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The effect of exercises using divergent thinking methods according to the Whatcom system is in development some mental variables of volleyball among third-stage students

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Abstract
The study aims to prepare exercises according to the Whatcom system And depending on the method of divergent thinking and identification The effect of exercises on the development of some mental variables among students, and the importance of the study is The use of modern technology in the development of skilful performance For students of the third stage, including the reason system, and imposing the study is that Rehakum system exercises have a positive effect on the development of some mental variables among students, and the researchers used the experimental approach in the one-group method to suit the nature of the problem studied. Distributed into six divisions, and after excluding the female student's division, the research sample was selected for two divisions (C, E) in a simple random way, as the number of the research sample became (57). And the pre-test was conducted, then the exercises were implemented, which took (8 weeks), and after completion, the post-test was conducted.
And it was displayed Results and then discussed, the most important conclusion is that exercising the Rehacom system had a positive effect on developing student's awareness of the surroundings.

Keywords: Rihakom system-divergent thinking style-mental abilities-volleyball

Introductions
The modern era is characterized by scientific progress in many areas, including the use of modern methods to bring about the learning process and work to provide an opportunity to involve students in thinking, research and investigation about the correct performance of the skill to be learned by preoccupying them with how to perform, so this development necessitated the need to develop teaching methods and appropriate methods for using applications Modern methods that suit the teaching process, including the use of the divergent thinking method, which is one of the modern methods that develop thinking and search for the correct performance of what is being asked of the subject teacher, who in turn asks the performance of the skill in the form of a question without putting solutions and asks the student to research how to perform in a practical way, and a game Volleyball is one of the sports that has skills that require the student to think about how to perform each skill to achieve the learning process. Due to the high level of skill performance required by the game of volleyball, it is necessary to use an appropriate teaching method that depends on students' positive participation in the learning process. The goal is not to provide the learner's mind with information and growth in helping him develop thinking.
Hence, the importance of the study lies in knowing the effect of using exercises based on the divergent thinking method according to the Whatcom system to develop some mental variables related to the game of volleyball. The problem of the study was demonstrated by those in charge of the educational process seeking to improve the traditional teaching methods and work to increase the positive interaction between the teacher and the student. Using the divergent thinking method according to the Whatcom system, as they provide the opportunity for the student to think and investigate the correct performance of the studied skills to develop the mental variables of volleyball for the students of the third stage.

The study aimed to prepare exercises using the divergent thinking method according to the shalom system to develop some mental variables related to volleyball for students.
The study hypothesises that the exercises using the divergent thinking method have a positive effect on the development of some mental variables for the students of the third stage.

Methodology
The researchers used the experimental method in one group method, due to the suitability and nature of the problem studied.

Study population and sample
The study population included (256) students in the third stage in the College of Physical Education and Sports Sciences / University of Al-Qadisiyah for the academic year 2018-2019. The research sample was carried out using a simple random method (lottery), as it was represented by the two divisions (C, E), and numbered (57) students, and (7) students were excluded to conduct exploratory experiments on them, as the number of the sample became (50) students.

The tests used
(Divided attention GEAT)): (Abdel-Ghani, 2018) [1]
The researcher adopted Wen Divided Attention Test GEAT, as this test represents the process of divided attention accurately, as it was designed with a high degree of honesty, and in it, the tester must respond to auditory and visual stimuli in a parallel manner represented by tasks, which are
Visual task: In this part of the task, a square containing 5 circles appears on the screen, all with a hole on one side of the perimeter. The locations of the holes may change, but the circles do not change. The tester must click and react on the keyboard when it is displayed within The square is one of the five closed circles.
Auditory task: the laboratory hears two simultaneous sounds, high and low, with the appearance of circles, and it must react as soon as possible, just hearing the sound in the form of a tone that is repeated twice in a row.
Test application: The tester begins an exercise to pass it successfully. The tester must interact with the relevant audio and visual stimuli. After that, the actual test begins. The tester also has to observe the shape displayed on the screen, which consists of five circles with openings in the changing position when the circuit is closed and the pressure On the OK button simultaneously, the high and low audio signals are displayed alternately, and when the same tone is issued twice in a row, then only the response is by clicking on (OK).

Duration of the test: The duration of the test is 3 minutes, except for the exercise phase.

