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Effect of the pentagram (PG) strategy of thinking to developing focus accuracy, psychological energy and achievement for junior archery players

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Abstract

The importance of research is also evident in raising the level of performance and achievement in the game of archery by teaching young people to perform based on the correct psychological aspect in terms of thinking, concentration, and raising psychological energy using correct education and the psychological educational strategy at the same time, which is the pentagram (PG) strategy.

The problem of the research was: There are important requirements in achieving achievement in the game of archery that must be present during education, training and competition, which is the ability to focus, based on correct thinking and raising psychological energy. This cannot be achieved unless there is a strategy that combines these requirements during its application and thus the required results can be achieved and victory can be achieved. Accordingly, it was concluded: The Pentagram (PG) strategy for thinking achieved the educational, training and psychological goals by raising the level of accuracy of concentration, psychological energy, and achievement for junior archery players. It was recommended: Adopting the Pentagram (PG) strategy for thinking because it achieved the educational and psychological goals by raising the level of accuracy of concentration, psychological energy and achievement for junior archery players.

Keywords: Pentagram strategy (PG), thinking, focus, psychological energy, archery

Introduction

A person rises, develops, and is creative in his life when he is given attention in terms of correct education and building the ability to think in accordance with modern, advanced information in educational institutions and various sciences, including educational, social, economic, and even sports. On the sports side, building the mental and psychological processes of the learner is important and essential so that he has the ability to carry out the motor task assigned to him according to his sports specialization.

For this reason, we find that some types of sports have important mental, intellectual and psychological demands in achieving sporting achievements, including the game of archery, which is considered one of the sports that requires high-level psychological energy in addition to a correct intellectual structure in performance from the moment of preparation until the shooting.

Therefore, the game of archery has multiple and overlapping requirements, one with the other, starting with the senses, especially the sense of sight, and then a state of mental relaxation and a feeling of psychological calm. His focus should be on the present and abandoning thoughts and mental distractions, including feelings that relate to the past or future. Likewise, the player must be in a state of peace. Awareness and keen awareness of his stance, as the player must have self-confidence and psychological calm. When there is confidence, there is no muscle tension and anxiety, and concentration increases more.

As for psychological energy, it has a major role in achieving results, and its importance is no less than physical energy. According to Osama Kamel Rateb (2005).

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If physical energy can be organized and controlled by planning the training load, then psychological energy can be controlled by teaching the player how to control His thoughts and emotions, and this is the general goal of psychological preparation (1:157).

All of this can be provided through the use of an educational strategy that develops ideas and raises the level of psychological energy and achievement, especially the Pentogram strategy (PG), which is one of the modern strategies and consists of a set of procedures that occur in an organized and sequential manner to raise the level of education and thinking. It depends on planning, decision-making and its application and then Monitoring and evaluating thoughts through meditation, self-evaluation, and mental activities used before and during skill performance.

Hence the importance of research in raising the level of performance and achievement in the game of archery by teaching young people to perform based on the correct psychological aspect in terms of thinking, concentration, and raising psychological energy using the correct education and the psychological educational strategy at the same time, which is the Pentogram (PG) strategy.

Research problem

Through the experience of the researchers for many years in this field, and also through their being teachers in sports psychology and in the game of archery, and through reviewing the opinions of some coaches for young age groups, it was found that one of the most important reasons for the fluctuation in achieving results and raising the level of achievement is lack of focus and a lot of continuous negative thinking. For the learner, which keeps him away from focusing, so it is necessary to raise his level of thinking and know how to raise the mental energy that is important in carrying out the motor task. This can only be done through the correct use of learning strategies, especially the Pentogram (PG) strategy for thinking, which may address the research problem and raise the level of emerging players in performance. And achievement.

Research objective

1. Determine how junior archery players' accuracy of attention, psychological energy, and success are affected by the pentagram (PG) thinking method.
2. Finding variations in the development of junior archery players' precision of focus, psychological energy, and achievement between the results of the pre- and post-tests of the control and experimental groups.
3. Determining the variations between the experimental and control groups' post-test scores in terms of improving junior archery players' precision of focus, psychological energy, and performance.

