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# Effect the scamper strategy in some physical variables and learning the technical performance of hammer throw for students

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**Abstract**

The importance of the research is evident by using the scamper strategy, as the researcher believes that it has a significant impact on the development of some of the investigated physical variables and is a clear reason for students to learn the technical performance of the event of hammer throw.

The research aims to identify the effect of the scamper strategy on some physical variables, learn the technical performance of hammer throwing for students, and identify the significance of differences between the control and experimental groups in the results of the post-tests of some physical variables, and learn the technical performance of hammer throw for students.

And the research community consisted of the third stage students in the College of Physical Education and Sports Sciences, University of Kerbala for the academic world (21-2022), and their number was (115) students, distributed over (4) divisions, namely (A-B-C-D) and in a random way by lottery method Division (A) was chosen as an experimental group and Division (C) as a control group, as the researcher conducted a field experiment on a sample of (30) students, with (15) students for each group, and the sample percentage from the original population was equal to (26.09).

Among the most important conclusions reached by the researcher is that the scamper strategy and the method followed by the teacher had a positive effect on some physical variables and learning the technical performance of the effectiveness of hammer throwing for students. And that there is a preference for the experimental group over the control group in some physical variables and learning the technical performance of the effectiveness of hammer throwing for students.

One of the most important recommendations is the use of the scamper strategy by teachers in some physical variables and learning the technical performance of the effectiveness of throwing the hammer for students, and working on acquiring students' self-confidence and self-esteem and raising their cognitive curiosity in order to develop their creative thinking and cognitive achievement, and conducting similar studies on other games using a strategy Scamper because of its positive results.

## 1.0 Introduction

The teaching process has taken a form and an organizational structure consistent with the state of the new development of the methods and means used in the teaching process, as the field of teaching has been affected in recent years by the revolution of science and technology, with the aim of achieving and investing the privacy of teaching related to the type of activity practiced, scientific and technical development has added many methods new and modern methods in line with the nature of the student's age group, through teachers' efforts to choose the best and most recent methods that fit with the specialized activity.

It is known that there are many teaching strategies and methods that teachers can choose the most optimal method, which he deems appropriate for the students and fits with them in order for the educational process to proceed and facilitate the access of information to the student's mind in the shortest and simplest ways, in light of the data of this era, the role of the educational institution has changed, as it is no longer confined to providing and retrieving educational material, but rather to developing the skills of accessing knowledge and post-knowledge, obtaining and employing them, and generating new ideas and knowledge, and that only comes by focusing on the main ideas and target concepts.

From this point of view, the researcher sees the importance of choosing a scamper strategy in teaching sports sciences to help students generate new or alternative ideas, develop their skills and abilities, and actively contribute to learning the technical performance of athletics events in general, and the effectiveness of (hammer throw) in particular, if it is considered one of the important individual games within the curriculum. Curriculum for athletics.

The physical variables are the main pillar, which plays a prominent role in achieving the sporting achievements of the various athletics, including the effectiveness of the hammer throw, as this effectiveness depends directly on the manifestations of muscular strength, namely, the explosive power and the elongation of the force.

Through the foregoing, the importance of the research using the scamper strategy is clear, as the researcher believes that it has a significant impact on the development of some of the investigated physical variables and is a clear reason for students to learn the technical performance of the effectiveness of hammer throw.

**Research problem:**

Through the researcher's work as a university professor specializing in teaching methods/athletics, and through his review of the educational process of the rest of the subjects and activities, he found that there is a decrease in the level of students' physical variables in terms of performance of the hammer throwing effectiveness and the extent of the impact of this matter on achieving achievement, as well as the performance of any activity It depends on a set of thinking and cognitive processes, and in the field of athletics, the application of effectiveness requires thinking and correct knowledge to reach the accuracy of performance, as some of the strategies used in teaching, we do not find that they have a clear imprint or an effective effect in increasing the level of knowledge and creativity among students, and these problems cannot be overlooked, but they can be addressed by studied scientific methods and the use of new strategies and modern methods to advance the reality of teaching for the better.

