AIC 2017 The Different Effect of Video Imagery and Script Imagery on Beginner Tennis Forehand Skill

by Abdul Alim

The Different Effect of Video Imagery and Script Imagery
on Beginner Tennis Forehand Skill

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Abstract

Introduction: *The background of this study was a lack of attention in applying psychological exercise to improve tennis skills on the learning process of tennis courses at the university. Imagery as a cognitive and motivational function was expected to improve tennis skills. This study was designed to assess the effectiveness of imagery training and comparison the effectiveness between video imagery and script imagery.* **Methodology:** *This study used experimental design. 32 adult beginner tennis players (aged 19 to 21 years) from physical education and sports student of Yogyakarta State University who take tennis course participated in this study. The subject divided into two groups: (1) video imagery group (n= 16) who received 15 minutes of video imagery followed by 30 minutes of physical practice and (2) script imagery group (n= 16) who received 15 minutes of script imagery followed by 30 minutes of physical practice where held two times a week for eight weeks. The performance accuracy of the groups on forehand strokes was measured at pre- and posttest using Hewitt tennis test.* **Findings:** *The research findings showed that (1) Video imagery and Script imagery significant to improve forehand groundstroke skill; and (2) independent t test showed significant difference effect (p= 0,025; p< 0,05) of video imagery and script imagery.* **Contribution:** *The results strongly support the use of imagery training in enhancing tennis skills. These findings could have important implication for students who want to improve tennis skill. Therefore, Tennis Lectures should maximize psychological training to have optimal effect on tennis skill performance. Recommendation was made that imagery implementation for beginner tennis player better used video imagery training.*

Keywords: Video Imagery; Script Imagery; Forehand Skill; Beginner Tennis Player

Introduction

Tennis is one of the growing sports in Indonesia. One indication is tennis served as a course in University that has a faculty or sports majors. One of the tennis course positions is an elective sports subject where students who follow tennis course are beginners who are included in the adult beginner category. The target of tennis course as elective sports subject in University was that students can master in basic techniques and can play tennis properly. In a game of tennis, the satisfaction of basic motion skills is an important thing that every tennis player has to master. Good movement skill will support the performance of the tennis player. To be able to play tennis well needed mastery the basic stroke in tennis.

There are four basic strokes in tennis, those are: 1) serve, 2) groundstroke, 3) volley, and 4) smash. Groundstroke (forehand and backhand) are the most important strokes in tennis, since they are the dominant strokes during the tennis game. Forehand groundstroke is a very important stroke and asset for tennis players to play tennis so that this stroke should be trained to have strong basic. This reinforced by Brown (2007: p.31) which states at least half of all strokes in the tennis game are forehand. It means forehand groundstroke is very important. Brabenec (2000) said that forehand groundstroke considered the most important stroke behind the serve in the modern game. Forehand groundstroke is often used as weapon because the stroke result is harder than other strokes.

Achievement of optimal tennis basic technique result especially forehand groundstroke can be achieved through good and proper training methods application. The success of coaches in improving student skills is influenced by the training method applied. Appropriateness in applying the training methods applied in the exercise will affect the achievement of the students during the training process.

However, in general the current training methods still often in less effective exercise result. Based on the observation of the coach tendency to focus only on physical exercise or real training can be done with body movement or limbs, even many coaches who do not know about the implementation of exercise other than exercise that seems real in physical demonstration. Indeed, one of the best methods for improving motion skills in an exercise that directly studies activity of motion skills with repetitive practice, because with repeated practice will obtain an automatic pattern of motion skills techniques we learns.

