EFFECT OF THE MCCARTHY MODEL ACCORDING TO LEARNING STYLES TO DEVELOPING REACTION AND SENSORY-MOTOR PERCEPTION, AND ACCURACY PERFORMING OF PASSING AND SHOOTING SKILLS OF FOOTBALL FOR STUDENTS

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ABSTRACT

The importance of the research is evident in the use of the McCarthy model of learning patterns in developing reaction and sensory-motor perception and accuracy performing of passing and shooting skills of football for students.

The research aims to identify the effect of using the McCarthy model for learning patterns in developing reaction and sensory-motor perception and accuracy performing of passing and shooting skills of football for students, as well as identifying the significance of differences between the experimental and control groups in the results of the post tests.

The research community was identified with the third intermediate grade students in Al-Khwarizmi Preparatory School for Boys for the academic year (2021-2022), and their number was (151) students. The research sample was randomly selected from the original research community, by lottery method, with (30) students, they were divided into two equal groups, with (15) students for each group.

Among the most important conclusions reached by the researchers is the model followed and the method prepared by the subject teacher, which had a positive effect on the tests of reaction and sensory-motor perception and accuracy performing of passing and shooting skills of football for students. The results showed the superiority of the experimental group (McCarthy model) over the students of the control group. (The method prepared by the subject teacher) in the tests under discussion.

One of the most important recommendations was to emphasize the use of the McCarthy model in developing the rest of the skills in football because of its good results. And conducting similar studies in other activities and games using the McCarthy model, for different age and school stages, for both sexes.

INTRODUCTION

The rapid development that was achieved in sports levels in all games was not the result of chance and randomness, but came as a result of proper planning based on scientific and technical foundations in the development of educational and training curricula according to the requirements of the age group and attention to the integration of their preparation in all aspects of skill, physical, tactical and psychological. The teaching strategies used by the teacher are tantamount to organizing and directing the educational situation in order to achieve educational goals with the least possible time and effort. Teaching strategies and teaching models have evolved, including the McCarthy model, which makes the learner active, participatory and positive. It is based on the cognitive aspects of the learner’s learning and the way he thinks. This model is based on mental processes and addressing them, as it makes the learner use a number of information, knowledge and thinking processes, all of which come in a single strand through which the learner arrives at a number of solutions to the educational problems facing him, or work on Completing a cognitive picture needs some information to be complete. It is the duty of those interested in the sports side to pay
attention to the basic skills of all games in addition to paying attention to the mental aspects, including (reaction and kinesthetic perception), which are the basis for the learning process, and that knowledge of these abilities by teachers contributes to the development of special and accurate educational curricula, whether in schools or sports clubs. This is one of the important things in the development of the game of football.

And the football game is one of the team games that is characterized by its nature with unstable performance and rapid change of competition conditions, in which mental abilities play an important role in the skill performance of the game and constitute, along with the rest of the physical and motor abilities, one of the important foundations in developing its basic skills.

So the importance of the research lies in the use of the McCarthy model of learning patterns in the development of reaction and sensory-motor perception and the accuracy of the performance of the skills of passing and shooting of football for students.

Research Problem

Through the experience of researchers and their knowledge of many research studies and their presence in the educational process and their observation of the educational units, they identified the problem of their research, which is that there are a large number of students (the educated) at this stage facing difficulty in mastering the skills of handling and scoring in football because it is one of the complex skills and they need a lot of time in getting it right. The researchers believe that the reason is the lack of use of modern teaching methods and models, or the reason may be the lack of attention to the mental aspects that directly affect the educational process, or the reason may be the lack of direct involvement of students in the educational process and not taking their opinions into account, all of these reasons called researchers to delve into this problem. This problem is achieved by using the McCarthy model according to learning patterns and the aim of it is to try to develop reaction and sensory-motor perception, and the accuracy of performing the skills of passing and shooting of football.

