

The effect of an educational program according to the cognitive acceleration strategy in developing some combinatorial abilities and kinetic sentences in the Foil weapon for students

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Abstract

The purpose of this paper is to prepare an educational curriculum according to the cognitive acceleration strategy to develop some Compatibility abilities and kinetic sentences in the Foil weapon for students, identifying the impact of the educational curriculum in accordance with the cognitive acceleration strategy and the development of some Compatibility abilities and kinetic sentences in the Foil weapon for students, and identifying the differences between the tribal and remote tests in developing the Compatibility abilities and kinetic sentences in the Foil weapon for students. The researchers followed the experimental approach by designing the two equal groups with the pre and post-tests, and the research community was determined by students of the third stage, College of Physical Education and Sports Sciences - University of Kufa for the academic year 2021-2022, and their number was (66) students, and the sample was chosen by the random way and its number was (20) students, and the number of them was determined Compatibility abilities (flexibility, kinetic response, ability to adapt to the total body), and three kinetic sentences were selected. And for a period of (12) weeks, each week one unit, and the time of each educational unit was (90) minutes, and it depended on the statistical program (SPSS) to extract the results. The research came out with a set of conclusions, including: The steps that are followed according to the cognitive acceleration strategy had a distinctive role in adding knowledge and providing an educational environment for the learner, which made him progress in the level of combinatory abilities and perform kinetic sentences with the Foil weapon, there is a positive effect of the cognitive acceleration strategy on the performance of kinetic sentences with the Foil weapon among the members of the experimental group. The research came out with a set of recommendations, including: The necessity of paying attention to the use of strategies that make the learner a main focus in the educational process. In addition, the introduction of modern means that contribute to increasing the students' desire to learn to perform kinetic sentences in the sport of fencing.

Introduction:

Compatibility abilities are one of the important basic components needed by fencing trainers, as they work and help develop kinetic abilities, develop planning skills, and contribute to linking the movement sequence through the development of kinetic skills, mental perception and intelligence among learners. The fencing game is one of the open ocean games in which the fencer competes to touch the opponent in the least time and with the highest accuracy within a specific field according to various and quick plans that depend mainly on different and compound reactions between the competitors, so generalizing the kinetic program and linking the skills of this sport according to various kinetic sentences, may It builds up the abilities of the swordsman that enables him to be able to act and speed up. Through the foregoing, we can determine the importance of studying the cognitive aspects and their impact on the consensual, mental and educational aspects and their effects on the learners, which gives more confidence and the ability to feel the better technical performance and a better level of achievement. Cognitive and adaptive capabilities are one of the most important recent trends in this development process. Hence, the importance of research in using the cognitive acceleration strategy and Compatibility capabilities to acquire knowledge from the theoretical and practical side and within an educational curriculum that works to increase the experiences of learners, especially when the knowledge side has a large and supportive role for the educational process in order to create regular kinetic paths for the skills required from the learning process. Through the researcher's follow-up and keeping pace with the development taking place in the field of learning and informing her of many scientific sources in learning as well as the basic skills related to the sport of fencing, she noticed that some teachers do not take into consideration the extent of the impact of modern methods

on learners, which makes them lack them at the beginning of their learning based on The traditional methods of giving them information, so the researcher decided to find a new vision at the level of modern educational strategies linked to the aspects of cognitive acceleration, which is reflected through the combinatorial capabilities and through the use of an educational approach in which the construction of combinatorial kinetic sentences was done within the preparation of exercises, as the idea of the current research came in an attempt Helping learners to overcome their problems using modern educational methods, both in the cognitive and applied aspects, explaining to them the concepts in the form of pictures or diagrams in a gradual way to form a knowledge structure that is almost integrated in their minds in order to raise their level, which contributes to the development of the cognitive and applied aspects from this point of view, the researcher believes that the use of an educational curriculum according to the strategy of cognitive acceleration based on scientific and cognitive foundations may improve the learner's ability to perform exponential skills in the fencing game.

