement:

The study of Al-Muhairat (2019) aimed at identifying the effectiveness of a training program based on the six hats on academic achievement in the Arabic language subject for seventh grade students in Jordan. The researcher applied the achievement test post- and pre-test on the two groups of the study, and the results of the

study showed that there were statistically significant differences between the mean scores of the experimental and control groups in favor of the students of the experimental group, which means the effectiveness of using the six hats in raising the level of achievement among the seventh grade students in the Arabic language subject compared to the usual method.

Malkawi (2019) conducted a study aimed at investigating the impact of teaching science with the Six Thinking Hats strategy on developing scientific thinking skills among fifth-grade female students. The study used the semi-experimental approach and the two-group design with pre- and post-measurement. And education for the Ramtha district in Jordan, and the number of the sample was (87) students who were randomly divided into two groups: an experimental group of (43) students who studied with a strategy

The six thinking hats, and another control group of (44) female students, studied in the usual way, and the scientific content represented by the unit of energy around us was taught to the two groups, and the application period lasted for (4) weeks, and to collect data, a scientific thinking test was used that was applied to the study sample before starting teaching And after you finish it. The results revealed that there were statistically significant differences between the two arithmetic mean of the students' performance on the scientific thinking test for the post-measurement due to the teaching strategy variable, and in favor of the students of the experimental group. This strategy in the development of scientific thinking.

(Second) Studies that dealt with brainstorming and its impact on achievement and scientific thinking

Atrophy study (2019), which aimed to reveal the impact of problem-solving and brainstorming strategies on acquiring technological concepts among ninth-grade female students in Jordan. and female students, and the students were divided into two groups, an experimental and a control group, and the experimental group consisting of (30) students studied according to the strategies of problem solving and brainstorming, and the control group consisting of (30) female students studied in the usual way. The test was applied to the two groups before and after the experiment, and the results showed The t-test analysis showed that there was a statistically significant difference between the two groups due to the problem-solving and brainstorming strategies in favor of the experimental group, which indicates the effectiveness of the problem-solving and brainstorming strategies in testing technological concepts.

Hammoud (2019) conducted a study aimed at knowing the effect of the brainstorming strategy on the achievement of science and the development of holistic thinking among second grade students in the province of Babylon in Iraq. The researcher chose the experimental approach and adopted the experimental design and partial control. Iraq, and the study sample consisted of (70) students divided into two divisions distributed equally between an experimental group that was taught with a brainstorming strategy and a control group that was taught in the traditional way.

Fawaz (2020) conducted a study aimed at knowing the effect of using the brainstorming strategy on the achievement of the tenth grade students at Anjara Comprehensive Secondary School for Boys in Ajloun Governorate. A), and (40) students for the control group, which represented Division (B), and the researcher prepared the study tool, which is the achievement test, and the validity and reliability of the test were confirmed, and the data were treated statistically using appropriate methods, and the results of the study showed that there was a statistically significant difference between the two groups of the experimental and control study in achievement and in favor of the experimental group.

METHODOLOGY AND DESIGN

This chapter deals with a description of the study methodology and the procedures followed by the researcher in selecting the study individuals, and the tools used in the study, with an explanation of the procedures for verifying the validity and reliability indicators of these tools, as well as the application procedures and statistical treatments used to reach the results of the study. The following is a detailed presentation of that.

STUDY APPROACH

The semi-experimental approach was used based on the design of equal groups, by selecting three groups, including two experimental groups, the first: the educational material was studied using brainstorming, the second: the material was studied using the six hats, and a control group studied the same educational material using the usual method.

THE STUDY SAMPLE

The sample of the study was chosen by the intentional method from the students of the ninth grade in the schools of the Southern Mazar district, where the size of the selected sample was (100) students in Mutah Secondary School for Girls, divided into three groups: The second experimental group, which was studied according to the six hats, amounting to (39) students, and the control group, which studied according to the usual method, amounting to (29) students, and the study groups were named by the simple random method.

STUDY TOOLS

To achieve the objective of the study, an achievement test was prepared in the (conviction) unit, as well as designing the educational material according to the brainstorming method and the six hats method, and the following is a detailed presentation of that:

FIRST: THE ACHIEVEMENT TEST:

To prepare the achievement test in its initial form, the researcher followed the following steps:

1- Determine the purpose of the academic achievement test:

The achievement test aims to measure the pre and post achievement of the ninth grade students in the southern shrine district in the unit (contentment) in the subject of Islamic education.