Research Objectives

- Identify the effect of using the McCarthy model for learning patterns in developing reaction and sensory-motor perception, and the accuracy of performing the skills of passing and shooting of football for students.
- Identifying the significant differences between the experimental
and control groups in the results of the post-tests.
- There are statistically significant differences between the pre and post-test of the experimental and control groups in the development of reaction and sensory-motor perception, and the accuracy of the performance of the skills of passing and shooting in football for students.
- There are significant statistically significant differences in the results of the post-test for the experimental and control groups in the development of reaction and sensory-motor perception, and the accuracy of performance of the skills of passing and shooting football for students and in favor of the experimental group.

**Research Fields**

**The human field:** Third grade average students at Al-Khwarizmi School for Boys for the academic year (2021-2022).

**Time field:** from 20/10/2021 to 8/2/2022.

**Spatial field:** Al-Khwarizmi Intermediate School for Boys.

**RESEARCH METHODOLOGY AND FIELD PROCEDURES**

**Research Methodology**

The nature of the problem is the basis on which the research method is chosen, so the researchers used the experimental method with two experimental and control groups due to its relevance to the nature and objectives of this study.

**Community and sample research:**

(i) **Community:** The research community was determined by the students of the third intermediate grade in Al-Khwarizmi Preparatory School for Boys for the academic year (2021-2022), who numbered (151) students.

(ii) **Sample:** The research sample was randomly selected from the original research community, by lottery method, with a number of (30) students, who were divided into two equal groups, with (15) students for each group, and thus the percentage of the research sample is (19.86%). As shown in Table (1).

**Table (1) Show the characterization of the sample:**

<table>
<thead>
<tr>
<th>N</th>
<th>Groups</th>
<th>Female students Number in each group</th>
<th>Each group used Teaching method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Experimental</td>
<td>15</td>
<td>McCarthy model</td>
</tr>
<tr>
<td>2</td>
<td>Control</td>
<td>15</td>
<td>The teaching strategy followed</td>
</tr>
</tbody>
</table>

(a) The homogeneity of the sample and the equivalence of the two research groups:

**Sample homogeneity:** The researchers used the law of the skew coefficient to measure the homogeneity in the variables
(length, mass) among the sample members, as shown in Table (2).

**Table (2) shows the mean, standard deviation, and coefficient of variation in the study variables.**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unit of measure</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Mod</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Cm</td>
<td>153.44</td>
<td>3.19</td>
<td>152</td>
<td>0.45</td>
</tr>
<tr>
<td>Mass</td>
<td>Kg</td>
<td>54</td>
<td>2.87</td>
<td>56</td>
<td>-0.70</td>
</tr>
</tbody>
</table>

The results of Table (2) show that the values of the torsion coefficient for the variables (length and mass) were less than (+1), which indicates the homogeneity of the sample in these variables.

**(b) Equivalence of the two research groups:**

For the purpose of determining the starting point, the researchers found parity between the two groups using the (t) test for independent samples in the study variables, and Table (3) shows this.

**Table (3) It shows the equivalence of the two research groups in the research variables investigated.**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Control group</th>
<th>Experimental group</th>
<th>T value</th>
<th>Tabular</th>
<th>Sig type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Calculated</td>
</tr>
<tr>
<td>Reaction</td>
<td>0.607</td>
<td>0.080</td>
<td>0.62</td>
<td>0.033</td>
<td>0.94</td>
</tr>
<tr>
<td>Sensory-motor perception</td>
<td>14.8</td>
<td>7.14</td>
<td>14.21</td>
<td>0.73</td>
<td>0.176</td>
</tr>
<tr>
<td>Passing accuracy</td>
<td>3.67</td>
<td>1.24</td>
<td>3.89</td>
<td>1.33</td>
<td>0.93</td>
</tr>
<tr>
<td>Shooting accuracy</td>
<td>19.56</td>
<td>2.54</td>
<td>18.75</td>
<td>2.88</td>
<td>0.77</td>
</tr>
</tbody>
</table>

- The tabular value (t) at the degree of freedom (28) and the level of significance (0.05) is (2.02).

