The Effect of an Educational Program Using Education Technology on Learning Some Speedball Basic Skills

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Abstract: The research aims at designing an educational program using an educational video and an educational mirror for the first grade students of the Department of Physical Education at Faculty of Education at Al-Azhar University and at comparing between the suggested program and the used method (model and explanation) on learning some speedball basic skills. An intentional random sample was selected from the first grade students at the Department of Physical Education in Al-Azhar University. The sample of 28 students divided into two equal groups, the experimental group of 14 students applied the proposed educational program using the educational video and the educational mirror and the control group of 14 students applied the traditional method (explanation and model). The researcher used the experimental design of two groups, one experimental and control group with pre and post measurement for each group. Results showed that the suggested educational program has a positive impact on improving the speedball skills performance level. Taking advantage of the educational program with the educational technology has had a great impact on providing joy, pleasure and fun that are the basis of self-learning. Using the most updates has great impact in promoting the speedball skills level. Using feedback is important in promoting speedball skills level.

Key words: Educational program % Education technology % Speedball basic skills

INTRODUCTION

Speedball is considered of the important activities, as basic skills represents an important and fundamental aspect to the first grade students of the Department of Physical Education-Al-Azhar University. The first grade student considered novice in this sport, therefore the worldwide-developed countries in this particular sport conducted many appropriate educational and training programs in order to reach the highest levels [1].

Through the work of the researcher as a teacher at the department of Physical Education, teaching the primary games and racquet thesis, noted the devotion for the sport of speedball, especially by the first grade students. Except that the time is not enough, this requires greater burden on the teacher in teaching this sport, as when describing the basic technical skills of the speedball faces much burden. That is along with the great effort in explaining and clarifying the basic skills of this sport that does not take into account the individual differences between students and their abilities and aptitudes of the educational process. In addition, many students may find it difficult to see the model and the long time it takes in improving, teaching the basic skills, developing and master these skills. That requires the student to conduct a major effort to master and develop these skills, leading the student to a sense of boring and lack of any suspense or excitement.

All mentioned above prompted the researcher to use this modern technology of educational video and educational mirror [2, 3] in order to improve the speedball skills, as the student of the first stage is in need of an educational quality where excitement, suspense and fun are present. Therefore, through educational video [4] and watching his performance in the educational mirror when performing the skill [5] that will be likable to him and shall be passion when learn the speedball specific skills.

That when the need to adopt modern and varied technological means arises to increase the student motivation to practice and learn the speedball skills and the teacher able to track and correct errors.
Through the research references frame and associated studies, the researcher realized the importance of using the educational video and the educational mirror for developing and improving the speedball basic skills.

**Aims of the Research:**

C Designing an educational program using an educational video and an educational mirror for the first grade students of the Department of Physical Education at Faculty of Education at Al-Azhar University.

C Comparing between the suggested program and the used method (model and explanation) on learning some speedball basic skills.

**Hypothesizes of the Research:** There are statistical significant differences between the experimental group using (educational video and educational mirror) and the control group using the used method (model and explanation) on learning some speedball basic skills in favor of the experimental group.

**MATERIALS AND METHODS**

**The Research Methodology:** The researcher used the experimental design of two groups, one experimental and control group with pre and post measurement for each group.

**Sample of the research:** An intentional random sample was selected from the first grade students at the Department of Physical Education in Al-Azhar University. The sample of 28 students divided into two equal groups as follows:

C The experimental group of 14 students applied the proposed educational program using the educational video and the educational mirror.

C The control group of 14 students applied the traditional method (explanation and model).

**Homogeneity:** The researcher conducted the homogeneity of the sample individuals in the variables that do not have an impact on the experimental variable such as growth variables (chronological age, height and weight) and some speedball specific physical variables. The torsion coefficient of all research variables ranges between ± 3, which refers to the moderation distribution and homogeneity of the sample in all variables on topics.

**Equivalence:** "T" value was reached to identify the differences between the experimental and control groups in age, length and weight variables which scored (0.982, 0.623 and 0.164) respectively. While the speedball specific physical elements (throwing a 2 kg medicine ball to the farthest possible distance, vertical jump, flexibility of raising the shoulders and bending the trunk backward from lying posture) scored (1.023, 0.531, 0.391 and 1.628) respectively. In addition, for the skills performance tests (the front lifted hit, the back lifted hit, serving) were (2.03, 1.715 and 1.073) respectively. Therefore, none is statistically significant, indicating that there were no statistically significant differences, indicating the equality of the two groups in the pre-measurement.

**Scientific Coefficient of the Tests Used in the Research:** Validity and reliability of the skillful tests on topics as the Scientific coefficient were reached in the period from 20-30.09.2010, through applying the test re-test method to reach stability and opposing groups (distinct and indistinct) to reach validity.

**Means of Collecting Data:**

C Tests of the speedball specific physical elements (throwing a 2 kg medicine ball to the farthest possible distance, vertical jump, flexibility of raising the shoulders and bending the trunk backward from lying posture).

C Skills performance tests (the front lifted hit, the back lifted hit, serving).

**The Steps of the Research:** The times frame of implementing the experiment was six weeks as two weeks for each skill, the educational unit duration is 60 minute that is the time limit determined for the practical lecture with a total of 6 educational units starting from Saturday 02.10.2010 and ends on Saturday 06.11.2010.

