c5-Shooting Traininng Models with the Playing Approach for Futsal Extracuricular of Junior High School Student

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Shooting Training Models with the Playing Approach for Futsal Extracurricular of Junior High School Students

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***Abstract*—this research aims to develop a model of futsal shooting training with the play approach, which can improve the shooting accuracy of the extracurricular futsal students of junior high schools. The research was conducted in seven stages; (1) the preliminary study, (2) planning, (3) early product development, (4) small scale trials and revision, (5) large scale trials and revision, (6) testing the effectiveness of products through experimentation, (7) final product. The data was obtained from interviews, quesionnaires, tests, and observations. From the study, the evaluation by experts shows a score of 91.42%, the result of the small scale trials is 80.88%, and the large scale trial result is 92.76%. From these it can be interpreted that the effectiveness of the developed model can be tested. The result from testing the effectiveness compares two grups; the treatment group which used the developed model, and control group which used the pretest and postest design. Based on the test results comparison, the experiment group result increased significanly at the level of sig < 0.05. The mean score of each group based on presentage shows that the effectiveness of the experimental group is higher than that of the control group. The avarage score of the effectiveness of the experimental group in the instep shooting is 76% and in the tip of foot shooting is 80%, while the avarage score of the effectiveness of the control group in the instep shooting is 48% and in the tip of the foot 44%. In conclusion, the developed model effectively improves the ability of junior high schools students to shoot more precisely in Yogyakarta city.**

Keywords*—*shooting, training, models, playing approach, futsal

I. INTRODUCTION

In the Spanish and Portuguese language, futsal means futbol and sala which relatively means "soccer" and "indoor." Hence, futsal can be described as indoor soccer. Although, futsal is defined as an indoor game, it can also be played outdoor [19]. [30The game is an indoor team sport played for two periods of twenty minutes each. It involves one keeper and four players in each team. In principles, futsal is similar several group sport games that make use of balls like soccer, basketball, handball, and hockey [9]. The games demand cooperation among team players to score goals and to prevent the opponents from scoring goals [27]. In futsal, the final winner of the game is the team that scores more goals in the opponents' gate. Futsal has several similarities with soccer despite its relatively small field and lesser number of players. Reilly believes that "soccer can be characterized as a high-intensity, intermittent game where both aerobic and anaerobic energy systems play an important role [6]. "futsal is an intermittent sport involving high-intensity activities such as accelerations, decelerations, and changes of directions, stressing both the aerobic and anaerobic systems" [29]. Furthermore, "futsal is a variation of soccer which is played all over the world either in amateur, semi-professional, or professional levels" [20].

Every futsal player must have a profound understanding of the basic techniques of futsal which includes; Ball handling in the field, tackling opponents, supporting team performance and movement [12]. Soccer and futsal have similar basic techniques. Futsal is an official version of indoor soccer which is supported by FIFA and UEFA [20]. All over the world, futsal is a game with rapid development. World class futsal players such as Pele, Zico, Romario, Ronaldo, Kaka, and Ronaldinho highlighted that their success was achieved from special techniques and intensive practices. They made the following statements; Pele, the 1958, 1962, and 1970 world champion stated, "I played futsal for about two or three years before heading over to Santos. The key fact for a success in futsal is the development of ball handling, passing, quick thinking, dribbling the ball, maintaining balance and focus. Undoubtedly, futsal is important." Ronaldinho, the world best player in FIFA 2004 and 2005 confirmed, "Futsal is one of the crucial ways to develop children's skills and understanding of games. My dribbling and managing skills have improved after playing futsal" [13]. Analysis from the results of the 2014 UEFA Champions League: Spain (pass 881/tackle 31), Portugal (1035/14), England (562/115), and Croatia (449:160). This implies that a good futsal team player has more passing and less tackling basic techniques.

In both soccer and futsal, attacking the ball is based on the same intention: to pass the ball, to score goals, to score free kicks after offenses, corner kicks, penalty kicks, and to save the ball [21]. The Penalty kick is a free kick taken from a point within penalty area and only the keeper can defend it [22]. To shoot at the goal with the forefoot, the player points his toes downwards and kicks the ball from underneath 'with the laces' and follows through with his leg [12]. While shooting at the goal with toes involves the player running towards the ball and striking it with his toes and follows through with his leg. Besides having to be powerful and fast, the shooting has to be precise in game situations. The shooting must be performed with an equal focus on both speed and accuracy; to hit the top corner of the gate and to beat the keeper as well [5]. Futsal players do not necessarily

decrease the rotation speed to shoot accurately [31]. This violates the rules of soccer. Nevertheless, there is no official report presenting information of physical blames on futsal, running with high intensity, and profiles of the players during official matches [11].