Research hypotheses

1. The Pentogram (PG) method has an impact on how junior archery players think about improving precision of focus, psychological energy, and success.
2. There are statistically significant variations between the pre- and post-test results for the control and experimental groups, favoring the post-tests in enhancing junior archery players' precision of focus, psychological vigor, and success.
3. There are statistically significant variations in the post-test findings between the experimental group and the control group, favoring the experimental group in terms of improving junior archery players' precision of focus,

psychological energy, and success.

Research Field

Human field: Archery players in the junior category of Amanat Baghdad Sports Club.

Time Field: For the period from 6/6/2023 to 8/8/2023

Spatial Field: Shooting field at Amanat Baghdad Sports Club.

Definition of terms

Pentogram Strategy (PG): (10:120), (11:135)

It is considered a modern strategy that aims to introduce a new educational system to learners and develop higher-order thinking skills such as planning, monitoring and evaluation. It relies on providing specific educational tasks that help the learner carry out various processes of research and exploration of information himself, and its success depends on placing the content within the design framework through available and selected sources. In advance, it takes the learner from one stage to another, where the result of this design appears in the end. The advantages of the pentagram strategy are.

1. Develops higher-order thinking and advance thinking skills, which reduces costly mistakes.
2. It creates a spirit of initiative among learners to solve problems.
3. It takes into account individual differences among learners.
4. Motivates achievement and reduces performance anxiety.
5. It works to attract attention, stimulate motivation among learners, and make the learning process enjoyable.

Psychological energy: It is the intensity, vitality, and activity with which the mind performs the functions assigned to it (8:36), just as it is the latent force that drives a person to accomplish a certain work or task (3:26).

Archery game: The art of shooting, where the player uses all mental, mental, and physical skills and processes to achieve an accurate and successful hit, scoring points. The more accurate the shot is, the more points the competitor collects. This sport is practiced in closed stadiums and in the open air, and its roots go back to ancient history, where humans used the archery in hunting and Hence, as a deadly instrument in wars (6: 227), as it is an individual competitive sport that is often held inside and outside halls and in which the classical bow is used (5: 11)

Research Methodology and Field Procedures

Research Methodology: As experimentation searches for the cause and how it occurs, the researchers utilized the experimental technique with a design of two equal groups (control and experimental) to see if it was suitable for resolving the study problem and attaining its goals. (4: 82).

Research community and sample: The research population was determined by the Baghdad Municipality Sports Club players in the archery category, the junior category, in a deliberate manner, and they numbered (14) players. The research sample, which numbered (12) players, was selected, and they constitute a percentage of (85.71%) of the original community, and they were divided into two groups (control and experimental). In a random manner, each group consisted of (6) players, and two players were excluded for not adhering to the tests. The sample was homogeneous and equal, as in Table (1).

Table 1: Shows the homogeneity and equality of the control and experimental groups in the tests and measurements used.

Tests and measurements	Control group			Experimental group			Calculated T-Value	Sig type
	Mean	Std. Deviation	Coefficient of variation	Mean	Std. Deviation	Coefficient of variation		
Length/cm	160.51	2.412	1.716	160.74	2.562	1.82	0.146	Non sig
Weight/kg	57.45	0.874	2.333	57.57	0.745	1.982	0.23	Non sig
Focus accuracy/degree	2.31	0.232	10.043	2.33	0.341	14.635	0.104	Non sig
Psychological energy/degree	88.65	1.472	1.66	88.74	1.557	1.754	0.093	Non sig
Achievement/degree	230	2.546	2.979	238	2.661	3.103	0.176	Non sig

The value of (t) tabular at degree of freedom (10) and level (0.05) = 2.228

Means of collecting information, devices and tools used

Data collection methods

- Foreign and Arab sources.
- Scientific observation.
- The use of tests and measurements

Tools and devices used

- Tape measuring length (3 meters).
- Medical scale to measure weight.
- Electronic timing aid (2).
- Archery playground.
- Arcs number (20).
- Number of shares (50).
- Daraa number (2).
- Badge holder (2).
- Paper goals (10).

Field research procedures

Determine search variables: The researcher determined the research factors that provide an indicator of the effectiveness of the independent variable after studying the sources and references and assessing the significance of the problem and research. These variables included:

- Visual focus.
- Psychological energy.
- Achievement.

Tests and measurements used

Visual focus test: Designed by the researchers

The aim of the test: to measure the player's ability to visually focus.