**The Educational Program:** The educational program included the following:

**Part 1:** A television show lasts 15 minutes and contains the preset skill on the video tape or computer CD and each skill separately displays accompanying drawings and illustrations by the researcher along with commentary from the researcher.

**Part 2:** Warm-up, this part duration is 5 minutes, including running around the speedball field or applying a mini-game suitable for the skill learned by the student.
Part 3: Selected skills shadow performance, where each player conducts a shadow performance of the skill in front of the educational mirror without the ball in order to develop or modify a particular mistake by the researcher, the duration of this part is 10 minutes.

Part 4: The basic practical activity, where the student practically practices the skill at the speedball court through exchanging balls among students within the boundaries of the court, the duration of this part is 25 minutes.

Part 5: The final part, is relax and calm down exercises, salute and dismiss, the duration of this part is 5 minutes.

RESULTS AND DISCUSSION

In the light of the research aims, the results reached out by the researcher and verification of the research hypothesis (Tables 1 and 2) illustrate the mean differences between the pre and post measurements in the speedball skills between the experimental and control groups in favor of the experimental group. In addition, an obvious improvement detected in the skills performance level in favor of the post-measurement, while the researcher attributed that to the effectiveness of the suggested program, where development educational technologies has the greatest effect in attracting the students' attention to learn the speedball skills and motivating them toward practicing the speedball skills. That achieved through the educational mirror that provided an immediate feedback, in addition to the program being stepped from easy to difficult in illustrating the skill, in order to facilitate the learning process in fragmented and simplified manner, this through presenting the skill by the researcher to separately identify the parts of the skill.

In addition, there are statistical significant differences in the level of improving the speedball skills between the experimental and control groups in favor of the experimental group, the researcher attributed that to the suggested educational program, where coordination between parts, demands of the age stage and scientific fundamentals in designing the educational programs, considered. Moreover, the researcher attributed the surpass of the experimental group to using technological means that in turn would facilitate the speedball skills learning process which increase the motivation and enthusiasm of students, adding competition, attract attention, excitement and suspense.

The improvement rates in the skills performance level between the experimental and control groups achieved an obvious difference in the speedball skills in favor of the experimental group that used the educational video and the educational mirror. The researcher attributed that to the partitioning and simplicity in presenting the skills by using the video with a detailed and demonstration explanation of body movements. As well as the technical stages of performing the skill and monitoring the correct performance and body posture for performing the skill by using the educational mirror, to reach the skill parts which assisted the experimental group to understand the skill technical stages than the control group. These results are consistent with previous studies [5-8].

Table 1: "T" value for identifying the differences between the experimental and control groups in the post-measurements of speedball skills

<table>
<thead>
<tr>
<th>Skills</th>
<th>Group</th>
<th>Number</th>
<th>Arithmetic mean</th>
<th>Standard deviation</th>
<th>&quot;T&quot; value</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front lifted hit</td>
<td>experimental</td>
<td>12</td>
<td>34.7500</td>
<td>0.75378</td>
<td>47.844</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>12</td>
<td>18.6667</td>
<td>0.88763</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back lifted hit</td>
<td>experimental</td>
<td>12</td>
<td>35.3333</td>
<td>0.98473</td>
<td>43.549</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>12</td>
<td>18.6667</td>
<td>0.88763</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serving</td>
<td>experimental</td>
<td>12</td>
<td>35.4167</td>
<td>1.16450</td>
<td>38.051</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>control</td>
<td>12</td>
<td>18.5833</td>
<td>0.99620</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: "T" value for identifying the differences between the pre- and post-measurements of the experimental group in the speedball skills (N=12)

<table>
<thead>
<tr>
<th>Skills</th>
<th>Measurements</th>
<th>Arithmetic mean</th>
<th>Standard deviation</th>
<th>Differences average</th>
<th>Standard deviation</th>
<th>&quot;T&quot; value</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front lifted hit</td>
<td>Pre-</td>
<td>14.0000</td>
<td>1.12815</td>
<td>-20.7500</td>
<td>1.42223</td>
<td>-50.541</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Post-</td>
<td>34.7500</td>
<td>.75378</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back lifted hit</td>
<td>Pre-</td>
<td>13.7500</td>
<td>1.05529</td>
<td>-21.5833</td>
<td>1.24011</td>
<td>-60.290</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Post-</td>
<td>35.3333</td>
<td>.98473</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serving</td>
<td>Pre-</td>
<td>13.8333</td>
<td>.93744</td>
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<td>1.72986</td>
<td>-43.221</td>
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<tr>
<td></td>
<td>Post-</td>
<td>35.4167</td>
<td>1.16450</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
CONCLUSION

C The suggested educational program has a positive impact on improving the speedball skills performance level.
C Taking advantage of the educational program with the educational technology has had a great impact on providing joy, pleasure and fun that are the basis of self-learning.
C Using the most updates has great impact in promoting the speedball skills level.
C Using feedback is important in promoting speedball skills level.

Recommendation:
C Speedball specific educational units must include standardized units of educational technology means.
C Directing the results of this study to the workers in the speedball field of education and training in order to benefit and apply them effectively.
C The country must adopt and fund the results in order to apply it to other sports.

REFERENCES

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