2- Analyzing educational material and setting behavioral goals.

3- Determine the type of test items:

An achievement test was prepared for the content of the (conviction) unit of multiple choice type, where each question consists of four alternatives.

4- VALIDITY:

The researcher presented the achievement test to a group of (4) arbitrators with expertise and specialization at Mutah University and the Ministry of Education. The target of the test, and the extent to which the paragraphs belong to the fields of knowledge, and to suggest what they deem appropriate in terms of deletion or modification, and some paragraphs were deleted and changed and some options were modified based on the observations of the arbitrators, and thus the test became in its final form consisting of (25) paragraphs.

5- The reconnaissance test:

To verify the suitability of the test for the target group; The researcher applied it to a sample of (20) female students from the study community and outside her sample, in order to calculate the coefficients of difficulty and discrimination.

6- Difficulty and discrimination coefficients for the achievement test items:

Difficulty and discrimination coefficients were calculated for students' answers to the test questions applied to the survey sample. Table (1) shows this:

TABLE (1) DIFFICULTY AND DISCRIMINATION COEFFICIENTS FOR THE ACHIEVEMENT TEST ITEMS

Item NO.	Difficulty coefficient	Discrimination coefficient	Item NO.	Difficulty coefficient	Discrimination coefficient
1	0.56	0.42	14	0.60	0.50
2	0.52	0.67	15	0.36	0.58
3	0.48	0.50	16	0.44	0.42
4	0.56	0.58	17	0.64	0.67
5	0.40	0.50	18	0.48	0.50
6	0.36	0.67	19	0.52	0.67
7	0.68	0.42	20	0.44	0.67
8	0.60	0.34	21	0.58	0.50
9	0.36	0.50	22	0.62	0.58
10	0.56	0.67	23	0.40	0.50
11	0.44	0.50	24	0.72	0.42
12	0.56	0.34	25	0.68	0.67
13	0.72	0.26			

Table (1) shows that the values of the difficulty coefficients for the achievement test questions, which were applied to the survey sample, ranged between (0.36 - 0.72), which means that the difficulty coefficients for the test questions fell within the acceptable range, which ranged between (0.20 - 0.80) (Odeh, 2005); The difficulty coefficients for the test questions are acceptable for the application of the test in the current study, and in light of the previous result, all test questions were adopted.

As shown in Table (1), the values of the discrimination coefficients for the test questions applied to the survey sample ranged between (0.34-0.67). 2005), and based on the calculation of the previous difficulty and discrimination coefficients, no items were deleted from the test items in light of the above results.

7- Checking the stability of the test:

To verify the stability of the test, the researcher used the method of applying and re-application of the test (Test-Retest) by applying it to a sample of (20) female students from the study community and from outside her sample. Once again, the stability of the tool was verified by extracting the Pearson correlation coefficient between the two times of application, as its value was (0.79), and this value is considered acceptable for the purposes of the current study.

TABLE (2):ARITHMETIC MEANS AND STANDARD DEVIATIONS OF THE NINTH-GRADE STUDENTS' PERFORMANCE IN THE ACHIEVEMENT TEST IN THE PRE-APPLICATION

Test	Group	Pre-test	
		Arithmetic Mean	Standard Deviation
Achievement	Brainstorming	8.78	3.27
	Six Hats	8.69	2.80
	Control Group	8.34	2.29

It was noted from Table (2) that there are minor apparent differences between the arithmetic means of the three study groups, and to examine the significance of these differences, one-way analysis of variance was used.

TABLE (3): THE RESULTS OF ONE-WAY ANALYSIS OF VARIANCE TO EXAMINE THE EQUIVALENCE BETWEEN THE STUDY GROUPS ON THE TWO ACHIEVEMENT TESTS IN THE PRE-APPLICATION

dependent variable	Contrast source	Squares sum	Freedom degree	Squares mean	F Value	SIG
Achievement test	Between groups	3.232	2	1.616	0.202	0.818
	Inside groups	776.328	97	8.003		
	Total	779.560	99			

It is clear from Table (3) that there are no statistically significant differences at the level ($\alpha \leq 0.05$) in the pre-achievement test between the three study groups, and the results also indicate that there are no statistically significant differences at the level ($\alpha \leq 0.05$) in the pre-achievement test between The three study groups, which means that the three groups are equivalent before starting the application of the study.