By noting the calculated (t) values for the research variables, we find that they are less than the tabular (t) value of (2.02) at the degree of freedom (28) and the level of significance (0.05), which indicates that there are no significant differences and this means that the two groups are equivalent in the search variables.

**Auxiliary tools and equipment:**

Arab and foreign sources - note.

**Auxiliary Tools**

Computer - 12 balls - measuring tape - medical scale - chalk - whistle - burke - two (2) manual stopwatches - scientific calculator.

**(iii) Description of the tests used in the research:**

**(a) First, the reaction test:** (Ahmed, Jawad and other, 2014, 7(4))

**Test tools:** (computer, reaction time measurement program, recorder)

**Description of the test:** The tester sits in front of the calculator, chooses a color from the background color change box, then presses the word start {start} and waits until the wallpaper is changed in
front of him, then quickly presses the word “stop” directly. The time that indicates the tester’s reaction will appear.

**Register**: The laboratory is given three attempts to record the best time recorded.

**(b) Second**: A test of kinetic perception of the distance to the muscles of the legs: (Al-Sumaidaie, Louay Ghanem and others, 2010, p. 163)

**Objective of the test**: To measure the kinesthetic perception of distance by the force of jumping forward.

**Tools used**: land survey, recorder.

**Description of performance**: The player is required to jump forward from stability to the maximum, after which he jumps 1/2 of his force forward and the ± distance must be calculated.

**Register**: The recorder records the first jump and then register the second jump made by the tester, which requires him to jump with half the force he jumped in the first jump. The register calculates the increase or decrease from what is required, which is half the distance of the first jump.

**(c) Third**: To test the accuracy of handling the soccer ball towards a small target, a distance of (20) meters (2).

(Hussein, Hamza Raad, 1999, p. 59)

**Name of the test**: - The accuracy of the football passing performance for a distance of (20) meters.

**Objective of the test**: - To evaluate the accuracy of the performance of the passing skill in football.

**Tools used**: (5) soccer balls, a small goal (110 cm x 63 cm), an evaluation form.

**Performance specifications**: A line with a length of (1) meter is drawn at a distance of (20) from the small target, and a fixed ball is placed on the starting line. The tester stands behind the starting line, facing the small target, and starts when the signal is given by handling the ball towards the target to enter it. Each laboratory is given (5) consecutive attempts.

**Registration method**: The score is calculated by the sum of the scores obtained by the laboratory from handling the five balls, as follows:-

- (2) Two marks for each correct attempt that enters the small goal.
- (1) One score if the ball touches the post or the crossbar and does not enter the goal.
- (0) zero in case the ball goes out of the small goal.

- The total score of the test (10) marks.

**(d) Fourth**: Testing the accuracy of football scoring performance from a distance of (12) meters:- (Al-Atwani, Imad Kazem, 1999, p. 150)
**Name of the test:** - The accuracy of the football scoring performance over a distance of (12) meters.

**Objective of the test:** - To evaluate the accuracy of the scoring performance of the soccer scoring skill.

**Tools used:** - A wall with a target drawn on it with a width of (3) meters and a height of (2) two meters, divided into (6) equal parts and distributed on it as follows: the upper corners are (4) degrees, and the bottom is (3) degrees, and the lower middle part is (1) degrees. And the upper middle part (2) two degrees and a line width (2) two meters away (12) meters from the target, legal balls number (10), a whistle, an evaluation form

**Performance specifications:** The tester stands behind the scoring line and in front of him (5) balls on the line, and when he hears the signal, he hits the balls placed on the line to the target, then he hits the other (5) balls after they are put in place by the auxiliary work team, and so on to The laboratory must complete (10) attempts.

**Registration method:** The score of the part on which the ball is located is calculated for the laboratory and for the 10 attempts.

**Total score of the test:** - (40) marks.

**Experimental Experiment:**

The main objective of this experiment is to identify the work obstacles that researchers and the assistant work team may face in addition to the testers, as well as to know the extent of the clarity of the tests and their suitability for the research sample and the validity of these tests used. In order to find the scientific transactions, the researchers conducted the exploratory experiment on a group excluded from the basic research sample consisting of (10) students on Monday (1/11/2021).

