The effect of exercises using skill mirrors planar reflective performance in the sense of improving motor and speed dribbling among basketball players

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Abstract

The objectives of the research were determined in preparing skillful exercises using flat mirrored mirrors of performance and knowing their effect in improving the kinesthetic sense and speed of skill of freshmen in basketball players, and the researcher used the experimental approach on a sample of (30) players from students ages 13-17 who belong to the training center in the Directorate of Basketball Education of Al-Anbar Governorate in the city of Ramadi, the sports activity department, and the researcher used a set of skillful exercises that take into account the sample level and serve the dependent research variables, and after conducting homogeneity and parity between the two groups of equal number, experimental and control, the application was applied Yen for a period of (8) weeks, by two units per week. After statistical treatment, the results resulted in the positive effect of skill exercises using flat mirrors reflecting performance in improving the kinesthetic sense and speed of denting skill among members of the experimental group. The recommendations were to benefit from the skillful exercises prepared by the researcher and the use of flat reflective mirrors to perform because of its effect in improving the kinesthetic sense and the speed of Dumb's skill.

Keywords: Exercises, skill mirrors and speed dribbling

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Introduction

The practical field experience is the basis for reaching the scientific facts that researchers seek for the events of a qualitative shift and the development in the field of physical education with all its specialties, including kinetic learning of mathematical skills in particular.

Through kinetic learning, kinetic experiences and programs consist in the brain as a result of the correct repetitions and benefit from internal and external sensory processes represented by dealing with stimuli as inputs through the senses and the involvement of the largest number of them in the learning process and the development of learned skills, providing perfect integration and sensory perception to the players. And in our present time, the trend is to harness a lot of science and use its various means to serve the dynamic learning of mathematical skill, and among these methods are flat mirrors reflecting the image or performance as a special method in the science of physics, which provides real-time information on the technical performance of the skill dribbling in basketball and the player's understanding of the method of his performance and his knowledge With errors and the possibility of self-correction, if we take into account "from a technical point of view to perform the skill dribbling requires not to look at the ball". So it became imperative for the level of the ball to feel higher and controllable, which is reflected in the speed of performance, and mastering this skill with all kinds of high and low dribbling and by changing the direction from an early date will enable players to perform other skills such as cutting, tricking, passing and scoring, and this is the aspiration of all A coach and player specific to the basketball game whose law determines the end of the attack with a time of (24) seconds. In addition, the basis of the game is fast attack and reaching the opponent's goal with the shortest time and recording an injury. Hence the importance of the research in benefiting from the flat mirrors reflecting the performance in improving the...
kinetic sense and the speed of skill dribbling among basketball players from students who represent their teams in school tournaments, and that the results of the research will serve the development of the kinetic learning process of mathematical skills, which is reflected in the evolution of the game in Iraq.²

Through a researcher and field experience as coach of the players training center basketball in the breeding of Anbar province, the city of Ramadi, Department of sports activity, noted that most of the players of the students who represent the school teams in tournaments middle and senior high stage of the 2019 notice the loss of the ball and the inability to be controlled when performance skill (dribbling), as well as his slow clear manner, affecting their performance on the results of the games, so the researcher asks: Do you exercise technique using mirrors flat reflective of the performance of the improved motor sense and speed skill dribbling among basketball players.³

Research objectives

1. Preparing skillful exercises using flat mirrors reflecting the performance in improving the kinesthetic sense and speed dribbling of basketball players, and in a manner compatible with the level of the sample.
2. Knowing the effect of skillful exercises using flat mirrors reflecting performance to improve the kinesthetic sense and speed dribbling of basketball players.

Research hypotheses

1. There are statistically significant differences between the results of the pre and post measurements for the experimental and control groups, and for the benefit of the dimensional measurements.
2. There are statistically significant differences between the results of the dimensional measurements of the experimental and control groups in favor of the experimental group.

Research fields

- The human field: Basketball training center players, representing (30) students, ages 13-17 years of 2019, Ramadi City, Anbar Education, and Sports Activity Department.
- Spatial field: Basketball court for the training center - Al-Anbar Education - Ramadi City - Al-Miqdad School for Boys.

Research methodology and field procedures

Research Methodology

By designing a controlled adjustment of two experimental and control groups, the researcher used the experimental approach to suit the research problem.

The research sample

The research sample was chosen intentionally, and they represent the players of the basketball training center of the Directorate of Education in Al-Anbar Governorate - Ramadi City, Sports Activity Department, and they are students between the ages of 13-17 years. A player for each group, the sample was divided by lottery method, and the sample selection was to provide all conditions and capabilities to apply the research experience.

