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Impact Of Video Modeling With Video Feedback On Skill Performance In Long Jump Technique

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ABSTRACT
The purpose of the study was to find out the impact of video modelling with video feedback on skill performance and psychological variables in long jump. To achieve this purpose, twenty students were selected from the Department of Physical Education and Sports, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India in during the academic year 2018-19. The subjects were in the age group 22 – 25 years. Long jump performance, attitude, sports achievement motivation, general self -efficacy was selected as dependent variable; video modelling with video feedback was selected as independent variables. During the training period, the whole group underwent six weeks of video modeling training (video modeling of top long jumpers in Olympics and world championship) and further six weeks of video modeling with video feedback training. The collected data was analyzed by using dependent 't' test, ANOVA and the results were discussed at 0.05 level of confidence. The result of study indicated that the pre-test score has increased after during-test and post-test. However, the difference is higher in terms of during-test and post-test. That there was a significant improvement on long jump performance due to the impact of video modelling with video feedback on skill performance and Psychological variables..
Keywords: Video Modeling, Video Feedback, & Long Jump Skill Performance
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1. INTRODUCTION:

Sports performance is the unity of execution and result of a sports action or a complex sequence of actions measured or evaluated according to socially determined and agreed norms. Technology assists to accomplish various tasks in our daily lives, in brief; technology can describe as products and processes used to simplify daily lives, and to extend our abilities, making people the most crucial part of any technological system. Technology advances support a role in the feedback with the development of computer analysis. Video is mostly recognized as an appropriate for obtaining qualitative information about performance (Hodges et.al, 2003) video replay and information technology enables enhancement of feedback during the replays, where the comparison between one's performance and that of other athletes is possible.

Observational learning or traditional method of coaching involves subjective observations and conclusion where coach's perception is considered to be one of the most important methods for learning skills (Mc Cullagh, Weiss, & Ross, 1989).Ikwuka, (2016) reveled that students who were taught with ICT had better academic performance and that the gender has no significant effect in the academic performance of students who were taught with ICT instructional package.

Video modeling (VM) is a mode of teaching that uses video recording and display equipment to provide a visual model of the targeted behaviors or skill in video self-modeling (VSM), individuals observe themselves performing a behavior successfully on video, and then imitate the targeted behavior. Video modeling has been used to teach many skills, including social skills, communication, and athletic performance. Research has typically addressed modeling and imagery as separate and

distinct processes, however several investigators (Cumming, & Williams, 2012) have noted that modeling and imagery are similar; both involving the use of cognitive representations and rehearsal prior to the actual physical execution of the skill.

Video feedback is the process of pointing a camera at the screen displaying the camera's output. This creates a feedback loop of images infinitely repeating onto and over them creating interesting patterns (Neubert, Allin, Stenbaek-Nielsen, & Blanc, 2001). Rosenbaum, (2012) the long jump can just as easily be named the "run and jump" or "sprint and jump," because the actual jump is only part of the process. There are techniques for pushing off the board, for flying over the pit, and for landing.

The Long Jump is a contest that determines how far a competitor can jump horizontally after a running start (Srivastava, 2007). The objective of the approach is to gradually accelerate to a maximum controlled speed at take-off. The most important factor for the distance travelled by an object is its velocity at take-off - both the speed and angle.

Statement of the Problem

The purpose of the present study was to find out the impact of video modeling with video feedback on skill performance in long jump technique.

2. MATERIAL AND METHODS

The purpose of the study was to find out the impact of video modeling with video feedback on skill performance in long jump technique. To achieve the objectives of the study, twenty male physical education students studying master degree first year were purposively selected from Manonmaniam Sundaranar University. The subjects were in the age group 22 – 25 years. All the subjects were selected making sure that they are available during the whole training period of twelve weeks. Considering the fact that the subjects were from different socio-economic background, they were clearly explained about the objectives of the study, testing procedures and training program for the whole group. The subjects were free to withdraw their consent in case they felt any discomfort during the period of their participation. For the current investigation, video modeling with video feedback were chosen as independent variables. The long jump performance would measure as dependent variables in my study.

Training Programme

During each session various phases of their performance were discussed thoroughly; During-test was taken after these 6 weeks and all the subjects were tested for long jump performance. The next phase of training which consisted of the real part of the investigation started after the during-test. All the subjects underwent video modeling with video feedback training session for the next 6 weeks. The training sessions were conducted for 6 weeks – 3 days a week (Mon/Wed/Fri) with each session lasting 90 minutes and one session per day. During each of the session, every subject's long jump performance had been displayed, technique analysed by the investigator and mistakes discussed among the ten athletes in the room. Post-tests in the variable long jump performance were being taken for all the subjects after the completion of 12 weeks training.

Experimental Design & Statistical Techniques

The pre and post-test random group design was used as experimental design. In order to examine the hypotheses of the study descriptive statistics and Analysis of variance (ANOVA) was employed for the present investigation in the selected variables. Kenova video analytics software, Microsoft Excel & SPSS package was used for different statistical tools analyzed. The subjects were tested in the selected criterion long jump performance before the start of training, after 6 weeks training and at the completion of 12 weeks training. The collected data from the whole group were statistically analyzed with 'f' test and post-hoc Scheffe's test was used to find out which pairs of means were significant.

