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Physical Education in Secondary School Researches – Best Practices – Situation

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The Effectiveness of Learning Program Using Computer Technology on Learning of Triple Jump

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Abstract

This study aimed at knowing the effectiveness of learning program using computer technology on learning of triple jump. The scholar applied the experimental method. A purpose group consisted of (30) students selected from high school for academic years 2015/2016. The sample consisted of two separate groups: The experimental group (n=15) upon whom the learning computer program (CD) was applied. The second one was the control group of the same number where the traditional method was applied. For the pre-test skills: the program was applied for 8 weeks for each group. After the statistical treatment of results led to: The use of the computer technology style has a positive impact on learning the triple jump. There are differences between the experimental and the control sample in learning the triple jump.

Key words: Triple Jump, Learning Program, Computer Technology, students.

Introduction

Today the world is space of technology revolution, where in the desire to capitalize the new generation's appetite for multimedia presentations is increasing (Van Laarhoven & Myers 2006). In such a scenario adopting the audio-visual method of teaching would be the most apt of teaching in Physical Education is a huge challenge (Daniel,1996) as it involves learning by doing.

The use of technology is an important effect of mediation between the discipline and the student, helping to change the ways of learning, developing the intrinsic motivation and the metacognition. The most important technologies used in schools (video recording and personal computers) have determined a re-setting of knowledge and have emerged new areas of intervention in each area there is a relation to the essential disciplinary themes (Kretschmann, 2015). The application of modern technology in the field of physical education should likewise primarily be directed towards advancing the health status of children as well as on diagnosing the existing conditions of the anthropological profile and its further improvement. However, a high level of applicability is also present in processes of adopting and enhancing particular motor skills.

Video analysis is included in the tools of qualitative assessment. It is an effective tool for monitoring the levels of learning the perception of competence of the student. Thus, the psychological factors and the relationships with motor abilities are solicited: it is possible to analyze the motor task, compare the evolution of learning at different time of year varying the teaching styles, compare the performance of different students, disassemble and reassemble motor sequences to detect errors and appreciate the learning outcomes, elaborate combinations of motor sequences (Anderson, M., Mikat, R.P. & Martinez, R. , 2011). Over the past decade a corpus of studies has accumulated that investigates the effects of multimedia strategies on learning. The multimedia typically refers to the presentation of material in two forms: auditory/verbal and visual/pictorial (Mayer, 2001). The strategies have included PowerPoint (Mayer, 2008) and computer-assisted video learning (Gay,1986) in a variety of content areas in addition to auditory and video media.

Richardson (1997) compared student perceptions and learning outcomes of computer assisted instruction against those of traditional didactic lectures. He found that computer laboratory instruction enhanced learning outcomes in medical physiology despite student perceptions to the contrary. Other recent meta-analyses in technology have examined topics such as the effectiveness of interactive distance education (Cavanaugh, 2001): computer-assisted instruction in science education (Bayraktar, 2002) and computer-based instructional simulation (Lee. J, 1999). Furthermore, other recent meta-analyses have examined the effects of computer-assisted instruction on student achievement in differing science and demographic areas (Christmann, E., & Badgett, J, 1999). microcomputer-based on computer-assisted instruction within differing subject areas and the effectiveness of computer-assisted instruction on the academic achievement of secondary students (Christmann, E. P., Lucking, R. A., & Badgett, J, 1997).

It is also helpful in overcoming the problem of increasing the number of students or players during training taking into account individual differences among them. The teaching events as athletics triple jump in the present situation is found that it has not kept pace with the interest and development of skills among learners. So most of teachers in the physical education and sports teaching practices still focused on giving skills using traditional teaching methods. This requires students to save the information or knowledge by the teacher memorizing without understanding. The current teaching methods in schools encourage competition between aberrant pupils in order to get the best position among their friends. Because the video model shows the progressive action of the skill which is easy for the learner to understand the skill. Mayer (1996) confirmed: the sequences of perceptual and motor learning in the learned concurrently. Chin-Yun Huang (2000), found that low ability students had more positive attitudes than high-ability students and this could be possible by use of such video model in teaching. Nicolas Fernandez and others (2006) In their study of a comparison between multimedia-assisted teaching and traditional education and joint the learning long jump skills.

Through some surveys and contact professors and students, the debate noted the absence of the use computer technology in teaching athletics (sprint, shoot and jump) including the number of students in the group. From there came the idea of using computer technology and its effectiveness in learning the triple jump of high school students (17-18 years).

Research Methodology and Procedure Field

Research methodology

The researchers used experimental method with the kind of the problem to searching, posting and pre-testing the measurement.