**Scientific foundations tests:**

(i) **Validity:** In extracting the validity of the tests, the researchers relied on the validity of the content by presenting the tests to a group of experts and specialists.

(ii) **Reliability:** To calculate the reliability coefficient, the test method is chosen and the test is re-applied, and the tests were applied to a sample of (10) students from outside the research sample, and these tests were repeated after (7) days of the first tests and on the same sample.

(iii) **Objectivity:** The tests are simple, clear, understandable and far from personal judgments, so the tests are highly objective, as shown in Table (4).

*Table (4) Shows the reliability coefficient of the tests in question:*

<table>
<thead>
<tr>
<th>N</th>
<th>Tests</th>
<th>Measuring unit</th>
<th>Reliability coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reaction</td>
<td>Time</td>
<td>0.96</td>
</tr>
<tr>
<td>2</td>
<td>sensory-motor perception</td>
<td>Time</td>
<td>0.95</td>
</tr>
<tr>
<td>3</td>
<td>Passing accuracy</td>
<td>Degree</td>
<td>0.87</td>
</tr>
<tr>
<td>4</td>
<td>Shooting accuracy</td>
<td>Degree</td>
<td>0.83</td>
</tr>
</tbody>
</table>
Field research procedures:

(i) **Pre-test:**

The pre-tests were conducted on Monday, November 15, 2021 on the outdoor arena of Al-Khwarizmi Preparatory School for Boys for the variables under consideration and in the presence of the auxiliary work team.

(ii) **The general framework for implementing the McCarthy model:**

After the researchers determined all the requirements of the main experiment by defining the tests for the variables investigated, after conducting the exploratory experiment and using them in organizing work and preparing for the main experiment, and after conducting tribal tests, the researchers prepared the educational units of the McCarthy model for a period of (8) weeks and one educational unit per week (4 units for each skill), thus, the total number of units reached (8) educational units, as the first educational unit was on (Monday) the date (22/11/2021) until (Monday) (10/1/2022).

The teacher begins by applying the educational part of the main section in which the first (theoretical) dimension of perception is applied, which takes place in two stages, the first (reflective observation), at this stage, the teacher divides the students into groups to attract their attention and motivate them by asking questions, for example: Does the player look at the ball, the teammate, or both when passing the ball? Then the teacher asks the students to answer the question, and then the teacher allows the students to answer the various, then reviews the answers of the groups and leaves the students a suitable time to reflect on their ideas to know their validity and help them to judge their validity. As for the second stage (the crystallization of the concept), or the ideal performance, as the teacher displays a video in which he reviews the skill of handling through playing situations, then models of the players are shown to see the correct perfect performance, then move to the applied part of the main section, through which the second (practical) dimension is processed, where the teacher applies the third stage (Active Experimentation), at this stage, students are asked to perform the exercises in the educational unit to see their performance, then the teacher corrects the mistakes by giving them feedback on the skill performance. After that, the exercises are performed in the development unit by the teacher in the correct way for the purpose of giving students the opportunity to think, experiment and arrange their ideas, then ask the students to implement the exercises again. As for the fourth stage (physical experiences), in this stage students are asked to perform exercises related to skill performance through some
playing situations to see what they have reached of new experiences (performance is by students without being bound by the teacher’s instructions to see the creativity that will be done by students), after that, the teacher gives feedback to the students for the purpose of work, searching for hidden possibilities, exploration and learning by trial and error. After that, we move to the final section. In this section, some recreational games are applied, and then the tools are collected and returned to their place.

As for the control group, it uses the educational units prepared by the subject teacher.

(iii) Post-test:

After completing the educational units, the post-tests were conducted on Monday, 17/1/2022, under the same conditions in which the pre-test were conducted, and with the presence of the same auxiliary team.