Method of performance: The player stands 10 meters away from colored boxes that the researcher colored with the same five target colors (Red, Yellow, Blue, Black, White) and a tennis ball. He throws the tennis ball at the colored boxes, and the color is chosen by the coach. There is a basket next to the player carrying It contains tennis balls, and the coach gives the type of box to be hit within a specific time of three minutes.

Calculating the score: A point is calculated for each correct hit of the required color, and zero when the cans are wrong. Thus, the highest score that can be obtained is six degrees and the lowest score is zero.

Psychological energy scale (13:82): The researcher used the psychological energy scale that was previously used in the Iraqi environment, and which has high scientific foundations. The scale included (6) areas: (control of arousal, self-awareness, concentration of actual energy, positive self-conversation, struggle to actively adapt, level of ambition). The scale contained (37) items, with (20) negative items and (17) positive items. The answers to the items were in four

alternatives, and the scale scores were (4-3-2-1), as the highest score on the scale was (148). The lowest score was (37) and the score was neutral (92.5).

Testing aiming accuracy (14:60)

Test purpose: to measure the player's aiming accuracy.

Necessary tools: 72 archery arrows, 6 target boards, 6 score holders, 6 paper targets, and a stop watch.

Description of performance: A total of (36) arrows are fired by the tester, who is positioned (70) meters away from the scoreboard. The tester fires (72) arrows in two groups, each group consisting of (6) serves for each serve of (6) arrows. It must occur. Each of the (6) arrows takes three minutes.

Calculating points: The target is divided into overlapping circles with one center of changing colors. The points are arranged from outside to inside, from (1) to (10). If the arrow is outside the circles, it is counted as zero. As for the highest score for the total of six archery arrows, it is (60) points. Thus, the maximum score for serves is 720 points.

The exploratory experiment: Before delving into the main experiment, it is necessary to conduct an exploratory experiment that was conducted on 6/6/2023 on the same sample of young people to standardize the educational exercises and how to apply the strategy prepared for them and to know the difficulty in implementing it among the sample members, the required repetitions, and the time taken to implement it.

Field experience

Cardiac tests and measurements: Done on 11/6/2023

Applying the Pentagram (PG) strategy: Special exercises for the game of archery were prepared and programmed according to the Pentagram strategy for thinking. Applying this strategy helps raise the psychological and mental level of the learner by raising his level of thinking. Work with this strategy is divided according to the stages of (knowledge - planning - decision making - application - evaluation). Its outcomes are increased concentration and carrying out the motor duty, which is throwing.

The strategy was applied during the practical section in the educational units, at a rate of two units per week, for a period of eight weeks, for the period from 12/6/2023 until 7/8/2023.

Post-tests: completed on 8/8/2023

Statistical methods: The results were processed using the SPSS system to find the arithmetic means, standard deviations, coefficient of variation, and t-tests for correlated and uncorrelated samples.

Presenting, analyzing and discussing the results of the tests and measurements used

Table 2: Shows the pre- and post-T values for the control group in the tests and measurements used

Tests and measurements	Mean		Standard error	Calculated T value	Sig type
	Pre	Post			
Focus accuracy/degree	2.31	3.412	0.457	2.411	Sig
Psychological energy/degree	88.65	90.451	0.497	3.623	Sig
Achievement/degree	230	234	0.798	3.349	Sig

Below the level of (0.05) = 2.015, the tabular value of (t) is at a degree of freedom of (5).

Table 3: Shows the pre- and post-T values for the experimental group in the tests and measurements used

Tests and measurements	Mean		Standard error	Calculated T value	Sig type
	Pre	Post			
Focus accuracy/degree	2.33	5.345	0.889	3.391	Sig
Psychological energy/degree	88.74	92.547	0.961	3.961	Sig
Achievement/degree	235	260	1.112	2.345	Sig

Tabular t-value at degree of freedom (5) and below level (0.05) = 2.015

Table 4: Shows the t-test values between the control and experimental groups in the tests and measurements used

Tests and measurements	Control group		Experimental group		Calculated T value	Sig type
	Mean	Std. Deviation	Mean	Std. Deviation		
Focus accuracy/degree	3.412	0.785	5.345	0.678	4.174	Sig
Psychological energy/degree	90.451	0.889	92.547	0.869	3.776	Sig
Achievement/degree	245	0.799	260	0.899	4.271	Sig

Tabulated t-value at (10) degrees of freedom and below (0.05) = 2.228

Discussion

After observing Tables 2 and 3, it became clear that there are differences between the pre- and post-tests and measurements in the research variables (accuracy of concentration, psychological energy, and achievement) for the emerging players in the game of archery and for the control and experimental groups. This is evidence of the application of the exercises prepared by the two groups in a way that helps the learner in Raising the level of achievement and research variables, which is due to continued application and according to precise programs, as Qasim Lazam believes, Learning within an educational curriculum applied in an objective manner leads to increased learning and thus development of skill in both the cognitive and skill aspects (12: 56).