Homogeneity of the research sample

Before dividing the research sample, homogeneity was performed between the sample population in length, weight, and time life by extracting the skewness coefficient, and it ranged between (± 3), which confirms the homogeneity of the research sample.
Table 1: Shows the homogeneity of the sample in height, weight and chronological age

<table>
<thead>
<tr>
<th>Variables</th>
<th>Units</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Cm</td>
<td>13.178</td>
<td>79.6</td>
<td>177</td>
<td>490.</td>
</tr>
<tr>
<td>weight</td>
<td>Kg</td>
<td>13.69</td>
<td>54.4</td>
<td>68</td>
<td>74.0</td>
</tr>
<tr>
<td>Chronological age</td>
<td>Year</td>
<td>13.14</td>
<td>91.3</td>
<td>15</td>
<td>-66.0</td>
</tr>
</tbody>
</table>

Equivalence of the two research groups

After dividing the research sample into two equal groups, and for the purpose of ensuring the results will be distributed fairly between the experimental and control groups, the researcher used the law (t) to address the results of pre measurements in the parameters of kinesthetic sense, skill speed dribbling and parity check Table (2).

Table 2: Shows the equivalence of the experimental and control groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Units</th>
<th>Experimental group</th>
<th>Control group</th>
<th>(t) calculated*</th>
<th>Type of indication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The kinesthetic sense of</td>
<td>Sec.</td>
<td>6.25</td>
<td>36.2</td>
<td>4.25</td>
<td>30.1</td>
</tr>
<tr>
<td>place and its association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with dribbling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed dribbling by</td>
<td>Sec.</td>
<td>13.25</td>
<td>70.1</td>
<td>73.24</td>
<td>56.1</td>
</tr>
<tr>
<td>changing direction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (t) Tables (701.1) at the level of significance (05.0), and degrees of freedom (28).

No statistically significant differences are found in the search variables, if the calculated value of (t) (28) for kinesthetic sensitivity and 67.0 for velocity dribbling is smaller than the tabular value (t) (701.1), at the level of significance (05.0), and the degree of freedom (28) This confirms parity for the two groups.

Tools, devices and means of collecting information

- Medical scale to measure height and weight.
- Computer type (HP).
- Legal basketball court.
- Legal Basket Balls (20)
- Metric unit of measurement.
- Stopwatch, number (2) type (CASIO).
- Plastic cones, number (6), height (80) cm.
- Circular plastic rings, count (5).
- Eyes ring number (2).
- Flat mirrors (2): The basketball court is equipped with (2) flat mirrors with a height of (2) meters and a width of 50.1 meters. It has been installed on the walls to allow players to fully see their motor performance of the body, while observing safety and security conditions.
- International Information Network (Internet).
- Tests and measurements.
- Arab and foreign references.
- Auxiliary Work Team.
Tests used in the search

Test of dribbling is constantly tested and the player is blindfolded.

Purpose of the test: To measure the level of kinesthetic sense of place and its association with dribbling.

Tools used: basket balls, stopwatch, and eye cover.

How to perform: Stand inside a square (2 x 2) with movement in all directions, watch the location, then blindfold, start throwing the ball on him inside the square, and the player is blindfolded, and starts with dribbling until the ball is lost and the player or the ball exits the square.

Recording: calculating the time for each attempt (2 attempts) and taking the best that represents the longest time.

Test dribbling direction change

The name of the test: "From the high start (politeness) by changing the direction between (6) characters for a distance of (50.13) meters back and forth.

The purpose of the test: to measure the speed (plumpness) by changing direction.

Tools: Basketball court, electronic stopwatch, basketball (2) legal, chalks to determine the dimensions of the signs, adhesive tape length (50.1) meters as a starting line, and a beep to give the starting signal.

Procedures: The dimensions of the six characters from the starting line are drawn as follows:

- Adhesive tape length (50.1) meters, then two points are specified at both ends, and they are A, B.
- The distance between the first person at the starting line is determined (50.1) meters, and the distance between the first, second, third, fourth, fifth, and sixth characters is determined at a distance of (40.2) meters, and the fixation of the signs is based on the ground is in a straight line and perpendicular to the starting line, height (80) cm.
- Performance description: The player takes the correct position (getting ready from the high start at point A), the player starts with dribbling by changing the direction between the six characters at the moment the start signal is given. The test ends when the player crosses the finish line as quickly as possible at point B And with him the ball.
- Score calculation: Calculates for the player the minimum time it takes from the moment the starting signal is given and until the finish line is crossed at point B (5: 79 -80).