The application of the training method used should cover all aspects, including physical, technique, tactics, and psychic. The quality of technique has a decisive influence on performance in tennis, as the technique is the signature of the player by which he transfers all his conditioning, and through it on to the opponent. The psychic aspect is one of the decisive factors in the successful achievement of good performance. There are various methods of psychic exercise. Imagery is one of the training methods that can be used to improve the mastery of tennis playing skills. According to Weinberg & Gould (2007: p.57) imagery is a form of simulation. Purnama (2013: p.40) states that the exercise of imagery is an exercise in the athlete's mind, which the athlete makes movements that are truly through the imagination and after being subsequently implemented. Rushall (2008: p.57) states that imagery exercise (mental imagery) is a form of mental exercise in the form of self image and movement in the mind.

Exercise imagery by script and video imagery is generally not much implemented by the coaches in the training program for beginner tennis players. This is many coaches not understand about the concept of imagery exercise techniques. Implementing this imagery exercise does not mean that this exercise can completely replace the actual exercise visible in the physical demonstration, but both should be given in one unity or must be complementary to optimize the basic motion skills of the student during the training process. Based on the descriptions and lack of attention in applying psychological exercise to improve tennis skills on the learning process of tennis courses at the university, a study of effective mental training methods is needed to improve the skills of forehand groundstroke of tennis players.

Literature Review

Forehand Groundstroke

Brown (2007: p.31) states that forehand drive is a stroke that includes groundstroke, that is a stroke after the ball bounces into the field. The forehand groundstroke is the main attacking weapon because its movements are not so hard to learn and this stroke is easier to master than the other stroke. Forehand groundstroke is the most important basic stroke for a beginner. Based on the opinion of some experts mentioned above can be conclude that the forehand groundstroke is a stroke in the game of tennis done in a swing to the right side in full, then with a racket swing to the side of the body and then swing forward to hit the ball over the net after bouncing once on the field.

Imagery

The optimal exercise result is an accumulation of the quality of physical exercise, technique, tactics and psychic maturity. Therefore, in the preparation of the training program the training objective should cover all aspects, that is: physical, technical, tactical and psychological.

Psychological or mental in the sport is an abstract aspect of the driving force and the impetus for the realization of physical abilities, techniques and tactics. The mental aspects include: (1) temperament, (2) psychology, and (3) personality. The goal of psychology exercise

is emotional maturation. In addition, psychology exercise can also be used as a means to improve and correct movement skill as well as on imagery exercise in which the goal of imagery exercise in addition to emotional maturation is also to correct technical skills.

Weinberg & Gould (2007: p.296) states that imagery is a form of simulation. The main pressure in imagery exercise is that all athletes must have acquired an understanding of the skills and how the motion and pattern will be performed in real skills. The athlete is given a description of the technique to be trained (if the goal of the exercise is about the mastery of the technique).

According to Orlick (Gunarso, 2008: p.103) imagery refers to the process of feeling very intense, as if the feeling is the actual state. Imagery is a series of activities of imagining or reappearing in the mind of an object, event or experience of motion that is true and has been stored in the memory. Various research results show that imagery can facilitate the improvement of sports performance.

Goal setting and imagery determination is an integral part of the overall psychological skill. Imagining a goal is an effective way to direct the athlete toward the achievement of the goal and the mental imagery can work effectively when the athlete establishes a specific and realistic goal during the imagery exercise. The more clear and detailed objects or movements imagined, the more likely the tennis player will be able to see opportunities that can realize goals. In addition, by making a very specific picture of shadow a player can determine critical aspects or key components that should be the focus of attention during the training process so that goals will be easier and faster to achieve. Therefore, goals can be imagined and the process of imagining should be directed at the goal. This is the best way to do imagery. Rushall (2008: p.57) mental imagery is a form of mental exercise in the form of self image and movement in the mind. It can be concluded that imagery is a form of mental exercise that is done by imagining or bringing back in the mind of an object, a series of activities, events or experiences of motion that is true and has been stored in memory.