Research objective:

- Preparing an educational curriculum according to the cognitive acceleration strategy to develop some Compatibility abilities and kinetic sentences in the Foil weapon for students
- Identifying the impact of the educational curriculum in accordance with the cognitive acceleration strategy and the development of some Compatibility abilities and kinetic sentences in the Foil weapon for students.
- Identifying the differences between the tribal and remote tests in developing the Compatibility abilities and kinetic sentences in the Foil weapon for students.

Research methodology and field procedures:

Research Methodology:

The researchers followed the experimental approach by designing two equal groups with two tests, the pre and post-tests, as it matches the specifications of the research and solves the research problem in accordance with the objectives of the study.

Community and sample research:

The research community was determined by students of the third stage, College of Physical Education and Sports Sciences - University of Kufa for the academic year 2021-2022, numbering 66 students, and the sample was chosen randomly, and its number was (20) students.

Determine the Compatibility abilities

The researchers identified the most important Compatibility abilities that enrich the research, which is (flexibility, kinetic response, and ability to adapt to the total body).

Description of the Compatibility abilities tests:

First: The Transitional Kinetic Response Test (Al-Khayat and Al-Hayali, Objective of the test: to measure the ability to respond and move quickly and accurately according to the stimulus test.

- Tools: an obstacle-free space 20m long and 2m wide, stopwatch, tape measure.
- Procedures: Layout the test area with three lines, the distance between each line is 6.40m, and the length of the line is 1m.
- Description of performance:
 - The learner stands at one end of the centerline facing the referee who is standing at the other end of the line.
 - The learner takes a ready position so that the midline is between the feet and so that he bends his body forward a little.
 - The referee holds a stopwatch in one hand and raises it to the top, then quickly moves his arm either to the left or the right or at the same time turns on the watch.
 - The learner responds to the hand signal and tries to run as quickly as possible in the specified direction to reach the sideline, which is 6.40m away from the center line.
 - When the learner crosses the side line, the referee stops the clock.
 - If the learner starts running in the wrong direction, the referee continues to run the watch until the learner changes direction and reaches the right side line.
 - The learner gives ten successive attempts, between each attempt and the next, for twenty seconds, with five attempts on each side.
 - The attempts in each side are chosen randomly.
- conditions:
 - Each player gives a number of attempts outside the measurement in order to identify the test procedures.
 - The referee must practice the start signal.
 - The learner should not know that he is required to perform ten attempts.

- The learner must be alerted that the number of attempts he will perform is not distributed in both directions equally, but rather that the number of attempts in one direction is likely to be greater than the other, and that the order of performance of the attempts is done in a random manner and it varies from one player to another.
- The test must begin with the referee giving the signal: “Get ready, start,” and the time between the words “Get ready and start” should be in a range ranging from (½ to 2 seconds).
- Recording: The time for each attempt is calculated to the nearest 1/10 of a second. The learner's score is the average of the ten attempts.

Second: Flexibility: the front and back touch test (Hassanin, 2003)

- Objective of the test: This test is one of the tests used to measure dynamic flexibility, as it measures flexion, extension and rotation of the spine.
- Tools: stopwatch, wall.
- Performance specifications: An (X) is drawn on two points:
 - On the floor between the feet of the laboratory.
 - On the wall behind the back of the laboratory (in the middle).
- Description of performance: When hearing the start signal, the tester bends the torso forward and down to touch the ground with the tips of the fingers at the (X) mark between the feet, then extends the torso high while rotating to the left to touch the (X) mark located behind the back with the fingertips, then makes a rotation the torso and bend it down to touch the (X) mark between the feet a second time, then extend the torso with a rotation to the right to touch the (X) mark behind the back, repeat this action as many times as possible in thirty seconds, noting that touching the mark behind the back Once from the left and the other from the right.
- instructions:
 - The feet should not be moved during the performance.
 - The specific sequence of touching must be followed according to what was mentioned in the specifications.
 - The knees should not be bent at all during the performance.
- Recording: The laboratory records the number of touches made on the two marks within thirty seconds.