Therefore, the researcher decided to use the Scamper strategy, which represents one of the recent studies, in his belief that it would

be the best solution in developing some physical variables and learning the technical performance of the effectiveness of hammer throwing.

**Research objectives:**

- Identify the effect of the scamper strategy on some physical variables and learning the technical performance the hammer throw for students.

- Identify the significance of the differences between the control and experimental groups in the results of the post tests for some physical variables and learning the technical performance the hammer throw for students.

**Research hypothesis:**

- There are significant statistically significant differences between the pre and post-test of the two groups in some physical variables and learning the technical performance the hammer throw for students.

- There are significant statistically significant differences in the results of the post-test of the two groups in some physical variables and learning technical performance the hammer throw for students and in favor of the experimental group.

**Research fields:**

**The human field:** Third stage students in the College of Physical Education and Sports Sciences / Kerbala University for the academic year ( 2021-2022).

**Time field:** from 14/10/2021 to 20/1/2022.

Spatial field: Track and field stadiums in the College of Physical Education and Sports Sciences / Kerbala University..

**Define the terms:**

**Scamper Strategy:**

Mervat Hamed (2013) defines it as a set of procedures that are used to help students generate new or alternative ideas by supporting their creative thinking by asking many questions that require students to think in depth according to specific steps . (Muhammad, Mervat Hamed Hani, 2013, p. 43)

**Research methodology and field procedures:**

**Research Methodology**

The researcher used the experimental method for its suitability to the nature and problem of the research.

**Community and sample research:**

The research community consisted of students of the third stage in the College of Physical Education and Sports Sciences, University of Kerbala for the academic world ( 2021-2022), and their number is (115) students, distributed over (4) peoples (A - B - C - D) and in a random way by lottery method. Choosing Division (A) as an experimental group and division (C) as a control group, as the researcher conducted his field experiment on a sample of (30) students, with (15) students for each group, and the sample percentage from the original population was equal to (26.09), and (10) were chosen. ) Students to represent the exploratory experiment sample, and table (1) shows the number of the research community, the research sample and the participants in the exploratory experiment, as well as their percentages.

**Table (1) shows the research community and its samples.**

| Variables | Number | Percentage |
|---|---|---|
| Experimental group | 15 | 13.04 % |
| Control group | 15 | 13.04 % |
| Experimental sample | 10 | 8.69 % |
| Research community | 115 | 100 % |

**The homogeneity of the sample and the equivalence of the two research groups:**

**Sample homogeneity**: (mass, length) and table (2) shows the arithmetic means, standard deviations and the value of the skew coefficient for the variables adopted in homogeneity.

**Table (2) shows the homogeneity of the research sample.**

| Variables | Unit of measure | Mean | Std. deviation | Skew ness |
|---|---|---|---|---|
| Mass | Kg | 73.18 | 7.61 | 0.51 |
| Length | Cm | 184.50 | 6.29 | 0.03 |

**Equivalence of the two research groups:**

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

**Table (3) shows the equivalence of the two research groups in the variables under investigation.**

| Variables | Control group | | Experimental group | | T value Calculated | Sig type |
|---|---|---|---|---|---|---|
| | Mean | Std. deviation | Mean | Std. deviation | | |
| Explosive power for arm | 4,01 | 0,32 | 4,00 | 0,26 | 0,06 | Non sig |
| Explosive power for legs | 30,62 | 2,50 | 30,31 | 2,86 | 0,32 | Non sig |
| Speed Strength for arm | 8,25 | 0,85 | 8,06 | 0,68 | 0,68 | Non sig |
| Speed Strength for legs | 6,47 | 0,44 | 6,23 | 0,34 | 1,73 | Non sig |
| Hammer throw | 3.429 | 0.345 | 3.643 | 0.475 | 0.965 | Non sig |

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 of 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 variables search.

**Tools and equipment:**

- Arab and foreign references and sources.
- Personal interviews.
- Note .
- Tests and measurements.