Shooting accuracy is greatly affected by fitness level and playing experience [34]. A high fitness level can accommodate stress during matches and prevent skills from degenerating and playing experience gives advantages in form of previous shooting accuracy experience. Moreover, the pattern of activation of leg muscles is a leading factor that influences shooting accuracy [15]. Increased activities of tibialis anterior and bicep femoris muscles and the decreased activities of the gastrocnemius muscle decreases the shooting accuracy of players. On the contrary, increased activities of tibialis anterior and bicep femoris muscles and decreased activities of the gastrocnemius muscles increase the players shooting efficiency. Hence, to improve shooting accuracy when playing futsal, the senior high school students joining the futsal extracurricular activities must be introduced to the shooting training model through effective and interesting approaches to enjoy the training model. From implementation, Athletes performing in upcoming tournaments may show significant improvement [23].

In this research, the playing approach properly fits into the junior high students fond of playing. The research object is the junior high students since the sport is best started at a young age [3]. We see the development of young soccer players as a long-term process. Achieving a clear and concise objective is fundamental in such endeavor. The focus on younger players was properly established in the initial premier league [7]. The shooting training model with play approach is expected to improve technical skills and form good physic and behaviors [1]. The development and success of a gifted young player is influenced by a variety of innate, psychological, and behavioral factors [18].

[2]A scientific approach to the process of talent identification and development includes physiological, biomechanical, psychological, economic, and sociological factors. Nevertheless, the most important fact is that sport performed during the adolescence stage is learnt with better body movements and transferrable life skills. Through social interaction in enjoyable and active environments, unlimited opportunities are created to teach critical civil skills such as cooperation, ethical behaviors, empathy, and problem-solving [4].

Therefore, the play approach taught the younger players the importance of developing their abilities in sport, especially in futsal. The approach is considered to be appropriate in training junior high students that the join futsal extracurricular shooting activities. Furthermore, the junior high period is a chronological age to improve specialization in sports [10]. Hence, to improve the basic techniques in futsal, shooting train is essential [25] Playing is an easily done activity, it is cheap, interesting, and various improves physical health. Carefully selected and designed games may improve physical, cognitive, motoric, affective, and social aspects. From playing, children learn new things and play simultaneously. Essential characteristics of play are: (1) play is intrinsically motivated, (2) play is freely chosen by the participants, and (3) play must be pleasurable [13].

A major characteristic of playing characteristics is that it has to be enjoyable. This characteristic is linked to emotion. Pleasure is one of the basic emotions of human beings. On the contrary, negative emotions can arise due to oppression to perform things that may lead to stress. Long-term stress affects all aspects of the children's development (health, cognitive, social, and emotional) and might remain until adolescence [26]. Therefore, the playing approach plays an important role in improving children's motivation to learn/exercise. Playing is raised from students/player's self-motivation. Motivation is an encouraging process to maintain the ultimate goals by controlling behaviors [24]. By being motivated, young players pay more focus and are willing to conduct activities for a longer period. Such focus provides meaningful exercising experiences for children [28] enabling the trained futsal shooting model to be implemented in real matches. With playing approach, players can also collaborate with their surroundings as the third teacher. This is in line with research [32] Reggio Emilia's philosophical approach which states that the environment is the third teacher [33]. Hence, the play approach performed to train the shooting of junior high school students suits their characteristic love to play.

II. SHOOTING TRAINING MODELS WITH THE PLAY APPROACH

A. Rapid Scoring Game

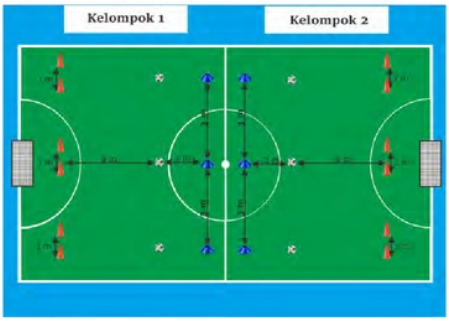

Fig 1. Size guidelines of rapid scoring game.

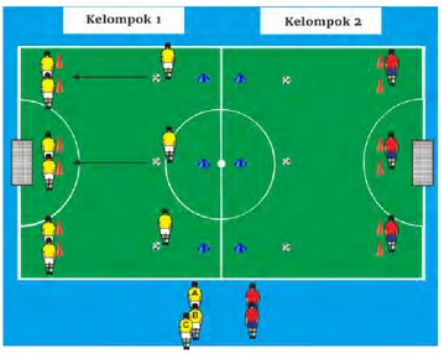

Fig 2. Ilustrations of rapid scoring game.

The rapid scoring game is a game performed by dividing players into two teams. In the field, a ball and gate is

prepared for each team. Then, each team struggles as fast as possible to shoot the ball to the gate. The purpose of this game is to improve speed, agility, and skills of shooting the ball accurately. Instruments needed for this game are balls, cones, and a whistle. The three cones are set with a distance of four meters and the balls are set two meters in front of the cones. The three gates (from cones) are precisely set eight meters in front of the cones. One more field with the same cone arrangement is made, so that there are two fields similar but with opposite direction.