Third: The ability to adapt to the total body: the running test in Figure (8) (Hassanin, 2003 416)

- The objective of the test: to measure the individual's ability to change the position of the body during its movement forward quickly.
- Tools: a high jump post with a distance between them (10 feet) on which a beam is placed at a height equal to the height of the center of the laboratory, and a stopwatch.
- Description of performance: The laboratory stands on the right post and when the start signal is heard, it runs in the form of a letter (8) where it performs four cycles (the cycle ends in the same place from which the laboratory started).
- instructions :
 - You must follow the specified itinerary.
 - Do not touch the bars or the crossbar.
- Recording: The laboratory records the time in which the four cycles are cut.

Identifying kinetic sentences with Foil and their tests:

The researchers prepared a number of kinetic sentences with the Foil weapon according to the vocabulary of the sport of fencing for the third stage / College of Physical Education and Sports Sciences / University of Kufa, as the offensive and defensive skills of the Foil weapon were learned in the first semester, In the second chapter, it was learned how to link skills with each other and perform kinetic sentences in a match-like atmosphere for the purpose of students learning the rules and plans of play, when to perform those skills, how and against any competitor and under what circumstances in the Foil weapon, and the kinetic sentences are:

- Take a step forward and perform a numerical attack of the stabbing movement
- Retreat is two steps to perform a circular defense against the opponent's attacks and then perform a circular attack of the stabbing movement.
- Take a step forward and perform a stabbing attack.

In addition, evaluate the performance of kinetic sentences through a codified form, and it is adopted according to the kinetic manifestations, by photographing the skill and presenting it to three experts. Thus, the final score for evaluating each kinetic sentence is (10) degrees.

Exploratory experience:

The exploratory experiment was conducted to test the combinatorial abilities and kinetic sentences on Sunday, 9/1/2021 on (8) students from the research community, for the purpose of

knowing the extent of the clarity of the instructions for conducting the tests, evaluating the skill performance of the kinetic sentences, and knowing the difficulties that we face in the main experiment and determining the best location for the video camera. And the extent of their clarity, and what is the time taken to perform each consensus test and each kinetic sentence, with defining the tasks of the auxiliary work team and in light of the results of the exploratory experiment. All the above-mentioned details were known and verified before starting the main experiment procedures.

Pre-tests:

The pre-tests were conducted in the combinatorial abilities and kinetic sentences after preparing all the supplies and tools and the assistant work team and distributing the form for the tests, which was prepared in advance by the researcher. The tests were carried out on Sunday 6/3/2021. At ten o'clock in the morning, the control and experimental groups had (10) students per group, and the performance of the kinetic sentences investigated was evaluated by the arbitration committee in the field of fencing, which numbered (3) arbitrators through a form dedicated to that, and for each arbitrator (10) degrees for evaluation, the form was distributed with Video-imaging (CD) discs, and by watching the students' performance, performance evaluation scores were given, and then each student's score was given by taking the arithmetic mean of the three arbitrators' scores.

The educational program according to the cognitive acceleration strategy:

The educational program was prepared according to the cognitive acceleration strategy for the members of the experimental group and with all the requirements and tools for the application of these educational units. The educational program included (12) educational units, with a duration of (12) weeks, each week one unit and the time of each educational unit was (90) accurate, as the program included a set of educational exercises for learning the studied and unified skills, and organizing them within the educational units, and the educational part dealt with the explanation and presentation of the skill to be learned with the tired skills and its purpose with a detailed explanation of the correct body position of the parts of the skill to be learned in a time of (25) minutes, As for the practical part, it contained four exercises for each exercise (10) minutes, and the total time of the applied part was (40) minutes, in which it dealt with the application of skills, taking into account the steps of the cognitive acceleration strategy through a set of steps, which are:

- A- Sensory preparation.
- b- Cognitive inconsistency.
- C - metacognition (thinking about thinking).
- D- Bridging.