**Tools:**

Measuring tape - medical scale - chalk - whistle - burek - two (2) manual stopwatches - scientific calculator.

A wall of suitable height - flat ground - a belt and a medicine ball (2 kg), a chair, and a hammer number 10.

**Tests used in the research:**

**Three consecutive jumps test:** (Al-Sumaida'I, Louay Ghanem and others, 2010, pg. 382)

**Purpose :** - To measure the speed characteristic of the legs.

**Tools used**: yard, tape measure.

**Performance specifications** The lab student stands behind the starting line with the feet slightly apart and parallel, so that the two balls of the feet touch the starting line from the outside. The lab student begins by swinging the arms back with the knees bent and leaning forward a little, then he performs the three consecutive jumps forward for the maximum distance possible.

**Registration**: The measurement is from the starting line to the last part of the body that touches the ground from the side of the line. The student gives the laboratory three attempts and the best is taken.

**Arm flexion and extension test (front support):** (Hassanein, Muhammad Sobhi, 2003, p. 226)

**The objective of the test**: Measuring the speed characteristic of the arms.

**Tools used**: stopwatch. level ground.

**Method of performance**: From the front-facing position, the student bends and extends the arms within 10 seconds without stopping.

**Performance conditions**:

1- The body must be kept straight.

2- It is not allowed to stop during the performance.

3- The elbows should be fully flexed and extended to their fullest extent.

4- Any violation of the conditions cancels the attempt..

**Registration**: Correct attempts are recorded within (10) seconds.

**Vertical jump test (for Sargent):** (Abdel-Dayem and Taha, 1999, p. 65)

**Purpose** : - To measure the explosive power of the legs.

**Tools**: tape measure installed on the wall, chalk.

**Performance description:** The player student raises the marked arm over its entire length to make a mark on the wall with chalk, while not lifting the heels off the ground. The number that has been marked in front of it is recorded. From a standing position, it is weighted the student will test the two arms in front high, then forward, down backward, with the knees bent in half, then swinging them forward high, with the knees extended for the vertical jump to the maximum distance he can reach to make another mark with the fingers of the distinguished hand that is on its entire length. Each laboratory has two attempts and records the best one.

**Registration**: The distance between the first mark and the second mark expresses the explosive power of the two legs of the tested student.

**Throwing medicine ball with arms test**:- (Al-Hakim, Ali Salloum Jawad, 2004, pg. 94)

**Purpose** : - To measure the explosive power of the two arms.

**Tools used**: a belt, a medicine ball (2 kg), a chair, and a measuring tape.

**Performance Specifications**:- The player student sits on the chair holding the medical ball with both hands so that the ball is behind the head, and the torso must be

attached to the edge of the chair, and a belt is placed around the abdomen of the laboratory student, a belt tied to the chair so that the player student does not move while pushing the ball with the hands. A player student required three consecutive attempts.

**Registration**: The score of each attempt is calculated from the distance between the front edge of the chair and the nearest point the ball makes on the ground. The score of the tested student is the best attempt out of the three attempts.

**Determining the hammer throw test:**

After reviewing several sources related to measuring the technical performance of this event, the researcher did not find anything better than depicting the students' artistic performance and was exposed to a group of assessors as an accurate measure of their technical performance for this event. As the technical performance of the two research groups was photographed (and they were given two attempts for each student) and they were presented to two assessors with specialization in athletics to evaluate the technical performance of this activity under discussion.

**Experimental Experiment:-**

After completing the required procedures, and to identify the factors and obstacles that the researcher may encounter when carrying out the main experiment, and in order to obtain correct and accurate results in accordance with the scientific methods used, the researcher conducted the exploratory experiment on Thursday, 21/10/2021, on a sample composed From (10) students who were not from the research sample and from the community of origin, and the researcher aimed from this exploratory experiment to the following:

- Identifying the difficulties that the researcher faces during the main experiment.
- Knowing the time allotted for conducting the tests.
- Ensure the safety of sports equipment.
- Knowing the requirements and times of educational units.
- Ensure the scientific bases of the tests used.