Analysis of Data

Table I Descriptive Statistics of the Players

Category	Mean	SD
Age	23.5	1.50
Height	167.5	3.40
Weight	60.5	2.50

Table I, indicates the descriptive scores of age, height and weight of the subjects. The mean and standard deviation of age, height and weight are 23.5±1.50, 167.5+3.40 and 60.5±2.50 respectively. This table gives a clear understanding about the subjects' physical presence, which helps us to interpret the results better.

Table II Descriptive Summary of All Three Tests in the Variable Long Jump Skill Performance

Groups	Count	Sum	Average	Variance
Pre-test	20	87.49	4.37	0.23
During-Test	20	88.81	4.44	0.18
Post-Test	20	93.89	4.69	0.09

Table II, clearly shows the summary of all three tests in the dependent variable long jump skill performance. The total sum of the entire test scores have increased from pre-test to during-test and also from during-test to post test. The results of the study indicate that the pretest score 87.49 has increased to 88.81 in during-test and 93.89 in post-test. This clearly shows the effect of video modeling of elite jumpers and video modeling with video feedback on long jump skill performance of novice athletes. The results of the study indicate that the pretest average score 4.37 has increased to 4.44 in during-test and 4.69 in posttest. This also clearly shows the effect of video modeling of elite jumpers and video modeling with video feedback on long jump skill performance of novice athletes. The results of the study indicate that the pre-test average of 0.23 has increased to 0.18 in during-test and in post-test it has further increased to 0.09. This also clearly

shows the effect of video modeling of elite jumpers and video modeling with video feedback on long jump skill performance of novice athletes. The difference between individual test scores will be again discussed with the help of separate Analysis of Covariance statistics.

Table III Analysis of Variance (ANOVA) of all three tests in the variable Long Jump Skill Performance

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.0314	2	0.0157	3.357	0.042*	3.159
Within Groups	0.262	57	0.0046			

*Significant difference exists as p value 0.042 <0.05

Table .III revels that significant difference exists in the performance scores of all the twenty subjects as a result of training. This is evident from the reason that the F value 3.357 is greater than the F critical 3.159 and the p value is less than 0.05 (level of significance). This could be owing to the reason that an additional training of 6 weeks were given to all the long jumpers in video modeling with video feedback of their own performance. ANOVA helps in understanding the variability among all the scores by computing into one single component that is due to variability among group means (due to the training) and another component that is due to variability within the groups (also called residual variation). As the F value is greater than f critical which emphasize that the variation among group means is more than we could expect to see by chance. The null hypothesis is hereby rejected.

Table IV Scheffe's Post Hoc Test for the Differences between Paired Means on Long Jump Skill Performance

Pre Test	During Test	Post Test	MD	CI
4.37	4.44	-	0.07*	**0.04**
4.37	-	4.69	0.32*	
-	4.44	4.69	0.25*	

The table IV shows that the post hoc pairwise mean difference of pre-test score, during test score and post-test mean values were 0.07, 0.32 and 0.25 respectively which are greater than the confidence interval value 0.04 at 0.05 level of confidence. The results of the study showed that there were a significant difference between all three tests, here the post test mean value was higher than the during and pre-test mean value, so we can said that the progress improvement was done on twenty subjects.

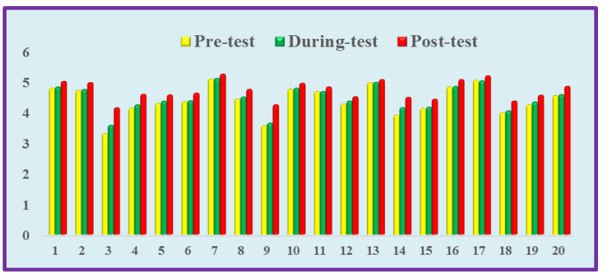

Figure I: The mean value of pre, during and post-test of video modeling with video feedback on long jump performance among twenty subjects.

3. DISCUSSION ON FINDINGS

From the review of related literature and expert discussions, plenty of studies show the effect of multimedia courseware in teaching sports science subjects and multimedia coaching in sports skills. There has not be specific research done in athletics skill performance, for understanding the effect of these kind of training to develop separates sports specific skills or athletic performances. Though such kind of trainings could be seen at elite level, these need to be seen applicable at grass root levels too. The investigator had hypothesized that there would be significant effect of 12 weeks of training using video modeling and video modeling with video feedback on long jump performance among novice athletes. Based on the purpose of the study and hypotheses stated, the analysis had resulted in the following findings:

Since it has been totally concerned about the variable Long jump skill performance, the score values have shown significant difference among the groups from Pre-test, during-test and post-tests which re-emphasizes the expectations of the investigator that 12 weeks of training in video modeling with video feedback would help in significant improvement skill performance among novice long jumpers. This could justify the study conducted by Barzouka et.al (2015) regarding videotaping model and their feedback, this could justify the study conducted by (Gergondet, Petit, & Kheddar, 2012) about video feedback and brain functions.

4. CONCLUSIONS

Twelve week training with the help of video modeling of elite long jump skill performances and video modelling with video feedback using their own performance had significant effect in improving the skill performance of twenty novice long jumpers..:.

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