Working memory test (PUME) (Abdel-Ghani ،2018) [1]
This test is measured
- The extent of visual-spatial memory
- The visual-spatial memory function

As well as visuospatial learning and working memory

Performance method
In this test, a blue box is displayed on the screen, and inside it is a group of individual dots of white colour in the form of a closed circle. The sequence the laboratory must select the points in the same order in which they were presented and each with a new sequence, which are sequences that cannot be repeated with the previous sequence. If the laboratory chooses a series of points correctly, the colour of the point turns green and the number of points increases in the following stages of the test. After her disappearance.
The working memory test is adaptive, as it measures the level of difficulty of the tester's performance and reduces it if necessary.

Test duration: The test ends if the tester copies the bright spots incorrectly twice or after (7) minutes-test:
The researchers did By conducting a pre-test for J's test Divided Attention and working memory on Sunday, corresponding 3/4/2018 in the study unit - Sports Psychology Laboratory in the College of Physical Education and Sports Sciences - University of Al-Qadisiyah, at (10:00 am), after giving an introductory unit About the device and the method of conducting the test.

The exercises used
After conducting the pre-test on the research sample, the researchers applied the exercises that were prepared by them, which will be for eight weeks, at the rate of two units per week, starting from 3/11/2018, and it is within the main section of the lecture. "Some researchers indicated that the maximum should not exceed five minutes and that the short period does not affect the level of performance, and there are those who indicated that the training period ranges between (one minute - twenty minutes) as well as between one attempt and up to three hundred attempts (Shamoun, 1996) [9]. The training dose on psychological skills should be between (30-15 minutes) and (3-5 days) per week (Ratib, 2000) [8].

The week	Unit	The exercise	Time
The first	The first	1.When the student hears the sound stimulus (the whistle), he performs the skill of receiving the transmission only in an apparent form without a ball. 2.The teacher of the subject asks a question in the form of a problem about how to place the two legs when receiving the service from the bottom of the volleyball ball, and the student searches in his memory for the correct position of the two legs, and the performance is in a dynamic manner and without a ball.	30 d
	the second	1.When listening to the sound stimulus, he performs the skill by receiving the ball sent by a colleague. 2.The teacher of the subject asks a question in the form of a problem about how to place the arms when receiving the service from the bottom of the volleyball ball, and the student searches in his memory for the correct position of the arms, and the performance is in a dynamic manner and without a ball	30 d
The second	The first	1.When listening to the sound stimulus, perform the skill by repeating it twice, then return it to the colleague. 2.The teacher of the subject asks a question in the form of a problem of merging the position or movement of the legs and arms when receiving the services from below with the volleyball, and the student searches in his memory	30 d

		for the correct position of the arms, and the performance is in a dynamic manner and without a ball	
	The second	1. After listening to the sound effect, he receives the balls sent by more than one colleague (standing on the transmission line). 2. The teacher writes the sequence of performing the skill on a board placed next to the playground. The sequence is randomly distributed, and the students are asked to read the exercise and apply it dynamically and in the correct sequence.	30 d
The third	The first	1. He takes the receiving position when he hears the stimulus, receiving the ball and sending it to the prepared player. 2. The teacher asks the students to think about the correct performance method by having a ball and making repetitions for the skill of receiving from the bottom with the correct position of the body, bending and extending the knees.	30 d
	The second	1. The player moves inside the stadium and after hearing the sound stimulus, performs the reception sideways in the stadium. 2. The teacher asks the students to think about the correct performance method by having a ball and making repetitions for the skill of receiving from the bottom with the correct position of the body, bending and extending the arms, and looking at the way to direct the ball to the colleague	30 d
Fourth	The first	1. Receiving the ball alternately (right, left) after hearing the stimulus, and the process is repeated with ten repetitions. 2. An exercise in performing the skill of receiving the serve by walking the ball inside the field, with a focus on the correct performance position	30 d
	The second	1. Receives the ball and sends it to the specified place inside the stadium after hearing the sound stimulus 2. Performing the transmission-reception exercise with the colleague in the presence of the network, and every time the reception is done, he focuses on bringing the distance closer and further away when receiving	30 d
Fifth	The first	1. He performs continuous repetitions, and upon hearing the stimulus, he sends the ball to the highest distance and receives it normally, and this process is repeated three times. 2. The teacher of the subject asks a question in the form of a problem about how to place the two legs when receiving the services from below with volleyball, and the student searches in his memory for the correct position of the two legs, and the performance is in a dynamic manner and without a ball.	30 d
	The second	1. The teacher performs the virtual form of the skill without a ball, and then after the student hears the sound stimulus, he performs the same movement as the teacher. 2. The teacher of the subject asks a question in the form of a problem about how to place the arms when receiving the service from the bottom of the volleyball ball, and the student searches in his memory for the correct position of the arms, and the performance is in a dynamic manner and without a ball	30 d
Sixth	The first	1. The teacher performs the virtual form of the skill with the ball, and then after the student hears the sound stimulus, he performs the same movement as the teacher. 2. The teacher of the subject asks a question in the form of a problem of merging the position or movement of the legs and arms when receiving the services from below with the volleyball, and the student searches in his memory for the correct position of the arms, and the performance is in a dynamic manner and without a ball	30 d
	The second	1. The subject teacher performs the skill by receiving the ball and sending it to the wall, and the student observes the teacher's work, then when he hears the stimulus, he performs the exercise similar to what he witnessed. 2. The teacher writes the sequence of performing the skill on a board placed next to the playground. The sequence is randomly distributed, and the students are asked to read the exercise and apply it dynamically and in the correct sequence. 1. The student performs the reception by directing the ball to a specific point on the wall and making repetitions of no more than 12 repetitions, after which he rests. 2. The teacher asks the students to think about the correct performance method by having a ball and making repetitions for the skill of receiving from the bottom with the correct position of the body, bending and extending the knees.	30 d
Seventh	The first	1. The student performs the reception by directing the ball to a specific point on the wall and making repetitions of no more than 12 repetitions, after which he rests. 2. The teacher asks the students to think about the correct performance method by having a ball and making repetitions for the skill of receiving from the bottom with the correct position of the body, bending and extending the knees.	30 d
	The second	1. Each student performs the reception skill, the distance between them is 3 meters, and when receiving the ball, he makes two repetitions, then it is sent to the colleague, and so on. 2. The teacher asks the students to think about the correct performance method by having a ball and making repetitions for the skill of receiving from the bottom with the correct position of the body, bending and extending the arms, and looking at the way to direct the ball to the colleague	30 d
Eighth	The first	1. Each student performs the reception skill, the distance between them is 3 meters, and when receiving the ball, then it is sent to the colleague, and so on. 2. An exercise in performing the skill of receiving the serve by walking the ball inside the field, with a focus on the correct performance position	30 d
	The second	1. Upon receiving the visual stimulus, he performs the skill by receiving the ball sent by a colleague. 2. Performing the transmission-reception exercise with the colleague in the presence of the network, and every time the reception is done, he focuses on bringing the distance closer and further away when receiving	30 d