**Scientific basis tests:**

**Validity of the tests**: The test is considered validity if it measures what it was designed to measure. In extracting the validity of the tests, the researcher relied on the validity of the content by presenting the tests to a group of experts and specialists.

**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.

**Objectivity**:- One of the important conditions that must be met in a good test is the condition of objectivity, and on this basis, the researcher extracted the objectivity of the tests by finding the simple correlation coefficient between the scores of two assessors of the assessors, in addition to the presence of simple, clear and understandable tests far from personal judgments, so the

tests have High objectivity, as shown in Table (4).

**Table (4) shows the reliability and objectivity coefficient of the tests under study.**

| N | Tests | Unit of measure | Stability coefficient | Objectivity coefficient |
|---|---|---|---|---|
| 1 | Explosive power for arm | Cm | 0.95 | 0.92 |
| 2 | Explosive power for legs | Cm | 0.90 | 0.86 |
| 3 | Speed Strength for arm | Cm | 0.92 | 0.96 |
| 4 | Speed Strength for legs | Degree | 0.88 | 0.90 |
| 5 | Hammer throw | Degree | 0.88 | 0.86 |

**Field Research Procedures:**

**Pre-test:**

The pre-tests were conducted on Thursday, 11/11/2021 on the field and arena stadium in the College of Physical Education and Sports Sciences / University of Kerbala for the physical variables and the technical performance test for the hammer throw the for students and in the presence of the auxiliary work team.

**The general framework for implementing the Scamper Strategy:**

The researcher prepared the 6 educational units according to the scamper strategy, after reviewing the teaching curriculum for the third stage and applying the scamper strategy to the vocabulary of this curriculum. The researcher prepared special educational units for the members of the experimental group according to the Scamper strategy. The application of the educational units began on (Thursday) corresponding to (18/11/2021) with a time of (90) minutes for the unit, and the application of the educational units ended on (Thursday) corresponding to 23/12/2021 ):

This strategy includes involving the learner in the educational process to learn the effectiveness of hammer throwing and is based on the student and the teacher in the main section of the educational unit. In the educational aspect of the main section of the first educational unit, the teacher introduced the students to the technical stages of this activity, the teacher explained the stages of effectiveness in a sequential manner and the importance of each of these stages was clarified and the important foundations that must be taken into account during the implementation of these stages, in addition to addressing the skills of the idea generation list for the Scamper strategy and how to work with it by asking a set of questions related to these skills.

After completing the educational aspect of (15) minutes, we moved to the practical side of the main section, as the student will have the largest role in this aspect, as they are divided into heterogeneous groups of (4-5) students who perform the stages of the activity under the supervision of the subject teacher, it also contains a set of physical exercises that help

develop these physical variables, a service that helps to learn the technical performance of this event. After completing the stages and in the last (15) minutes of the practical side of (45) minutes, the teacher collected the students and divided them into cooperative groups by sitting in front of the blackboard in the playground and through the worksheet the questions were written on the board in front of the students and each group of students was asked to They exchange ideas among themselves in cooperation and give a new idea to the question asked, he writes down the ideas sequentially on the board, and when he is finished, he makes those ideas and chooses the most appropriate ones to be a new idea that will be the most appropriate answer to that question posed. In the final section of the educational units, the teacher gave directions and instructions to the student before leaving.

**Post-test:**

After completing the educational units, the physical and skill post tests were conducted on Tuesday, December 30, 2021 AD, under the same conditions in which the tribal tests were conducted, and in the presence of the same auxiliary team..

**Statistical means:**

- Percentage.
- Mean.
- Std. Deviation.
- T test.