The main objective of imagery are used in sports by Murphy (2005: p.138) among which are: (1) learning new skills; (2) retraining skills over time; (3) rituals before appearing; (4) developing strategies and plans; (5) reduce the anxiety of the game; (6) increase the psychological; (7) set the tension; (8) increase the confidence; (9) increase motivation, (10) increase concentration; (11) rehabilitation form injury, and (12) team. This is also rein forced by Tenenbaum and Eklund (2007: p.296) who expressed the benefits of imagery among them, namely for the development and improvement of mental skills, the introduction of the game to athletes, and mental warning.

Imagery is not limited to visualization, but also refers to the sense of kinesthetic, auditory, tactile, olfactory, all of which are potentially important. Use of more than one senses will help to create a more vivid picture. According to Moran & MacIntyre (Weinberg & Gould, 2007: p.297) the use of kinesthetic senses is especially important for athletes, as the kinesthetic sense includes how to feel the body moving in different positions and this is the primary use to improve performance.

Script Imagery

According to Shearer et.al (2009: p.3) script imagery is a traditional approach to imagery practice with a written script as a training guide. Before imagining a movement, a beginner must be given understanding and explanation of description of the movement to be imagined. According to Williams (2013: p110) script imagery is an imagery exercise that uses guidance experience in the form of script. From some understanding of the above script imagery can be conclude that the script imagery is a form of imagery exercise that use the script as a guide implementation.

Each exercise method has a specific purpose in the preparation. According to Williams (203: p.114) the function of the script imagery are cognitive specific function (improving skills), general cognitive functions (improving strategy and game plans), specific motivational

functions, and general functions of motivation. In addition, script imagery can also facilitate the improvement of imagery process.

From the technical implementation of the script imagery exercise described above, it can be seen that in its implementation requires a high degree of imagination, perception and coordination. The superiority of script imagery exercise is appropriately applied to students who have good perception and coordination skills; and can develop the imagination and the mind of the student. Any form or method of exercise must have a weakness in its application during practice. According to Shearer et.al (2009: p.3) the disadvantage of script imagery exercises is preventing temporal access to representations of desired skills. For beginners will get ales clear picture of movement techniques that will be done if only explained about the technique in doing a movement because it will be very difficult to visualize a movement that has never been seen.

Video Imagery

Exercise imagery can be done with a variety of methods or ways. In addition to script imagery exercise, imagery exercise can be done with the help of a video of a person who is performing a movement. Many athletes get a good and clear picture by looking at a video.

According to shearer (2009: p.3) video imagery is a form of imagery exercise by using video as a tool. It can be concluded that video imagery is a form of imagery exercise using video as a training tool to get a clear picture of a movement.

Huda (2013: p.289) states that video imagery is a form of exercise that involves many senses (multi-sensory) including visual, auditory and kinesthetic. Visual happens when one accesses visual imagery created or remembered. Auditory occurs when a person accesses any type of sounds and words that are created or remembered, like the sounds that sounded during of motion and emotion created or remembered, such as movement, coordinator, rhythm, and physical comfort.

The purpose of viewing videos is to help develop imagery skills, provide a detailed picture, multisensory, and stimulus propositions (Shearer, 2009: p.9). Videos that visualize a person's movements in doing a forehand drive movement with good and correct techniques will greatly help a player in developing his forehand drive skills.

According to Smith & Holmes (Shearer, 2009: p.3) video imagery is more effective than script imagery. Video imagery can be used as a solution to increase the effectiveness of imagery intervention by playing back the recording video when the athlete is playing.

The advantage of this method is for beginners are very useful, because it can provide stimulus that can stimulate the emergence of imagination in the athlete to get a clear picture. In addition the video imagery appropriately applied to student who have trainer skills and poor perception and coordination. Associated with teaching and learning methods, according to Huda (2013: p. 289) learning styles that involve visual, auditory, and kinesthetic are multi-sensory learning styles that are better than learning styles that simply read the book because it involves more senses that will result optimal learning. Video imagery can optimize the five senses.

Methodology

Research Design

The present study was a quasi experimental research design with pretest posttest plan and experimental-control treatments. The duration was approximately six weeks. The script imagery group received script imagery and technical practice and the video imagery group performed video imagery and technical practice. The frequency of the sessions was four times a week.