Statistical means: Mean, Std. deviation, Mode, Skewness

PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS:

Presentation and analysis of the results of the pre and post tests for the control group in the tests under study:

Table (5) It shows the significance of the differences between the pre and post-tests of the control group in the tests under study:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>T value</th>
<th>Tabular</th>
<th>Sig type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Std. deviation</td>
<td>Mean Std. deviation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction</td>
<td>0.62 0.033</td>
<td>0.58 0.01</td>
<td>2.97</td>
<td>2.14</td>
<td>Sig</td>
</tr>
<tr>
<td>Sensory-motor perception</td>
<td>14.21 0.73</td>
<td>10.01 0.025</td>
<td>2.21</td>
<td>2.14</td>
<td>Sig</td>
</tr>
<tr>
<td>Passing accuracy</td>
<td>3.89 1.33</td>
<td>5.78 1.21</td>
<td>3.43</td>
<td>2.14</td>
<td>Sig</td>
</tr>
<tr>
<td>Shooting accuracy</td>
<td>18.75 2.88</td>
<td>25.44 1.56</td>
<td>4.22</td>
<td>2.14</td>
<td>Sig</td>
</tr>
</tbody>
</table>

* Tabular value (t) at the level of significance (0.05) and degree of freedom (14) is (2.14).

Table (5) shows the arithmetic means, standard deviations, and the calculated (t) value between the pre and post-test in the tests under study for the control group. The results showed that all the differences for the tests are significant and in favor of the post-test because the calculated (t) value is greater than the tabular (t) value of (2.14) and below the level of significance (0.05), and this indicates the existence of a significant difference in favor of the post-test in all variables are under investigation.
Presentation and analysis of the results of the pre and post-tests of the experimental group in the tests under discussion

*Table (6)* It shows the significance of the differences between the pre and post-tests of the experimental group in the tests under study:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>T value</th>
<th>Sig type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
<td>Std. deviation</td>
</tr>
<tr>
<td>Reaction</td>
<td>0.607</td>
<td>0.080</td>
<td>0.51</td>
<td>0.065</td>
</tr>
<tr>
<td>Sensory-motor perception</td>
<td>14.8</td>
<td>7.14</td>
<td>8.18</td>
<td>7.39</td>
</tr>
<tr>
<td>Passing accuracy</td>
<td>3.67</td>
<td>1.24</td>
<td>8.11</td>
<td>1.05</td>
</tr>
<tr>
<td>Shooting accuracy</td>
<td>19.56</td>
<td>2.54</td>
<td>29.74</td>
<td>1.44</td>
</tr>
</tbody>
</table>

* Tabular value (t) at the level of significance (0.05) and degree of freedom (14) is (2.14).

Table (6) shows the arithmetic means, standard deviations, and the (t) value calculated between the two tests, the pre and post-test, in the tests under study for the experimental group. The results showed that all the differences for the tests are significant and in favor of the post-test because the calculated (t) value is greater than the tabular (t) value of (2.14) and with a degree of freedom (14) and below the level of significance (0.05), and this indicates the existence of a significant difference in favor of the post-test in all variables are under investigation.

**Discussing the results of the pre and post tests for the experimental and control groups in the research variables:**

It appeared through the presentation and analysis of the results in Tables (5,6) that there are significant differences with statistical significance between the pre and post-tests for the two research groups (control and experimental) in the tests under study and in favor of the post tests.

**The control group:** The researchers attribute that the results obtained in their post-tests are due to the application of the method used by the teacher through his lesson or the mechanism he follows during the explanation, which is presented during the educational lesson, as this method sees it as more appropriate with the students in terms of physical, skill and intellectual ability, as the results obtained for the control group in the manner followed by the subject teacher as a result of the students listening to the teacher and their keenness to obtain sufficient knowledge about these two skills. In addition to the repetition of the exercises followed by the subject teacher, which led to obtaining the
results of the post-tests in a convincing manner for the control group.

