Effectiveness of Using the Brainstorming Technique to Learn Some Basic Skills and Collection of Knowledge for Beginners in Volleyball

Ahmed Mrwan Almaghawry

Department of Theories and Applications of Team Sports and Racquet Sports, Faculty of Physical Education, Benha University, Egypt

Abstract: The research aims to identify the effectiveness of using the brainstorming technique to learn some basic skills and collection of knowledge for beginners in the sport of volleyball, the researcher used the experimental method using the experimental groups design, one experimental and one control group using the pre and post- tests for both groups. This study was conducted on a sample of 50 students from first year students, Faculty of Physical Education, Benha University for the academic year 2011/2012. Tests of physical and skill and achievement of cognitive attainment and intelligence were used. The researcher has designed an educational program using the method of brainstorming of duration 7 weeks, three units a week and time of each unit 90 minutes, implementing the program has been during the period from 30/10/2011 to 22/12/2011. The results of this study that the method of brainstorming had a positive effect on learning the skills of passing, serve and smash stroke for the experimental group. Brainstorming demonstrated a positive effect on learning the skills of passing, serve and smash stroke of the control group. The rate of percentage in the level of performance skills and cognitive attainment of the experimental group which used the method of brainstorming was better than the rate of percentage in performance skills and cognitive attainment of basic skills in the sport of volleyball for the control group. The researcher used the brainstorming technique in teaching basic skills in the sport of volleyball because of its positive impact in the education of basic skills and cognitive aspects associated with them.

Key words: Brain Storming %Creative Thinking %Cognitive attainment %Volleyball

INTRODUCTION

The scientific and technological development that the world is witnessing these days a surge of great scientific, which requires a new generation of young people be able to take over responsibility in the future and can deal with this great technological development in proportion to the boom scientific urged after the information revolution, was the one causes the appearance network. So it was incumbent on all institutions of state and private educational institutions to develop methods to build a capable personal creativity process, which is where the teacher is the center of the educational process, one of the most important reasons that this information is easy, but when the learner should strive to gain access to this information be obtained on this and prove its the above and through the researcher taught the decisions of the volleyball, Faculty of Physical Education, Benha University, note that doubling the number of hours devoted to the teaching volleyball college and through the application of the overall rules of procedure new, it has become the course, divided into divisions I and II, rather than simply teach students. Due to the researcher that it is likely that traditional teaching methods (explanation and width) used in the teaching process, which is where the teacher is the center of the educational process, one of the most important reasons that may lead to it. The researcher finds that applying the standards of the quality of education at Egyptian universities and especially what is related to the axis of effective teaching, it was incumbent on the faculty of
those universities, work to achieve the learning outcomes targeted Internal Learning Outcomes and of knowledge, understanding, mental skills, practical skills and professional general skills of portability and to develop mental skills to students in the teaching of sports activities, in particular the faculties of physical education, you should use active teaching methods. Effective Teaching. So there had to be a method of teaching or form or medium determines the pedagogical approach appropriate for each skill of sport volleyball so as not to overlook the use of teaching aids and the age group of the learner and define the role of both teacher and learner accurately within the module. Through research and exploration researcher found that the method of brainstorming a way to creativity in modern education, which is one of the methods that help learners to think creatively and have the learner a greater role in the educational process, prompting the researcher to conduct this research, Which is one of the early research in the field of sports in general and in the field of sport volleyball in particular and to identify the effectiveness of using the brainstorming technique to learn some basic skills and knowledge acquisition for beginners in the sport of volleyball. Volleyball remains deficient in achieving the objectives of the education process, as the achievement of the Millennium in fact linked to a fundamental and substantive updates of these methods, here called for the need to develop teaching methods to raise the level of novices and concern for them, as well as taking into account orientation and attitudes and work to realize their intellectual, mental and creative and their seriousness in the collection of information, skills and taking into account individual differences among them and reduce the burden on a teacher volleyball and the result of scientific continuous learner, this will not be achieved only by using methods that are in self-learning and methods of the different, as well as methods of creativity, including, method of brainstorming, depending on where the learner is the one who generates ideas freely and unconditionally and to postpone evaluation of ideas and therefore given a full opportunity for the learner to come out energies creative potential within.