Participant

Thirty two participant were recruited from the 3rd grade of the physical and health education program who take tennis course at Sport Science Faculty of Yogyakarta State University. Participant were non athlete (age range 19 to 21 years) with absolutely no experience playing

tennis, beginner adult tennis player. Participant in this study were divided into two groups: 16 students for video imagery group and 16 students for the script imagery group.

Measurement and Instrument

Before the treatment, participants completed forehand groundstroke test. The performance accuracy of the groups on forehand strokes was measured at pre- and posttest using Hewitt tennis test.
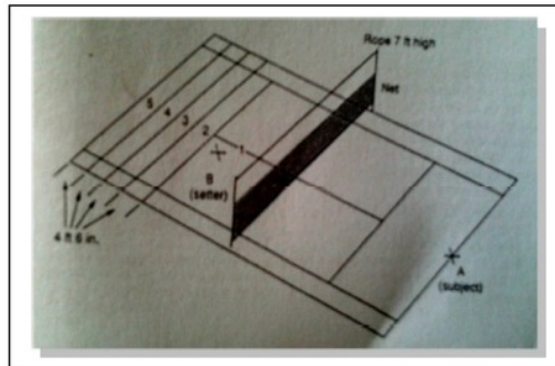

Figure 1. Forehand Placement test (Hewitt Test)

Procedure

Participant in this study were divided into two groups. There was 16 students for the script imagery group and 16 students for the video imagery group.

Week 1-pretest session: participants performed 10 trials of forehand groundstroke in Hewitt forehand tennis test.

Week 2-5- imagery and physical / technical training: the script imagery group have physical/ technical training and script imagery training. The time taken to read and understand the script is 2-3 minutes. Then proceed with imagining for 7 minutes, while video imagery group have physical/ technical training and video imagery training.

Statistical Analysis

Data are presented as mean ± standard deviations. Changes in performance (pre vs. post-intervention) of each group were analyzed using paired t-test and independent t test.

Result and Findings

Description of Research Variable

Table 1 show the mean score pretest and posttest of forehand drive for the video imagery and script imagery. Data analysis result showed that there is significant effectiveness video imagery and script imagery on forehand skill.

Table 1: Result of Paired t test for video and script imagery

Item	Mean	p
Video imagery	6,063	0,002
Script imagery	8,875	0,000

Based on table 1, the data result showed a statistically significant effectiveness video imagery (p= 0,002) to improve forehand drive skill, and significant effectiveness also showed on script imagery group (p=0,000). That means both of video imagery and script imagery significant effectiveness improve forehand drive skill.

In addition, statistically significant difference was found between the video imagery (M=21,688) and script imagery (M=18,063), P value= 0,00 for the forehand drive skill. Data analysis result of difference between video imagery and script imagery on table 2.

Table 2: Result of Independent t test for video and script imagery

Item	Mean	p
Video imagery	18,063	0,025
Script imagery	21,688	

Discussion

Research result showed that both of script imagery and video imagery significantly improve forehand groundstroke skill. Imagery training methods has the advantage, the form imagery exercise precision forehand groundstroke presented similar to the real conditions. Also in the imagery training methods is an integral part of overall psychological skills. When students imagine the perfect moment in forehand groundstroke. This activities it actually send nerve impulses from the brain to the muscles involved n the forehand groundstroke movement. When student imagine success in sequence the actual learning process take place and students has scratched it the exact picture of body movement should happen, so it can reach optimal achievement. Several research result showed that there is significant effect of imagery training on sport performance (ardehjani et al, 2013; Buck et al 2016; Nelson et al, 2008). Imagery training in this study was series activities of imagining and bringing up back the movement of forehand groundstroke. Repeating continuously imagining forehand stroke within mind with relaxed state can making student more focused in going activities and can build mindset.