**The experimental group:** The researchers attribute that the difference and improvement in the results of the post-tests is due to the use of the McCarthy model in terms of planning and implementing the development units. As “one of the criteria of a good teaching method is that it is appropriate to the content of the curriculum, is linked to the objectives of education, moves from easy to difficult, and has a balance of theory and practical application”. (Al-Rubiae and Amin, 2011, p. 55)

The exercises developed by the researchers using the McCarthy model have moved the learners from the usual pattern that makes them recipients of the information presented by the teacher to a new pattern based on two dimensions, the first is the theoretical dimension (perception) and the second is the practical dimension (processing), and the researchers believe that this is what is required to develop skills, this strategy states in the first (theoretical) dimension, which is based on two phases, namely (reflective observation) and (crystallization of the concept), where the contemplative observation includes an explanation of the skill and asking some questions related to the knowledge of the skill to be developed in order to link and integrate ideas between students and reach correct and perfect answers, and then move on to the second stage (crystallization of the concept), where the skill is presented by displaying the technical performance of a global player performing the skill with pauses explaining the technical stages of the skill and through it there is a clear perception and receiving or informing about how it is performed for students so that they can see the ideal performance and visualize it in their minds, before moving to the second (practical) dimension, which consists of two stages as well, which are (active experimentation) and (physical tangible experiences), in this dimension, what was explained and presented in the theoretical dimension is performed, and this has contributed in an influential way to the diversity of sources of knowledge and the increase in opportunities for good learning, and then moving to the practical dimension and in the stage of (active experimentation) in order for the practical application of the exercises and after the students perform the performance, the teacher By giving them feedback to correct the errors, and at this stage the application and expansion is carried out. This is confirmed by (Lamia Al-Diwan and Hussein Farhan Al-Sheikh Ali) "When the student performs motor skills, the teacher often uses words that are an incentive for better performance or to modify
performance". (Al-Diwan and Al-Sheikh Ali, 2016, p. 262)

The researchers believe that this improvement in the accuracy of the performance of the two skills came as a result of moving away from the norm in teaching, as the McCarthy model had a role in making the learner the focus of the educational process, and his performance was organized and arranged according to the stages of the model in addition to the use of various positions, and the continuous guidance of the subject teacher on performing these exercises, which helped reduce the errors that the learner might make in performing the exercises during the educational unit. And this is what motivated the learners to respond to this model, trying to succeed, to prove their abilities, to assert themselves, and to prove their capabilities, which are often viewed with inadequacy and indifference. Which facilitated the process of understanding and absorbing the skills under study in its three sections (preparatory, main, and final), in addition, the reasons for these differences are due to the new educational activities that the learners were exposed to, which are characterized by a clear goal and what the learners are required to achieve, and were not recognized in the regular educational units, which led to a clear improvement in their performance, and this is what was indicated by (Fouad Suleiman Qaladah). “If the objectives are clear and identified in light of certain behaviors or levels of performance, they are meaningful and effective”. (Qalada, Fouad Suleiman, 1989, p. 177)

The repeated repetitions of the exercises have a great impact on the development of these two skills, as "the many repetitions that the learner exercises during practical application help to acquire learning". (Shebl, Fayza Muhammad, 2001, pg. 40)

The researcher attributes the development of mental abilities to the exercises included in the educational units prepared by the researchers, which targeted the components of these mental abilities by stimulating sensory receptors, As the researchers relied on preparing exercises that develop these abilities on the factors mentioned by (Abdul Sattar Damad) “to develop these abilities or mental processes, which are: (Al-Damd, Abd al-Sattar Jabbar, (2000, p. 44)

1- Training using sudden situations.
2- Training on increasingly difficult situations.
3- Use real situations.
4- Repeat the reaction.
Presentation and analysis of the results of the post-tests for the experimental and control groups in the tests under study:

Table (7) It shows the significance of the differences between the post-tests of the experimental and control groups in the tests under study:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Experimental</th>
<th>Control</th>
<th>T value</th>
<th>Sig type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
<td>Std. deviation</td>
</tr>
<tr>
<td>Reaction</td>
<td>0.51</td>
<td>0.065</td>
<td>0.58</td>
<td>0.01</td>
</tr>
<tr>
<td>Sensory-motor perception</td>
<td>8.18</td>
<td>7.39</td>
<td>10.01</td>
<td>0.025</td>
</tr>
<tr>
<td>Passing accuracy</td>
<td>8.11</td>
<td>1.05</td>
<td>5.78</td>
<td>1.21</td>
</tr>
<tr>
<td>Shooting accuracy</td>
<td>29.74</td>
<td>1.44</td>
<td>25.44</td>
<td>1.56</td>
</tr>
</tbody>
</table>

*Table value (t) at the level of significance (0.05) and degree of freedom (28) is (2.02).