**Presentation, analysis and discussion of results**

**4-1 Presentation and analysis of the results of the pre and post-tests of the experimental group in some physical variables and learning the technical performance the hammer throw:**

**Table (5) shows the arithmetic means, standard deviations, and the calculated (t) value between the results of the pre and post- tests of some physical variables and the hammer throw of the experimental group:**

| Variables | Pre-test | | Post-test | | T value | Sig type |
|---|---|---|---|---|---|---|
| | Mean | Std. deviation | Mean | Std. deviation | Calculated | |
| Explosive power for arm | 6,47 | 0,44 | 6,98 | 0,41 | 4,28 | Sig |
| Explosive power for legs | 8,25 | 0,85 | 10,18 | 0,83 | 17,51 | Sig |
| Speed Strength for arm | 4,01 | 0,32 | 4,58 | 0,26 | 14,57 | Sig |
| Speed Strength for legs | 30,62 | 2,50 | 42,18 | 3,14 | 15,36 | Sig |
| Hammer throw | 3.429 | 0.345 | 7.143 | 0.378 | 24.98 | Sig |

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

Table (5) shows the arithmetic means, standard deviations, and the (t) value calculated between the pre and post measurements 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-measurement 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 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 control group in some physical variables and learning the technical performance the hammer throw:**

**Table (6) shows the arithmetic means, standard deviations, and (t) value calculated between the results of the pre and post-tests of some physical variables and the hammer throw of the control group.**

| Variables | Pre-test | | Post-test | | T value | Sig type |
|---|---|---|---|---|---|---|
| | Mean | Std. deviation | Mean | Std. deviation | Calculated | |
| Explosive power for arm | 6,23 | 0,34 | 6,40 | 0,22 | 2,53 | Sig |
| Explosive power for legs | 8,06 | 0,68 | 9,50 | 0,51 | 7,06 | Sig |
| Speed Strength for arm | 4,00 | 0,39 | 4,30 | 0,33 | 2,25 | Sig |
| Speed Strength for legs | 30,31 | 2,86 | 39,06 | 3,75 | 12,12 | Sig |
| Hammer throw | 3.643 | 0.475 | 5.714 | 0.488 | 6.53 | Sig |

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

Table (6) shows the arithmetic means, standard deviations, and (t) value calculated between the two tests, pre and post, 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 with a degree of freedom (14) and below the level of significance (0.05), and this indicates a significant difference in favor of the post-test in all variables are under investigation.

**Presentation and analysis of the results of the post-tests for the experimental and control groups in some physical variables and learning the technical performance of the hammer throw.**

**Table (7) shows the significance of the differences between the post-tests of the two groups in some physical variables and learning the technical performance the hammer throw.**

| Variables | Experimental | | Control | | T value | Sig type |
|---|---|---|---|---|---|---|
| | Mean | Std. deviation | Mean | Std. deviation | Calculated | |
| Explosive power for arm | 6,98 | 0,41 | 6,40 | 0,22 | 4,89 | Sig |
| Explosive power for legs | 10,18 | 0,83 | 9,50 | 0,51 | 2,80 | Sig |
| Speed Strength for arm | 4,58 | 0,26 | 4,30 | 0,33 | 6,05 | Sig |
| Speed Strength for legs | 42,18 | 3,14 | 39,06 | 3,75 | 2,55 | Sig |
| Hammer throw | 7.143 | 0.378 | 5.714 | 0.488 | 6.124 | Sig |

*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 examined tests:**

Through what was mentioned in Tables (5, 6, 7) it became clear to us in Table (5) that the **experimental group** that used the Scamper strategy had a significant effect through the results shown and for all the research variables, and this happened as a result of the fact that this strategy depends in its application on a list of The thinking skills included (replacement, linkage, adaptation, modification, enlargement, reduction, other uses, deletion, reverse, rearrangement). This resulted in the learners having positive attitudes towards thinking, imagination and creativity, and gaining them self-confidence and positive self-esteem, which helped them to transfer the impact of learning and generalize the acquired experiences to active and positive situations, especially in the case of similarities between the variables investigated and the previous activities and variables (discus throw push The greater the degree of similarity between skills, the greater the process of transferring the effect of learning, since learning the basic principles of movement will facilitate the transfer process to many sports movements, even if it is difficult, it depends on the ability of the learner. (Al-Rubaie, Mahmoud Daoud, 2012, p. 317)