Pilot study

The first and second pilot study

For the purpose of identifying the appropriateness of the tests determined by the researcher and the response of the members of the research sample and knowing the time taken for each test, the first exploratory experiment was conducted on (10) players from the research sample on (Monday) February 11 2019 at 4 pm in the basketball court follows the training center in the city of Ramadi, and the second reconnaissance experiment was repeated after seven days under the same conditions for the purpose of extracting the validity and consistency of the tests using the Pearson correlation coefficient (t).
Table 3: The validity and reliability of the tests, the calculated value (t) and the correlation between the tests

<table>
<thead>
<tr>
<th>Tests</th>
<th>Units</th>
<th>Calculated stability (t)</th>
<th>Self-validity</th>
<th>(t) tabular</th>
<th>Possible error</th>
<th>df</th>
<th>Type of indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>The kinesthetic sense of place and its association with dribbling</td>
<td>Sec.</td>
<td>0.89</td>
<td>0.943</td>
<td>0.549</td>
<td>0.05</td>
<td>8</td>
<td>Sig.</td>
</tr>
<tr>
<td>Speed dribbling by changing direction</td>
<td>Sec.</td>
<td>0.83</td>
<td>0.911</td>
<td></td>
<td></td>
<td></td>
<td>Sig.</td>
</tr>
</tbody>
</table>

Through Table (3) it appears that the correlation relationship (r) for both tests is a high positive relationship, and that this relationship is significant, if it turns out that the calculated value of (r) for the two tests is greater than the value of the (r) tabular, which indicates that the tests have the stability.

The third pilot study

The third pilot study included identifying the validity of the exercises prepared by the researcher, as well as the validity of the tools, including flat mirrors, as the researcher met with members of the experimental group and some exercises were applied in order for the sample to understand the procedures of the educational unit and its goal, and the exploratory experiment was carried out on (Wednesday) corresponding to 20/2/2019 Four o’clock in the afternoon, and the researcher benefited from this experiment in making some adjustments to the exercises in line with the sample level.

Field research procedures

Pre tests

Pretests for the variables of the kinesthetic sense and dribbling of the change of direction were conducted on (Monday), 2/25/2019 at four o’clock in the basketball court of the training center in the city of Ramadi of the Directorate of Education in Anbar Governorate - Sports Activity Department, and each Conditions in terms of time, location, tools used and method of carrying out the tests.

Skill Exercise Implementation (Main Experience)

Depending on the researcher's experience in the educational and training field in the basketball game, repeat (10) skillful exercises applied using flat mirrors and the introduction of principles of kinetic learning and development of learning in a way that serves the variables of research, kinesthetic sense and skill dribbling, as these exercises were put in an educational programing,Its goal is to develop learning, and the researcher has considered all of the following:

- Level and possibility of the research sample.
- Diversification of skillful exercises in a way that provides suspense with the use of encouragement and reinforcement.
- Use a distributed exercise that relies on rest periods between repetitions.
- The experimental group performs the skillful exercises in front of the flat reflective mirrors of performance, and mistakes are self-corrected by the players, while the control group performs the same exercises without using the flat reflective mirrors to perform. Both groups participate in the sections of the educational unit in terms of public and private warm-up in the preparatory section and the educational section of the main section and the final section.
• Programing duration is (8) weeks, with two educational units per week, from Monday (Wednesday and Wednesday). It took 20 to 25 minutes to implement the exercises, representing the applied part of the main section.

Post-test

After the end of the main experiment, the post-tests were conducted on (Wednesday) corresponding to 4/24/2019 and the researcher were committed to the method of implementation in terms of time, location and tools with which the pretests were carried out.

Results and discussions

Table 4: Presentation and analysis of results for the pre- and post-tests of the control group

<table>
<thead>
<tr>
<th>Tests</th>
<th>Units</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
<th>Mean diff.</th>
<th>SD diff.</th>
<th>(t) calculated*</th>
<th>Type of indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>The kinesthetic sense of place and its association with dribbling</td>
<td>Sec.</td>
<td>4.25</td>
<td>30.1</td>
<td>73.31</td>
<td>76.1</td>
<td>33.6</td>
<td>15.2</td>
<td>50.11</td>
<td>Sig.</td>
</tr>
<tr>
<td>Speed dribbling by changing direction</td>
<td>Sec.</td>
<td>73.24</td>
<td>56.1</td>
<td>21</td>
<td>21.1</td>
<td>73.3</td>
<td>80.1</td>
<td>10.8</td>
<td>Sig.</td>
</tr>
</tbody>
</table>

*(t) tabular (761.1) at the level of significance (05.0), and degree of freedom (14).