While (Saad Mohsen, 1996) [7] believes that the educational program inevitably leads to the development of achievement, if it is built on a scientific basis in organizing and programming the educational process, using appropriate methods that are graded in difficulty, observing individual differences, as well as using effective educational methods under the supervision of specialized trainers under good educational conditions in terms of place, time, and tools used (7: 98).

By observing Table 4, we found that the experimental group was superior to the control group in the research variables (accuracy of concentration, psychological energy and achievement) as a result of using the correct and purposeful strategy, which is the Pentagram (PG) strategy for thinking, which worked to raise the psychological level of the player and was inferred from the research variables. The posttests are better than the pretests.

These strategies are considered important in education, especially those related to psychological aspects. They are based on “active learning to develop higher-order thinking skills and solve problems through a set of special detailed procedures followed by the teacher, and training them in scientific and logical thinking skills, by mentioning an unfamiliar issue or situation that challenges It has their cognitive structure, and requires contemplation, thinking, and research, in order to find an appropriate and unusual solution, characterized by novelty, originality, and flexibility” (11:78).

This strategy also works after thinking and solving mental problems. It helps in mental relaxation and raises self-confidence. Thus, achievement can be achieved through successful shooting with an archery. This is why Muhammad Abd al-Rahim Ismail points out that “the player must learn how to control and control the physiological and mental

processes and interactions, and the foundation”. In this, it depends on how you relax physically and mentally. The player who is “relaxed physically and mentally” is the player who is confident of himself and therefore his performance will be better” (9:66).

In view of the importance of psychological energy in achieving achievement in the game of archery, which requires its development and attention, as “psychological energy is considered one of the strongest and most important energies that a person possesses. It is a driving force within him that, if present and exploited in an optimal way, leads him towards challenging everything that hinders him and transforms it into creativity that illuminates his world, and is linked to. The concept of psychological energy as a physiological activation system that controls the work of the brain and the exchange of information between the individual and his external environment, which would push the individual to accomplish various tasks in the event that his level of psychological energy is high, or push the individual to be lazy and not complete tasks in the event of a low level of psychological energy. 16: 101).

The pentagram strategy (PG) helps in increasing the learner’s defense because he will be thinking about applying the correct performance and helps determine the goal during application, and this is what Nahida Abdel Zaid (2011) [15] believes: There are several ways to increase the motivation of the learner towards the activity or game to learn and practice its skills, including facilitating Opportunities for motor learning and clarity of the appropriate goal for learning and developing the skill, as well as balance in satisfying the learner’s needs (15:29).

Conclusions and Recommendations

Conclusions

1. The Pentagram (PG) strategy for thinking achieved the educational and psychological goals by raising the level of accuracy of concentration, psychological energy and achievement for junior archery players.
2. Psychological and mental processes are intertwined in achieving achievement for archery players, so using correct thinking helps focus and raise the level of psychological energy and then achieve.

Recommendations

1. Adopting the Pentagram (PG) strategy for thinking because it achieved the educational and psychological goals by raising the level of accuracy of concentration,

psychological energy and achievement for junior archery players.

2. Emphasizing the psychological and mental sciences as they are intertwined in achieving achievement for archery players, and through them the use of correct thinking helps to focus and raise the level of psychological energy and then achievement.

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Appendix

Educational exercises

1. Teaching the stance in which the legs are open and at shoulder level.
2. The method of holding the fist in which the palm of the

hand rests on the fist.

3. Holding the string which is done with the fingers of the hand with which we pull, without tension.
4. The preparation step this involves raising the bow and preparing to draw.
5. The pulling step this involves pulling the string.
6. The fulcrum point step it is between the hand and the string and between the string and the face.
7. The aiming step this involves aiming at the target.