STUDY VARIABLES:

The study included the following variables:

1. Independent Variable: The method of teaching has three levels: teaching using brainstorming, teaching using the six hats, and the usual method.

2. Dependent Variable: These include:

- The level of academic achievement.

STUDY APPLICATION PROCEDURES:

The application of the study included a set of procedures, and the following is a detailed presentation of these procedures:

1- Obtaining official approval to carry out the study procedures and apply them in the schools of the southern shrine district.
2- Preparing study tools (achievement test, educational material prepared according to the brainstorming method, and prepared according to the six hats) after referring to theoretical literature and previous studies related to the subject.
3- Refer the study tools and make the required amendments according to the opinions of the arbitrators.
4- Applying the achievement test on an exploratory sample from outside the study sample and within its community.

STATISTICAL PROCESSING

Arithmetic means and standard deviations were calculated using one-way analysis of variance, one-way multiple one-way analysis of variance (MANCOVA), effect size (eta-square), and post-comparisons (SHV) to answer the two questions of the study.

Presentation and discussion of results and recommendations

Presentation and discussion of results

Results related to the first question: Are there statistically significant differences at the level ($\alpha \leq 0.05$) in the achievement of the ninth-grade students in the subject of Islamic education due to the teaching method (brainstorming, the six hats, the usual)?

To answer this question, the arithmetic means and standard deviations were calculated for the achievement of the ninth-grade students in the science subject, and Table (3) explains this.

TABLE (3): THE ARITHMETIC MEANS, STANDARD DEVIATIONS, AND THE ADJUSTED ARITHMETIC MEANS OF THE ACHIEVEMENT OF THE NINTH-GRADE FEMALE STUDENTS IN THE SUBJECT OF ISLAMIC EDUCATION

Group	Pre-test		Post-test		Average rate	standard error	NO
	Arithmetic Mean	Standard deviation	Arithmetic Mean	Arithmetic Mean			
Control	8.34	2.29	13.31	2.82	13.274	0.762	29
Experimental (brainstorming)	8.78	3.27	16.41	3.50	16.427	0.725	32
Experimental (six hats)	8.69	2.80	17.23	5.19	17.240	0.657	39

It is clear from Table (3) that there is an apparent discrepancy in the arithmetic means, standard deviations, and the adjusted arithmetic means of the achievement of the ninth grade female students in the subject of Islamic education, due to the different categories of the group variable (the first experimental, which was studied according to brainstorming, the second experimental, which was studied according to the six hats, and the control, which studied according to the usual method), and to show the significance of the statistical differences between the arithmetic means and standard deviations, the accompanying one-way analysis of variance was used, and Table (4) shows the results of that.

TABLE (4): ONE-WAY ANALYSIS OF VARIANCE ASSOCIATED WITH THE IMPACT OF THE TEACHING METHOD ON THE ACHIEVEMENT OF THE NINTH-GRADE FEMALE STUDENTS IN THE SUBJECT OF ISLAMIC EDUCATION

source of contrast	Squares sum	Freedom degree	Squares mean	F Value	SIG	Eta square
Pre-test (accompanied)	13.268	1	13.268	0.789	0.377	
Teaching method	277.417	2	138.709	8.252	0.000	0.147
The error	1613.581	96	16.808			
Total	26957.000	100				
corrected total	1898.110	99				

The results in Table (4) indicate that there are statistically significant differences between the mean scores of the ninth grade female students in the three groups (the first experimental, which was studied according to the brainstorming method, the second experimental, which was studied according to the six hats, and the control group, which was studied according to the usual method) due to the method Teaching, where the calculated (F) values were (8.252) with a statistical significance of (0.000), and to find out the direction of these differences, oral comparisons were used, and Table (5) shows the results.

TABLE(5): DIMENSIONAL COMPARISONS OF THE ORAL METHOD OF THE EFFECT OF THE TEACHING METHOD VARIABLE

Corrected Arithmetic	Groups	differences between averages		
		Brainstorming	Six hats	Traditional
16.427	Brainstorming	.....	0.813-	*3.153
17.240	Six hats	0.813	.....	*3.966
13.274	Traditional	*-3.153	*-3.966	.....