The style of brainstorming in the education of the modern methods that encourage creative thinking and release the potential when educated in an atmosphere of liberty and security allows the emergence of all opinions and ideas so that the learner at the top of the interaction with the situation and fit this style in the issues and topics open that have no answer [1].

The importance of brainstorming technique is:

C Helping to reduce the intellectual lethargy of the learners.
C Showing the opinion and ideas without fear of failure of the idea.
C Encouraging the greatest number of learners to find new ideas.
C Development of innovative thinking of learners.
C The use of higher cognitive abilities (analysis - installation – calendar).
C Making the activity of teaching and learning more concentrated on the learner [2].

Aim: The research aims to identify the effectiveness of using the brainstorming technique to learn some basic skills and collection of knowledge for beginners in the sport of volleyball.

Hypotheses: In the light of the importance and objective of this research the researcher assumes the following:

C There are significant differences between pre and post- tests for the experimental group to post- test in the level of performance of some basic skills for beginners in the sport of volleyball.
C There are significant differences between pre and post -tests for the control group to post -test in the level of performance of some basic skills for beginners in the sport of volleyball.
C There are significant differences between post- tests for the experimental and control group to post test of the experimental group in the level of performance skills and cognitive attainment of basic skills for beginners in the sport of volleyball.

MATERIALS AND METHODS

Approach: The researcher used the experimental method because of its relevance to the nature of this research using two groups, one experimental and one control, using a pre and post- tests for both groups.

Society and the Research Sample: Sample was selected intentionally from students in Faculty of Physical Education for Boys, Benha University for the academic year 2011/2012, 209 newcomer students 6 called on the rest of the re-formed. The research sample was of 50 students, 23.26% of the indigenous community has
Table 1: Homogeneity of sample (experimental, control, reconnaissance) (n= 75)

<table>
<thead>
<tr>
<th>Variables</th>
<th>UM</th>
<th>mean</th>
<th>SD</th>
<th>median</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>Cm</td>
<td>175.400</td>
<td>4.592</td>
<td>174.500</td>
<td>0.588</td>
</tr>
<tr>
<td>Weight</td>
<td>Kg</td>
<td>72.813</td>
<td>4.890</td>
<td>73.00</td>
<td>-0.115</td>
</tr>
<tr>
<td>Chronological age</td>
<td>Month</td>
<td>224.000</td>
<td>4.571</td>
<td>223.850</td>
<td>0.098</td>
</tr>
<tr>
<td>Intelligence Coefficient</td>
<td>Degree</td>
<td>51.293</td>
<td>3.917</td>
<td>52.00</td>
<td>-0.541</td>
</tr>
<tr>
<td>Ability of the muscle leg</td>
<td>Cm</td>
<td>41.667</td>
<td>4.128</td>
<td>42.00</td>
<td>-0.242</td>
</tr>
<tr>
<td>Ability of the muscle arms</td>
<td>Cm</td>
<td>3.310</td>
<td>0.501</td>
<td>3.130</td>
<td>1.078</td>
</tr>
<tr>
<td>transition Speed</td>
<td>Second</td>
<td>3.821</td>
<td>0.290</td>
<td>4.00</td>
<td>-1.582</td>
</tr>
<tr>
<td>Agility</td>
<td>Second</td>
<td>12.174</td>
<td>0.648</td>
<td>12.040</td>
<td>0.620</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Cm</td>
<td>2.019</td>
<td>1.669</td>
<td>2.900</td>
<td>-1.584</td>
</tr>
<tr>
<td>Co ordination</td>
<td>Repetition</td>
<td>30.053</td>
<td>9.004</td>
<td>32.000</td>
<td>-0.649</td>
</tr>
</tbody>
</table>

UM = Unit of measurement; SD = standard deviation; SC = Skewness coefficient

been divided into two groups, one experimental strength (25 students and used with the style of brainstorming) and the other officer strength (25 student has been used with the style of explanation and presentation). Researcher has ruled out the rest of the students return to their exposure to the experiences of the curriculum, which could affect the results of the current study, students who are not in attendance and students injured.