It is clear from Table (4) that there is a statistically significant difference for the control group between the results of the pre and posttests, as the calculated value of (t) to test the kinesthetic sense of the place and its correlation with dribbling (11.50), while the calculated value of (t) for the speed test (dribbling), with a change in direction (10.8), and both values are greater than the tabular (t) value (761.1) at the significance level (05.0) and the degree of freedom (14).

The results showed that both the experimental and experimental groups had developed a kinetic sense and speed of skill dribbling in dimensional tests, and the researcher attributes that development to the effectiveness and impact of skill exercises in terms of their organization and diversification in the way they are performed, which led to a positive change in the kinetic behavior of dribbling skill in terms of the feeling of the ball and the speed of performance, in addition to that the performance has focused on the repetitions that leave an impact in the modification of the dynamic programs stored in memory and the speed of retrieval, as the high level of internal sensory processes of the learned skill should be reflected in showing a correct response to motor in terms of speed, control and accuracy. states that "studies confirm that achieving the desired goal means that the exercise has served its purpose and its quantity and dose have been sufficient, so learning may occur with one or several attempts”.  

The researcher believes that the amount of exercise contributes to improving the work of memory. Every correct repetition performed by the player will reduce the interference between the stimuli that the brain deals with and continuously on the correct motor performance. The motor programs are manipulated regardless of the type of skill and the degree of difficulty and complexity that appear in the complex skills. Basketball sometimes requires him dribbling and looking towards and at the same time passing the ball to another player, and this skill requires a high level of perception in time, space, strength and distance.
Table 5: Presentation and analysis of results for pre and posttests of the experimental group

<table>
<thead>
<tr>
<th>Tests</th>
<th>Units</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Mean diff.</th>
<th>SD diff.</th>
<th>(t) calculated*</th>
</tr>
</thead>
<tbody>
<tr>
<td>The kinesthetic sense of place and its association with dribbling</td>
<td>Sec.</td>
<td>25.6</td>
<td>37.53</td>
<td>12.13</td>
<td>4.69</td>
<td>5.23</td>
</tr>
<tr>
<td>Speed dribbling by changing direction</td>
<td>Sec.</td>
<td>25.13</td>
<td>18.33</td>
<td>6.8</td>
<td>1.77</td>
<td>15.11</td>
</tr>
</tbody>
</table>

*(t) tabular (761.1) at the level of significance (05.0), and degree of freedom (14).

It is clear from Table (4) that there is a statistically significant difference for the experimental group between the results of the pre and posttests, as the calculated value of (t) to test the kinesthetic sense of place and its correlation with dribbling was (23.5), while the calculated value of (t) for the speed test dribbling (by changing direction) (11.15), and both values are greater than the tabular (t) value (761.1) at the significance level (05.0), and the degree of freedom (14).

It is clear from Table (6) that the experimental group was better than the control group in the amount of development for the kinesthetic sense and the speed of the skill dribbling, and this is what the researcher imposed, and the reason for the development was the result of using flat mirrors reflecting the performance, which represented an educational method that has an effect by watching the player of the method His performance thus provided real-time and self-feedback to the players at the same time to correct mistakes while realizing and visualizing the motor duty, as well as the flat mirrors provided a skillful development through the involvement of the senses of touch and sight when the motor performance of exercises with the availability of reinforcement phrases by the coach, the motor learning is linked The external environment and internal environment of the player and the efficiency of sensory processes.

States that "feedback is corrective information that reaches the brain and its purpose is to correct mistakes and refine performance to implement the motor duty in the best way, and it comes from various sources, including external ones such as the correction process by the coach or teacher or others".  

Watching the player for his kinetic performance has provided enthusiasm, excitement, and perseverance to perform the kinetic tasks and to show the best of what he has, and this case is an important psychological aspect of the development in the sense of the ball, which was reflected in the speed of performance of the skill dribbling, and this is provided by the flat mirrors reflecting the performance.In this regard, (Marwan Abdul Majeed 2014) states, "Whenever a goal and a dynamic duty is set, this gives the same athletic enthusiasm and determination to perform that movement and the dynamic learning becomes effective when the individual deals with an instrument, this makes the educational position more effective".

The researcher believes that the development of the experimental group takes another perspective, according to the level provided by the reflective flat mirrors of performance from information to the correlation of feedback with the principles of correlative and behavioral theories, which indicated that the learner proceeds to change his behavior when he knows the results of his previous behavior, as well as emphasizing those theories on the reinforcing role of nutrition The review in motivating motivation for learners or players.

Conclusions

1. Skill exercises using flat reflective mirrors of performance have a positive and effective effect in improving the kinesthetic sense of place and its association with dribbling and speed dribbling with changing direction.
2. Flat mirrors reflecting performance provide real-time feedback to players.

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