It is noted from Table (5) that:

- There are statistically significant differences between the mean scores of the first experimental group that studied by the brainstorming method and the control group that studied by the usual method in the post achievement test, in favor of the experimental group that studied by the brainstorming method.
- There are statistically significant differences between the mean scores of the second experimental group, which was taught using the six hats method, and the control group, which was taught in the usual way, in the post achievement test, in favor of the experimental group, which was taught using the six hats method.
- There were no statistically significant differences between the average scores of the first experimental group that studied by the brainstorming method and the average scores of the second experimental group that studied by the six hats method.

In order to reveal the effect of the teaching method (brainstorming, and the six hats) on raising the level of achievement of ninth grade female students in the subject of Islamic education, an eta square (n2) was found to measure the size of the effect, and it was (0.147), and this means that (14.7%) of the variance The sample members on the achievement test refer to the teaching method, as (Abu Hatab and Sadiq, 1991) confirmed that the size of the effect that explains less than 6% of the total variance indicates a small effect, and that the effect that explains about (6%) of the total variance is considered a moderate effect. An effect that explains about (15%) or more is considered a significant effect.

DISCUSS THE RESULTS

Discussing the results related to the first question, which reads: "Are there any statistically significant differences at the level ($\alpha \leq 0.05$) in the achievement of the ninth grade female students in the subject of Islamic education due to the teaching method (brainstorming, the six hats, the usual).

The results showed that there were statistically significant differences between the mean scores of the first experimental group, which was taught by the brainstorming method, and the control group, which was studied by the usual method, in the post-achievement test, in favor of the experimental group, which was taught by the brainstorming method.

This result can be attributed to the fact that the brainstorming strategy is one of the group discussion strategies that encourages the generation of the largest possible number of diverse and innovative ideas, in a spontaneous and free manner in the light of an open dialogue that does not limit the release of ideas, choosing the appropriate ones, and works to spread the spirit of participation and cooperation. Between the student and his colleagues in the group through joint work to solve problems, within the collaborative work groups, where through this strategy ideas are put forward and exchanged, which results in ideas of added value to his ideas, where the opinion of each student in the group is taken into account and then solutions are discussed and selected. The most appropriate.

The basic principles on which the brainstorming strategy is based helped advance the experimental group over the control group, such as avoiding criticism, welcoming quantity and quality, following the different stages of reformulating the problem, and the learner in charge of the session being convinced of the usefulness of this method in reaching creative solutions, eliciting ideas and evaluating them, so the success of the session Brainstorming depends on the level of objectivity and distance from personal opinions and convictions. The emerging ideas must be written down and numbered so that all participants in the group can see them. All of this contributed to enhancing the level of academic achievement among ninth grade female students in the subject of Islamic education.

The results also showed that there were statistically significant differences between the mean scores of the second experimental group, which was studied using the six hats method, and the control group, which was studied using the usual method in the post achievement test, in favor of the experimental group, which was studied using the six hats method. This result can be attributed to the reliance of the six hats strategy on a group Among the basic assumptions, including: that it can be taught, that it can be improved through training, that it can be developed at all ages and in various materials and training situations, and that it is a field in which all types of thinking are developed, and it can be confirmed that it is available through apparent testing, and that it is a mental readiness that requires mental flexibility. , as wearing one hat all the time is not possible, and limiting one hat to one limits the mind and thinking, and that wearing a hat depends on the situation.

The results also showed that there were no statistically significant differences between the average scores of the first experimental group, which was studied using the brainstorming method, and the average scores of the second experimental group, which was studied using the six hats method. Among the students, both methods worked to transform the stagnation that the learner might feel in the subject of Islamic education. Where the researcher noticed the high level of interaction of the students during the teaching of the educational material and their desire to learn and ask questions and different ideas, which provided these two methods a suitable educational environment for the subject of Islamic education.

RECOMMENDATIONS

In light of the results, the study recommends the following:

1- Encouraging teachers of Islamic education to use a strategy (brainstorming and the six hats) because of its clear impact on achievement.
2- Conducting studies similar to the current study on other educational stages and other variables, such as: motivation and problem-solving.

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