- Test

for divided attention and working memory, tests were conducted on the study sample using the Rehacom system, on Sunday 6/5/2019. The time is (10:00 am) in the study unit - the Sports Psychology Laboratory in the College of Physical Education and Sports Sciences. Al-Qadisiyah University the researchers followed the same procedures and steps mentioned above, which were done in the pre-tests.

Statistical means: Use the SPSS statistical bag to extract correlated t -value results.

Results

Schedule 1: It shows the arithmetic mean, standard deviations, and (t) value for both the pre and post-test

T	Variants		Pretest		Post-test		difference	T	Variants
			s	p	s	p			
1	Divided attention	Audio	1.0932	0.87138	2.1876	0.84848	1,094	8.42247	moral
		Visual	0.6424	0.374318	1,999	0.74927	1,356	5.5654	moral
2	Working memory			0.914153	3.6262	0.75939	1,815	2.65	moral

In light of the extracted data, Table (1) shows The values of the arithmetic mean, standard deviations, and difference of the means, (RA, Al-Lami H, & Shakir K, 2000) [7] and the value of (T) for the values of the variables of (Abdel-Ghani, Al-Rihacom Knowledge System, 2018) [2] divided attention. (Ratib, Psychological Skills Training, 2000) [8] Through the aforementioned values, we notice a significant difference in the variables of divided attention and working memory between the pre and post-tests and in favour of the post-test for the study sample.

The Discussion

The results of the pre and post-tests as in Table (1) indicate that there are statistically significant differences between the pre and post-tests and in favour of the post-test, as we notice a remarkable development in the studied variables, attention divided into auditory and visual segments, as well as the working memory variable, and this development is due to the effect of the exercises used in a manner Divergent thinking, which depends to solve a problem on imagination, remembering, and the ability to internally and externally represent the relationships between the basic elements. (Mahmoud al-Rubaie) points out that the divergent thinking method is a vital activity that a person performs and practices on various levels of complexity whenever he is assigned to perform a duty or asked to decide on a topic. "(Al-Rubaie, 2018) [4]. The researchers believe that this development occurs because students can think and search for the correct performance. In the exercises of the divided attention of the auditory variable, the exercises of the curriculum prepared by the researchers had a clear effect on the events of development, as they allow each student to move to apply each exercise dynamically and search for solutions to the performance through repetitions that develop the student's mental thinking to finally decide the correct form For each skill through the auditory exercises, the researchers also noticed the variable of divided attention to the visual. The curriculum exercises also had a remarkable development, due to the commitment to each visual exercise prepared by the researchers, as it allowed sufficient time for the research sample to realize the performance of the skills visually for each skill according to the Whatcom system and indicates (Abu Hatab Fouad) "The visual sensory system communicates complete information about the surrounding environment and helps the athlete to distinguish the interconnected materials present in the place, the distance between the ball and the goal, the direction, the speed of the ball, and the opponent's movement." (Fouad, 1973) [5].