**Homogeneity of Sample:** The researcher conducting homogeneity of the sample individuals as a whole (the experimental group and control and reconnaissance) by using the coefficient of torsion in Physical variables (height, weight), chronological age, intelligence coefficient and some physical abilities. Table 1 shows homogeneity of the research sample as a whole.

The Table 1 indicates that all the values of coefficients torsion of the research sample as a whole ranged between -1.852 and 1.078 and that these values are confined between ±3, which means the occurrence of all data under the curve equinoctial and emphasizes the homogeneity of the research sample as a whole in all the variables selected.

**Data Collection Tools and Forms:** Through the informed scientific literature and previous studies related to the subject matter [3, 5-8], the researcher suggested data collection methods and tools according to the nature of the research as follows:

**Intelligence Test:** The researcher tests the application of SPM to John Raven appropriateness of the nature of the chronological age of the sample.

**Physical Tests:** Through the informed studies and references associated with volleyball, researcher concluded tests the physical skills associated with the passing from the top and the bottom, serve (from the bottom, tennis, wavy) and smash stroke.

**Skill Tests:** Depending on the studies and references associated with the study, the researcher concluded volleyball skill tests in question.

**Achievement Test of Knowledge:** The researcher prepared a test for the cognitive attainment (multiple choice) so that the proportion is contained with the skills covered by the research study as well as the educational level of the sample, which contained 40 questions each of them includes 4 different choices and the learner to choose answer only one of them, taking into consideration of these questions that include information about the history of the game and technical aspects of the basic skills, as well as some legal aspects related to basic skills in question.

**Tools:** Rstamitr to measure the length - to measure the balance of medical weight - ball medical weighing 3 kg - a ruler are included - Stopwatch - tape measure - at least a length of rope about 10 meters - volleyball court legal - volleyballs size [5].

**The Suggested Program**

**Objective of the Program:** Learn some basic skills and aspects of the cognitive attainment for beginners in the sport of volleyball using the brainstorming technique.

**Program Content:** using the brainstorming technique for teaching basic skills and aspects of the cognitive attainment in the sport of volleyball and that through the design of an educational program of duration 7 weeks, three units a week and time of each unit was 90 minutes, 7 modules codified commensurate had been prepared with the nature of those skills facility, taken into account during the design of these units commitment the steps and stages that must be going through brainstorming sessions and adapted to fit with the teaching of basic skills of volleyball, so it is used by the experimental group.
Control group used the traditional method in educating the same skills. The researcher gave both experimental and control groups the same educational content.

**Pilot Study:** The researcher conducted the study on 23/10/2011, with the goal to ensure ease of application of the tests, clarify the method of work of the assistants (four assistant teachers), Console application to educational research sample reconnaissance to determine the times of the components of the unit and the results were as follows: Warm-up (15 minutes), the main part (65 minutes) and closing (10 minutes).

**Main Study**

**Tribal Measurements:** Intelligence test was applied and measurements tribal skills to sample daily on 25.26 / 2/2011.

**Implementation of the Search Experience:** The implementation of the educational program suggested for the skills of the over head passing, under hand passing and Serve from the bottom of the front, Serve from the top (wavy), Serve of the highest-facing (TENESS) and the front Smash stroke for a period of 7 weeks during the period from 30/10/2011 to 22/12/2011, which represents the first semester of the academic year 2011/2012. Where the application of the first unit of the sense of the ball and repeat once and the second unit of the skill over head passing and repeat three times and the third unit for the education of the under hand passing and repeat three times and the fourth unit to teach the serves from the bottom of the front and the fifth unit to teach the Serve from the top (wavy) and repeated only once and the sixth unit of the Serve of higher education facing (TENESS) was repeated twice and the seventh unit to teach the Smash stroke and repeated four times.

**Dimensional Measurements:** They were made for skill and knowledge on 25,26 / 12/2011.

**Statistical Treatments:** They have been carried out using computer packages of statistical programs by Spss statistical analyzes including the following: arithmetic mean, median, standard deviation, coefficient of torsion, the correlation coefficient, the percentage of percentage, test (T) to calculate the significant differences.