Post-tests:

After completing the application of the educational program according to the strategy of cognitive acceleration, post-tests were conducted for the combinatorial abilities and kinetic sentences for the control and experimental groups at ten in the morning on Wednesday 1/6/2021. In addition, the same procedures were adopted in terms of time, place, and tools used to create all the circumstances surrounding the tribal tests, in order to avoid the variables that could affect the results of the post-tests.

Statistical methods: The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Results and discussion:

Presentation and analysis of the results of tests of Compatibility abilities and kinetic sentences for the control and experimental groups:

Table (1) Statistical description of the research variables in the pre and post-tests for the control and experimental groups

Variables	Groups	Pre-test		Post-test		T value calculated	Level Sig	Type Sig
		Mean	standard deviation	Mean	standard deviation			
Kinetic response	Control	1.95	0.547	1.84	0.541	4.325	0.007	Sig
	Experimental	1.91	0.528	1.79	0.601	7.35	0.000	Sig
Flexibility	Control	24.52	4.12	22.47	4.89	4.87	0.009	Sig
	Experimental	23.33	4.43	20.89	4.14	5.39	0.000	Sig
Compatibility	Control	7.95	1.56	7.10	1.73	4.63	0.008	Sig
	Experimental	7.41	1.31	6.57	1.72	6.85	0.000	Sig
Take a step forward and	Control	3.42	0.96	5.39	1.08	3.55	0.017	Sig

perform a numerical attack	Experimental	3.79	1.17	6.98	1.68	9.12	0.000	Sig
Retreat two steps to perform a circular defense	Control	4.10	1.03	5.96	1.08	4.29	0.009	Sig
	Experimental	4.85	1.18	7.59	1.41	8.31	0.009	Sig
Take a step forward and perform a cutting attack	Control	4.23	1.14	6.98	1.26	4.85	0.004	Sig
	Experimental	4.84	1.20	7.88	1.16	8.33	0.000	Sig

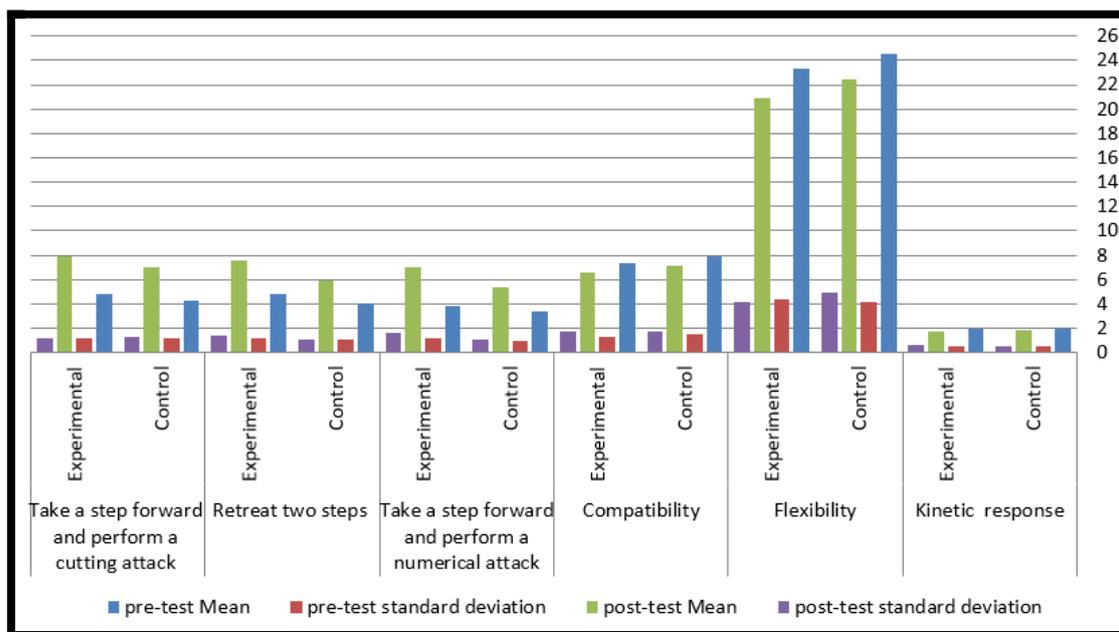


Figure (1) Statistical description of the research variables in the pre and post tests for the control and experimental groups