Table (7) shows the arithmetic means, standard deviations, and the calculated (t) value between the post-test in the tests under study for the experimental and control groups. The results showed that all the differences for the tests are significant and in favor of the experimental group because the calculated (t) value is greater than the tabular (t) value of (2.02) and with a degree of freedom (28) and below the level of significance (0.05), and this indicates the existence of a significant difference in favor of the experimental group in all variables are under investigation.

Discussing the results of the post-tests for the two experimental groups:

Through what was presented in Table (7), it becomes clear that there are significant differences in the post tests of the variables investigated and in favor of the experimental group.

The researchers attribute that the superiority of the experimental group over the control group is due to the use of the McCarthy model and for all styles (meditators, practical, theoretical) prepared by the researchers, which is built on the basis of research, investigation, asking questions and involving students in thinking and searching for the answer, in addition to the mental exercises that were applied in the applied section of the educational units.

As the impact of the McCarthy model, which was applied to the members of the experimental group, became clear in achieving the educational goals through the learners’ implementation of the assignments for the variables under study, and that the McCarthy model was applied through two dimensions, the first (theoretical) dimension, which is based on two stages, namely (reflective observation) and (crystallization of the concept) as they include an explanation of the skill and
asking some questions related to the knowledge of the skill to be developed in order to link and integrate ideas between students and reach the correct and ideal answers, and then the skill is displayed, as the researchers were keen to present the technical performance of the two skills to models of international players who perform the two skills in an optimal manner with pauses to clarify the technical stages of the two skills, and thus the students have a clear vision of how to perform them so that they can see the ideal performance and visualize it in their minds, the researchers also see that the steps taken in teaching the skill according to the McCarthy model have contributed to creating motivation among the members of the experimental group to participate and interact in educational situations, which gave them the opportunity to think about the performance of skills and skill knowledge in them and realize the relationship between them, as it enhanced the students’ sense of confidence and ability. The conclusion is that it is fruitful and effective learning, and this supports it (Mahmoud Daoud Al-Rubaie) “What gives priority to the format model (McCarthy model) in student learning are those sequential steps that make the student an opportunity to show what he has learned from a new experience”. (Al-Rubaie, Mahmoud Dawood Salman, 2008, p. 94)

One of the reasons for the development of the experimental group is the students’ practice of exercises and the correct method of performance, allowing them to express their opinion on the method of performance, gaining good information that is useful to them, increasing their self-confidence when engaging them in the lesson, initiating a spirit of cooperation and assistance among their colleagues in understanding and consolidating information through discussion among students within one group cooperating with each other, as learning within small groups of students allows them to work together effectively and help each other to advance the level of each individual, and achieve the common goal.

CONCLUSIONS AND RECOMMENDATIONS:

Conclusions:
1- The model followed and the method prepared by the subject teacher had a positive effect in the tests of reaction and sensory-motor perception, and the accuracy performance of passing and shooting skills of football for students.
2- The results showed that the students of the experimental group (McCarthy model) outperformed the students of the control group (the method prepared by the subject teacher) in tests of
reaction and sensory-motor perception and the accuracy performance of passing and shooting skills of football for students.

5.2. Recommendations:
1- Emphasis on the use of the McCarthy model in developing the rest of the skills in football because of its good results.
2- Work on organizing the content of the subject with an educational design according to the steps of the McCarthy model and in a manner consistent with achieving the educational goals set.
3- Conducting similar studies in other activities and games using the McCarthy model, for different age and school stages, for both gender.

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