Community and the sample search

The sample included purely experimental of 15 students and sample of 15 control homogeneous students in (length, weight, physical capacities associated with activity) of the research community in Mostaganem city- Algeria for academic years 2015-2016.

Tests applied

▪ Broad jump test:

Objective: measuring the explosive force of the muscles of the legs (Brodie,D.A, 1996), (Glencross, D.J, 1996).

▪ Test 05 Hop from running (05 Hop with right leg / 05 Hop with left leg) for the largest possible distance

Objective: measurement of force with speed (Sarih Abdelkarim, 1986), (kamel, D, 2012).

▪ **Test triple jump of streaming:**

Objective: to measure the level of achievement in the triple jump.

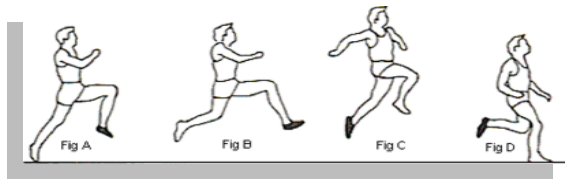
Principal experience

After preparing the Handbook for learning and mastering the technical steps in the triple jump by using computer technology styles in order to ensure the credibility of the research. Researchers follow a simple method using modern scientific method in learning steps where the educational seances were given 08. The first tests the experimental group and the control sample were trained in the traditional method. After applying programmed seance search, then remote testing for both samples in order to determine the percentage of collections and know the effectiveness of computer technology style. The steps have been made in the basic experience of the period between January 12th 2016 and March 07th 2016.

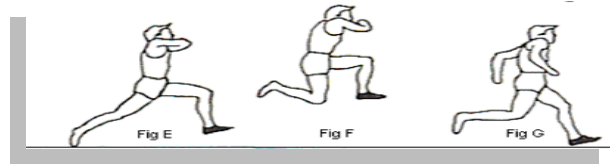
The students were given 15-minute of computer time. Multimedia program was developed for the purpose of this study which was based on animation and video. The program consisted of three sections, which corresponded precisely to theoretical and practical work. Students received 15-minute of physical practice time following the time spent on the computer. There were 5- minute of warm-up at the beginning of the period and the remaining time of approximately 10-minute was for cool down and review.

The Fundamental Aspect of the Triple Jump

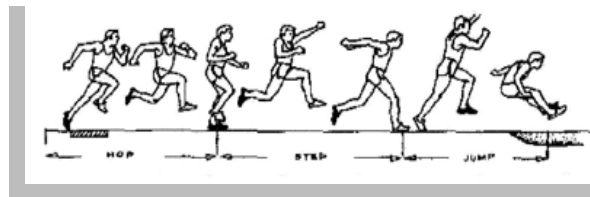
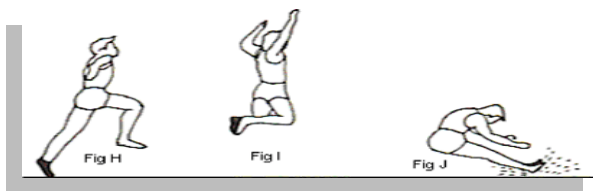
The approach Run & Hop phase



Step phase (the middle part of the jump)



Jump & landing phase



View and Analyze the Results

- View and analyze the results of experimental sample

Table 1 A comparison of post-test and pre-test for experimental sample ($n_1 = 15$)

Statistical measurements Tests	Post-test		Pre-test		T Calculated	Significant
	Means	SD	Means	SD		
Board jump	2.12	0.22	2.35	0.19	2.59*	Significant
05 Hop with his right foot	10.77	0.94	11.82	0.98	2.71*	Significant
05 Hop with his left foot	10.75	0.98	11.59	1.01	2.17*	Significant
Achievement in triple jump	09.45	0.70	10.34	0.7	2.20*	Significant

Through the table 1, both the experimental sample made differences between post-test and anti-test with values calculated T amounted to 2.17 as the lowest value and the highest value of 2.71 as a whole is greater than the value T tabular estimated 2.14 at 0.05 significance and degree of freedom 14, this means that the difference between post-test and pre-test measurement is statistically significant difference and is in favor of post-test.

- View and analyze the results of control sample

Table 2 Compared measurement of post-test and pre-test for control sample ($n_2 = 15$)

Statistical measurements Tests	Post-test		Pre-test		T Calculated	Significant
	Means	SD	Means	SD		
Board jump	2.12	0.15	2.23	0.14	2.27*	Significant
05 Hop with his right foot	10.37	1.0	11.11	0.87	2.14*	Significant
05 Hop with his left foot	10.28	1.01	10.87	1.0	02	No Significant
Achievement in triple jump	9.31	0.45	9.84	0.52	2.20*	Significant

From the table (02), the control sample made differences between post-test and anti-test with values calculated T amounted to 2.14 as the lowest value and the highest value of 2.27 as a whole is greater than the value T tabular estimated 2.14 at 0.05 significance and degree of freedom 14. Except for 05 Hop with his left foot test value calculated 02 T which is less than the value of the T tabular.