**RESULTS AND DISCUSSION**

It is clear from Table 2 the existence of statistical significant differences between pre and post-measurements for the experimental group in the skill variables under discussion namely: the passing, serve and smash stroke in favor of post-test.

This achieves the first hypothesis that there are significant differences between pre and post-measurements for the experimental group post-test for measuring the level of performance of some basic skills for beginners in the sport of volleyball indicating that the method of brainstorming had a positive effect on learning some skills of volleyball, where the method of brainstorming grew the capacity of individuals to solve problems creatively and choose the solution that suits them and to not suppress the ideas of others and let them express it freely without evaluation and it is better to be more comprehensive and broader ideas. The increase in the number of ideas raises the balance of useful ideas as well as building ideas on the ideas of others or try to merge more than one idea for a new idea better and this is characterized by brainstorming easily applied and its ability to develop creative thinking and self-confidence and the ability to freely express besides entertaining and delightfully and has the ability to develop beneficial habits of thought, which leads to the emergence of innovative ideas to solve problems.

It is clear from Table 3 the existence of statistical significant differences between pre and post-measurements for the control group in the variables under consideration, skills of passing, serve and smash stroke in favor of post-test. This achieves the second hypothesis that there are significant differences between pre and post-measurements for the control group post-test for measuring the level of performance of some basic skills for beginners in the sport of volleyball which indicates that the method to demonstrate a positive effect on the learning process as called spectrum methods of styles, in the sense as a series of teaching methods related to each other applied extensively in the field of Physical Education [9]. Also, brainstorming depending upon the style of the teacher to demonstrate the maximum number of decisions and the role of the learner here limited to the following commands in the form of performance with the following kinetic model presented to it [10]. The basis of the method is to demonstrate the direct relationship between alerts the teacher and learner response [11].

It is clear from Table 4 the existence of statistical significant differences between measurements post for the experimental and control groups in the variables scroll, serve and collection of knowledge, so as to favor the experimental group and improving percentage in the variable beating crushing between the experimental and
control groups in favor of the experimental group. This achieves the third hypothesis that there are significant differences between post -measurements for the experimental and control groups for the experimental group in the level of performance skills and knowledge acquisition of basic skills for beginners in the sport of volleyball. The role of the teacher is the central pivot in the development of creative thinking among students calling for change and developing programs in Faculties of Physical Education [12]. This is consistent with the results of a previous study indicating that the method of brainstorming had a positive effect on learning the skills of basketball and the acquisition of cognitive aspects [13]. Brainstorming is a quick way to generate ideas, it also offers the opportunity to the largest number of students.

From the above, researcher believes that creating an interactive learning environment using one of active learning techniques (brainstorming) where the student is active through which the educational process is transferred from the teacher to the learner simply because the complexity reduces the chances of the student to know what and know how. Brainstorming affects positively not only the attainment of knowledge, but also it extends to include the percentage aspects of skills other than the traditional way in the education process as the researcher finds that the most important advantages of the brainstorming is the ability to deliver as much information as possible for learners without the effectiveness of recalls by the learner.

CONCLUSION

The Researcher Concludes the Following:

C Brainstorming had a positive effect on learning the skills of passing, serve and smash stroke for the experimental group.
C Brainstorming method demonstrated a positive effect on learning the skills of passing, serve and smash stroke for the control group.
C Improving percentage of performing skills and knowledge acquisition skills, passing, serve and smash stroke for the experimental group which used the method of brainstorming better than the percentage of skills and knowledge acquisition performance of basic skills in the sport of volleyball for the control group which used the brainstorming method.
The Researcher Recommends the Following:

C Using the method of brainstorming in teaching basic skills in the sport of volleyball because of its positive impact in the education of basic skills and cognitive aspects associated with them.

C Urging staff members in the Egyptian Faculties of Physical Education to take advantage of the method of brainstorming as a method of active teaching courses in the teaching process.

C Further research to identify the impact of the use method of brainstorming in teaching basic skills and cognitive aspects of other sports.

REFERENCES