Table (1) and Figure (1) show the values of the arithmetic means and standard deviations and the extent of their difference in the pre-and post-tests of the harmonic abilities and the kinetic sentences of the control and experimental groups, which indicates that the differences occurred in the post-test and to know the truth of these differences and their statistical significance, the (t) test for samples was used. The significance level (sig) for the results of all tests of combinatorial abilities and kinetic sentences appeared less than (0.05), which indicates the existence of significant differences between the pre and post-tests and in favor of the post-test for the two groups.

Presentation and analysis of the results of the tests of the combinatorial abilities and the post -test for kinetic sentences for the two experimental and control groups:

Table (2) Statistical description of the research variables in the post-tests of the control and experimental groups

Variables	Control		Experimental		T value calculated	Level Sig	Type Sig
	Mean	standard deviation	Mean	standard deviation			
Kinetic response	1.84	0.541	1.79	0.601	4.21	0.007	Sig
	22.47	4.89	20.89	4.14	3.69	0.009	Sig
Flexibility	7.10	1.73	6.57	1.72	4.15	0.000	Sig
	5.39	1.08	6.98	1.68	5.25	0.000	Sig
Compatibility	5.96	1.08	7.59	1.41	6.81	0.009	Sig
	6.98	1.26	7.88	1.16	5.16	0.000	Sig
Take a step forward and perform a numerical attack	1.84	0.541	1.79	0.601	4.21	0.007	Sig
	22.47	4.89	20.89	4.14	3.69	0.009	Sig
Retreat two steps to perform a circular defense	7.10	1.73	6.57	1.72	4.15	0.000	Sig
	5.39	1.08	6.98	1.68	5.25	0.000	Sig
Take a step forward and	5.96	1.08	7.59	1.41	6.81	0.009	Sig

perform a cutting attack	6.98	1.26	7.88	1.16	5.16	0.000	Sig
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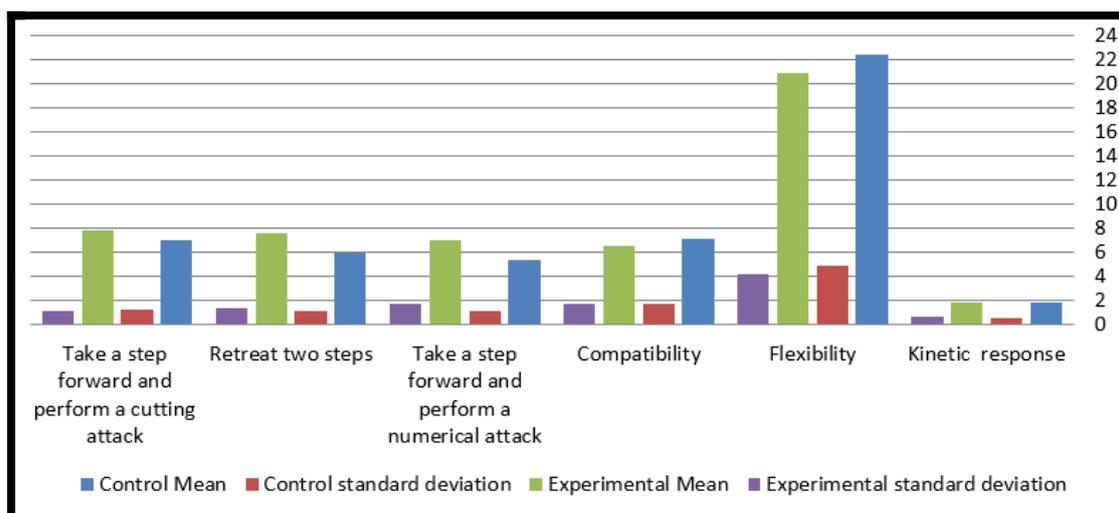


Figure (2) Statistical description of the research variables in the post-tests of the control and experimental groups

Table (2) and Figure (2) show us the values of arithmetic means and standard deviations and the extent to which they differ for the combinatorial abilities and kinetic sentences of the control and experimental groups in the post-tests, which indicates that the differences occurred in the post-test between the two groups, and to know the truth of these differences and their statistical significance, a test was used (t), as the value of the significance level (sig) for the results of all harmonic abilities tests appeared less than (0.05), which indicates the existence of significant differences between the two groups and in favor of the experimental group.