- View remote test results for samples of research

Table 3 Shows the differences between the experimental and the control sample test results post-test using T student ($n_1 = n_2$)

Statistical measurements Tests	Experimental sample		Control sample		T Calculated	Significant
	Means	SD	Means	SD		
Board jump	2.35	0.19	2.23	0.14	2.08*	Significant
05 Hop with his right foot	11.82	0.98	11.11	0.87	2.15*	Significant
05 Hop with his left foot	11.59	1.01	10.87	1.0	02	No Significant
Achievement in long jump	10.34	0.7	9.84	0.52	2.17*	Significant

The last table 3 when compared the tests in remote measurements among samples of experimental and control to each of the values obtained were limited between 2.08 as the lowest value and the highest value of 2.17 as a whole is greater than the value T tabular estimated 2.04 at 0.05 significance and degree of freedom 28. This means that differences and statistical function and is for the benefit of the experimental sample that achieved the highest values in arithmetic in the tests. Except for 05 Hop with his left foot test value calculated 02 T which is less than the value of the indexed T.

Discussion and Results

Through the above results of the table (01) which shows the difference between the arithmetic post and anti-test for experimental sample in triple jump where as the experimental group achieved the best evolution. We interpret this to the attention of researchers, emphasizing physical side skills, particularly the skill jumps the partridge and the gain crucial role to learn the technical steps in triple jump. This has been highlighted in the suggested learning program to learn the skills of triple jump which confirmed the effectiveness of using computer technology style compared the traditional method.

The researchers explained that skill of Hop-Step & Jump lead to access to the target service, also the focus here is to use the speed in this skill to reach effective performance, giving some instructional steps in learning this skill, because the using computer technology style based on dividing steps ranked logically sequential arrangement. The material makes learning more interesting for the student taking into account individual differences among them. In completion test in the triple jump the experimental group had made the best offer by using computer technology style which explains how to master the Partridge and step and jump sand pit.

Through the table 3 that notes a significant difference between the remote measurements for each of the experimental group and the control group for the performance level of skills of triple jump in favour of experimental sample. This result indicates that Suggested Learning Program Using Computer Technology more effective in learning and mastering the technical steps of triple jump as compared to conventional method. This relies on indoctrination and form performance in the control group. This confirms that education program is an important principle of coder to achieve effective educational position. It is the principle respect for individual differences among students. It also gives an additional motivation for learning the use of projectors (computer, video). This is in line with the study of Nicholas Vernadakis and others (2006) applied in the long jump (Comparison of Multimedia Computer Assisted Instruction, Traditional Instruction and Combined best Instruction on Learning the Skills of Long Jump).

The researchers attributed the achievement results in the tests in fact to the style is used when the learner realizes better performance through perceptual motor development and observation of his performance. Then rectify depending on standard or test result required to accept mistakes within his capabilities. Further individual decision-making process during the lesson. This has been confirmed by previous studies and similar researches the effectiveness of technology learning the sport and physical education. It is evident in current research that the use of computer technology styles has a positive impact on learning and improving skills for triple jump.

Video analysis also allows the teacher to communicate systematically precise feedback on the task (Schmidt A., R., Wrisberg C, 2002), in order to provide the students with the most necessary information on the effectiveness of the learning-teaching process (Jambor, E. & Weekes, E, 1995). The feedback, through video analysis, allows you to: identify the differences between performances required and realized, isolate the most difficult aspects of specific motor skills, promote a useful “cognitive effort” in the learning process, increase motivation, enthusiasm and perseverance in learning through the documentation of progress, compare and evaluate progress or the changes of a previous errors. Use of such video method in teaching may improve learning outcomes for students, even though it adds to cognitive load (Homer and others, 2008) and it creates a sense of social presence (Gunawardena, 1995). Though player have different level of motor educability and different ranges of initial skill levels (Machar Reid 2009), which is the ability to learn motor skills easily and quickly (Mc. Cloy and Young 1984). It can be said use this computer/video style will offer varied opportunities as it allows performance to be paused, repeated, played in slow motion and can be used in all types of model-based practices in sports and physical education.

Conclusions

- The use of computer technology style has a positive effect on learning the triple jump among secondary school students.

- There are differences between the experimental sample and the control sample in learning the triple jump to secondary school students for the benefit of the sample used computer technology style.
- Using this computer/video style will offer varied opportunities as it allows performance to be paused, repeated, played in slow motion and can be used in all types of model-based practices in sports and physical education.

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