What the folds of the field of vision and the corners of the eyes bear are many things that have an impact on every skill of sports in general, as the link between sight and sports did not come by chance, as specialists in this field indicate that practising sports corresponds to the use of sensory information that comes 85 % of it by sight.

The researchers believe that the visual focus is one of the important elements that should ideally exist for students because the decision in the volleyball game requires parts of a second to perform to transfer the ball to another colleague on the court or direct the ball to the opponent's court to score a point directly, so it requires students to Has a high level of visual focus on effective active play and picking up offences between players.

The nature of the volleyball player's work requires him to pay attention to many stimuli within the field of play, whether the stimulus is audio or visual, which requires him to have an ideal level of divided attention that he enjoys because the nature of the ball is mobile from one player to another wherever the ball goes, so He should The player should be fully prepared to shift his attention to more than one stimulus within the field of play to ensure dealing with the various situations that occur in the field of play. More than one place. And (Arwa Muhammad) indicates, "that the individual can, through divided attention, perform several tasks at the same time by dividing his attention between these tasks." (Al-Khairy, 2012) [3]. As it was found that the study sample has a high level of divided attention, and this is consistent with the mental and psychological characteristics of the students and the ability to divide their attention into multiple stimuli and perceive the surrounding events, which enables them to make appropriate decisions. They enjoy high ambition and self-confidence at the same time, and they tend to achieve outstanding performance and keenness on accuracy in perfectly performing the activities, as well as the tendency to pay attention to the details and subtle particles in the performance (Kahneman, 1973) [6].

As for the working memory variable, its effect was clear through the results mentioned in Table (1). The researchers attribute this development to the exercises used in the research. They contributed to the development of working memory among the research sample. Volleyball contains working memory exercises on the correct organization and moving from easy to difficult and enhancing performance the fact that the student receives many other variables has helped the exercises to respond quickly to the stimulus of working memory because it takes a very short time, especially in the sports field, it reaches parts of a second, so at the beginning to learn it needs It takes a long time, but with the passage of time and repetition, the response time decreases, and this is what we noticed in the rapid development of the research sample.

It must be noted that the skills of the volleyball game require students to have the ability to pay attention and good memory to follow the speed of the ball's arrival from the opposing team and work to deal with it correctly by directing it to a colleague or directly scoring a point by exploiting the lack of understanding and attention of the opposite team. The researchers noted the development of the student's performance during the game, as "the athlete can quickly receive attention from the stimulus." What the

player needs is attention in its various forms and in more than one source, such as paying attention to the ball, a fellow player, the opposing player, the coach's voice, and other stimuli and intended to choose the most appropriate
This is due to the effect of the exercises associated with the divergent thinking style, which contains attention and working memory exercises, which led to the students acquiring the perception of skill according to the mental variables of attention and memory that had the greatest role in the student's success in dealing with what happens during the match period, as (Shamoon) indicates The greater the focus on the details of the skills, the more effective the use of mental imagery in influencing the level of performance (Shamoun, Mental Training in the Sports Field, 1996) [9] From here, " the visual sensory system provided complete information about the surrounding environment and helped the athlete to distinguish the interconnected materials present in the place, the distance between the ball and the goal, the direction and speed of the ball, and the opponent's movement." (Kahneman, 1973) [6].

Conclusions

1. The rehakum system exercises had a positive effect on the development of divided attention and working memory among students.
2. To use modern techniques, such as the divergent thinking method and the shalom system, and work with them together, using exercises that help students in developing appropriate solutions for skilful performance, which helped in reaching real results for the variables of attention and working memory.

Recommendations

1. The importance of teachers' interest in diversifying the use of modern teaching methods, which allows the student to participate in a part of the educational process.
2. The possibility of using the indirect divergent thinking method in students' learning of the cognitive aspects (defined achievement) of the basic skills of the game of volleyball.
3. The need to use modern technologies represented by the use of computers and access them by researchers to work on psychological tests and indirect teaching methods, because they are characterized by accuracy and credibility and give real results.

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