The main objectives of imagery are used in sports by Murphy (2005: p.138) among which are: (1) learning new skills; (2) retraining skills over time; (3) rituals before appearing; (4) developing strategies and plans; (5) reduce the anxiety of the game, 6) increase the psychological; (7) set the tension; (8) increase the confidence; (9) increase motivation, (10) increase concentration; (11) rehabilitation form injury, and (12) team. This is also rein forced by Tenenbaum and Eklund (2007: p.296) who expressed the benefits of imagery among them, namely for the development and improvement of mental skills, the introduction of the game to athletes, and mental warning.

Based on data analysis result there is a significant difference in influence between groups of beginners who get the exercise script imagery and video imagery. In a group of beginner players trained with video imagery have improved forehand drive skills better when compared with the beginner who provided the script imagery.

Video imagery is an imagery exercise done with the help of video viewing. In this imagery video exercise including multi-sensory because in its implementation involves many senses. In addition, with video imagery makes it easier for someone to guess or understand a movement. This is reinforced by the opinion of Shearer (2009: 9) which states with video imagery helps develop the ability of imagery, provides a detailed picture/ detail, multisensory, and stimulus proposition.

The script imagery is an imagery exercise done with the help of a script guide. In the implementation of the script imagery requires power concentration and good intelligence. Exercise imagery can help to improve one's imagination. The function of the imagery script is a specific function of cognitive (improving skills), general cognitive function (improving strategy and game plans), specific motivational functions, and general functions of motivation. In addition, script imagery can also facilitate the improvement of imagery process. From the technical implementation of the script imagery exercise described above, it can be seen that in its implementation requires a high degree of imagination, perception and coordination.

According to Smith & Holmes (Shearer, 2009: 3) video imagery is more effective than script imagery. This is also confirmed by Cho (2009: 21) video imagery has a significantly more significant performance improvement compared to script imagery. This is because video imagery shows a real performance experience during imagery. When viewed from the

advantages of each imagery exercise above does show that the video imagery is superior when compared with the script imagery, this is because video imagery can be applied to all tennis players who have high or low coordination, while the script imagery because it requires concentration, perception and high coordination then for tennis players who have high coordination will be easy to do while for tennis players who have low coordination will have difficulty.

Based on the above study, it appears that the video imagery exercise is better than the script imagery. The above theoretical truths are also reinforced by the results of data analysis in this study namely: video imagery exercise has an average increase of 21.688. While the script imagery exercise has an average increase of 18,063. From the data it can be concluded that the video imagery exercise is better when compared to the video imagery exercise on the skills of forehand drive beginner player.

In this study the implementation of imagery and imagery video script in each group is done in different room so that in each group can't see the implementation of treatment of other group. The script imagery group understands the movement of the forehand drive only through the script, while the video imagery group understands the movement of the forehand drive through video so that it is possible that the video imagery group better understand the movement of the forehand drive than the script imagery group because it sees the real professional tennis player's real forehand drive so knowing clearly the movement on the forehand drive. This leads to differences in the effect of training methods on forehand drive skills which are in accordance with the hypothesis that there is a difference in the effect of imagery exercises with script imagery and video imagery on forehand skills of the novice player. Shearer et al (2009:p.3) the disadvantage of script imagery is preventing temporal access to representations of desired skills. For beginners will get a less clear picture of movement techniques that will be done if only explained about the technique in doing a movement because it will be very difficult to visualize a movement that has never been seen.

Conclusions

The use of imagery exercise appears to be an effective intervention to enhance tennis stroke skill. The application of mental skills, such as imagery, in the strength and conditioning field is growing but remains under-utilized at present. Mental skills are an important aspect of athletic development and, like physical skill, should be practiced often and with purpose. One benefit to imagery is that once learned, it can be practiced anywhere at any time. Moreover imagery will only bring benefit to the athlete if he or she knows how, when, and where to use it. Therefore, understanding the use of different models of imagery is necessary. Beginner tennis player better using video imagery.

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