Discuss the results:

By presenting and analyzing the previous results, we note that the experimental group that used the educational program according to the cognitive acceleration strategy had the advantage in developing the combinatorial abilities and kinetic sentences in the Foil weapon over the control group that used the method used by the teacher.

The researchers attribute the reason for the moral differences to the contribution of the educational program according to the cognitive acceleration strategy, as this strategy helped to develop and master the harmonious abilities that are necessary to complete the educational process, as the good application of the capabilities helps to increase accuracy in performance and not to expose students to injury, and this comes from Through repetition on performance and giving enough time to master it, and that the use of the rapid learning strategy was new to students, which led to the removal of the boredom factor from them and spread the spirit of actual participation in them, which increased their enthusiasm and motivation, which was reflected in the development of combinatory capabilities, as you see “Commitment, encouragement, and diversification in performance help in learning or acquiring combinatorial capabilities.” (Al-Dulaimi, 2008)

The researchers believe that the development of kinetic sentences in the Foil weapon of the experimental group more than in the control group to the use of educational aids in the rapid learning strategy helped the students’ performance better and faster than what had a great impact on the hearts of the students, and (Mahmoud 2012) confirms that “the devices And the auxiliary tools work to improve and speed up the learning process when learning mathematical skills, because of their very important positive effects in the learning and training processes in the least time and effort, as they contribute to the integration of the educational unit to implement the prescribed curriculum and raise the level of the learner’s technical, tactical, physical, and cognitive.” (Al-Rubaie, 2012). This positive effect is also attributed by the researchers to the extent of the effectiveness of the exercises that were applied in a well-studied scientific manner in terms of the availability of educational tools such as displaying pictures and videos, in addition to the role of the teacher, as this leads to an increase in the student’s performance and focus on the kinetic skill, generates care and motivates the learner, and the educational curriculum if What is applied on scientific grounds in organizing the learning process and creating a relationship of interaction between the teacher and the learner and applied with appropriate educational methods, it achieves its pre-established goals. As you see, "for each method of teaching, when it progresses during a certain period of time, it leads to the achievement and attainment of a

certain set of educational and pedagogical goals." (Motion. 1991). We also do not forget the positive contribution of learners to achieving the set goals and implementing them to the process of acquisition and mastery through acquiring experiences that lead to relative changes in the students' abilities for skill performance. indicated that "the growth in the ability to perform kientic performance through exercises or experiences leads to relative changes in the individual's abilities for skill performance" (Hussain, 2005).

Conclusions and Recommendations:

Conclusions

- There is a positive effect of the cognitive acceleration strategy in the fencing lesson in the experimental group better than in the control group that used the used method.
- There is an effect of the cognitive acceleration strategy in developing some harmonic abilities in a positive way for the experimental group.
- The steps that are followed according to the cognitive acceleration strategy had a distinctive role in adding knowledge and providing an educational environment for the learner, which made him progress in the level of combinatory abilities and the performance of kinetic sentences with the Foil weapon.
- There is a positive effect of the cognitive acceleration strategy on the performance of kinetic sentences with the Foil weapon among the members of the experimental group.

Recommendations:

- Informing teachers of physical education and sports sciences about modern teaching strategies to work with students, including the cognitive acceleration strategy because it has a positive impact on developing the performance of kinetic sentences.
- The need to pay attention to the use of strategies that make the learner a focus in the educational process.
- The introduction of modern methods that contribute to increasing the students' desire to learn to perform kinetic sentences in the sport of fencing.
- Providing an environment that contributes to the interaction of students and their participation in activities that increase their performance and develop their scientific thinking.

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