The researcher also attributes the reason for the development of the experimental group (for physical variables) to the effectiveness of using the Scamper strategy as a result of the physical exercises used in the applied section and by dividing students into cooperative groups through cooperation and synergy between students of the same group, in order to achieve the best skill and physical level (and in educational situations different), which led to the active interaction between the students of one cooperative group. And that "cooperative learning increases the active participation of students and reduces their fatigue". (Okebukola, R.A, (1989,86(7), P.382)

In addition, there is agreement that students of cooperative groups achieve greater benefit when they help each other, rather than working in isolation from each other or against each other. And the use of cooperative groups works to integrate the capabilities of the members of one group into one outcome, so that all of them can benefit from it, and feel that they are responsible for the achievement of each individual in it in order to achieve a collective goal, as it increases cooperation and encouragement among the members of one group for the sake of collective competition and not individual competition .(Mahjoub, Wajih, 2001, pg. 56)

As for the moral effect that was shown through the results shown in Table (6) for the control group that was used by the subject teacher, it happened as a result of the subject's teacher being exposed to the

educational material on a regular basis and appropriate to the learners' abilities and their physical and skill capabilities, because giving regular and scientific exercises has an effect. Great in learning the performance of the activities that the subject teacher intends to teach his students, and this is consistent with what he went by (the trick) that teaching students should be a regular scientific activity on logical and psychological foundations studied based on challenge, excitement and fun based on the needs of students. In addition to the seriousness of the subject teacher and his eagerness to reach the acceptable degree of learning through his use of feedback during the implementation of the lesson, and the commitment of students to attend and their eagerness to participate in the lesson, which contributed to a high level of learning for them. . (Al-Heila, Muhammad Mahmoud, 1999, p. 11)

What was shown in Table (7) about the superiority of the experimental group over the control group with the research variables came as a result of the students educated by the scamper strategy were able to increase their self-confidence and self-esteem and dive into deep thinking and abandoned simple superficial thinking, which instilled positive attitudes towards learning the effectiveness investigated and increased motivation among educated, and this was confirmed by (Al-Rubaie) that the students' self-analysis and their self-confidence will help the group that does the work (students), as it may be a result of the teacher's satisfaction, leading to the students practicing their activities better and helping them to evaluate themselves as much as possible, and this is what generates in them confidence High self-reliance in the correct performance. (Al-Rubaie, Mahmoud Daoud, 2019, p. 240)

This is in addition to the fact that the Scamper strategy does not need a long time to reach the solution, as it focuses on the problem and does not deviate from it, and depends on the use of more than one audio or visual style, depending on a pre-prepared formal scheme that can be successfully implemented at the level of one individual and ensuring the participation of all one team members.

Since the scamper strategy led to the successful acquisition of knowledge by the students, and the ability to remember, assimilate and retrieve it in a better way, it created the appropriate conditions among the students themselves, especially during (replacement, merging, adaptation, modification, rearranging), and this is what he indicated ( Ibrahim Muhammad Aziz) that learning strategies from them (Scamper) work to positively involve the student in the lesson by using his maximum potential and cognitive abilities. (Aziz, Ibrahim Muhammad, 2010, p.142)

**Conclusions and recommendations:**

**Conclusions:**

1- The scamper strategy has a positive effect on some physical variables and learning the technical performance the hammer throw for students.

2- The method adopted by the teacher had a positive effect on some physical variables and learning the technical

performance the hammer throw for students.

3- There is a preference for the experimental group over the control group in some physical variables and learning the technical performance the hammer throw for students.

**Recommendations:**

1- Using the scamper strategy by teachers in some physical variables and learning the technical performance the hammer throw for students.

2- Work on acquiring students' self-confidence and self-esteem, and arousing their cognitive curiosity in order to develop their creative thinking and cognitive achievement.

3- Presenting the educational material on a regular basis and appropriate to the abilities of the students and their physical and skill capabilities.

4- The necessity of focusing on theoretical concepts and linking them to the practical side during the implementation of the educational units.

5- Conducting similar studies on other games using the scamper strategy because of its positive results.

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