B. Game Four vs Two Goal Target

Game four vs two goal target is a game performed by dividing the players into a game of four attackers and two defenders. The attackers form a square and shoot the ball positioned in the center of the field; while the defenders guard it against the attackers. The aim of this game is to improve shooting skills in order to increase accuracy, controlling skills, and ball possession. Instruments required are balls, cones, and a whistle. Four cones are set in a square shape within the size of 10 × 10 meters. Within the shape, five cones are set with four cones and are set to form a square with a size of 2 × 2 meters. In the center, one cone is set. Next, as the shooting target, a ball is put on top of the last cone.

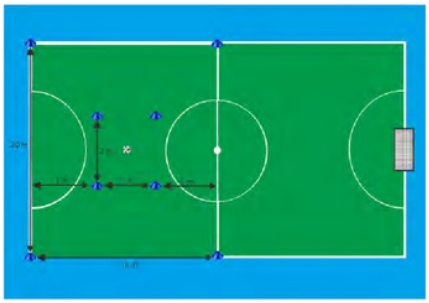

Fig 3. Size guidelines of game four vs two goal target.

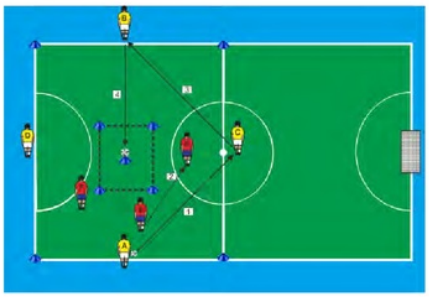

Fig 4. Ilustrations of game four vs two goal target.

C. Game Two vs. One Goal Target

Game two vs one goal target is a game played by two teams. They have turning tasks: when one team attacks, the other defends. In this game, the attacking team consists of two players; while the defending team consists of only one player. The attackers try to shoot the ball at the targeted gate; while the defenders have to stop them. Each team attacks and defends in turn. The objective of this game is to improve the shooting skills in order to be more accurate, the ball controlling skills, and to develop attacking strategies. The instruments used in this research are balls, cones, a whistle, and gates (from cones). Four cones are set to form a square with a size of 15 × 24 meters and four gates with a size of 1 meter are set in the sides of the field. Two cones are set in the center of the field with a twelve meter distance as field breakers.

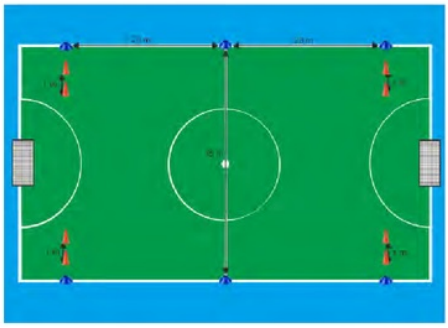

Fig 5. Size Guidelines of game two vs one goal target.

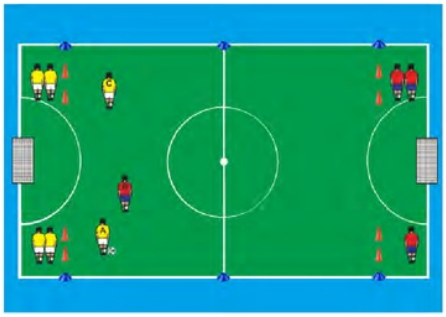

Fig 6. Ilustrations of game two vs one goal target.

D. Game Two vs Two Goal Target

Game two vs two goal target is a game played by two teams. Each team is represented by just two people, they are both the attacker and defender, performed in turns. The attacker tries to score goals; while the defender has to stop him. The purpose of this game is to improve the shooting skill in order to be more accurate, the ball controlling skill, and to develop playing strategies. The instruments needed are balls, cones, a whistle, and gates (from cones). The cones are set in a square shape with a size of 10 × 15 meters with four gates with a size of one meter set next to the initial cones with a distance of eight meters.

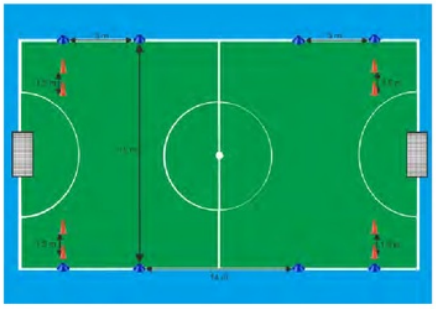

Fig 7. Size guidelines of game two vs two goal target.

Fig 8. Ilustrations of game two vs two goal target.

III. TEST TECHNIQUE

The method applied to test the futsal shooting accuracy was the instep shooting and the foot tip shooting with a distance or ten meters. The test validity had been investigated by the content validity which covered the surface and logical validities. The reliability coefficient to shoot using the back of the foot was 0.940; while that of using the toe tip was 0.967. The reliability coefficients of the instruments were more than 0.6, this instruments can be considered as reliable.

This is a picture of target for testing shooting accuracy in instep shooting and foot tip shooting.

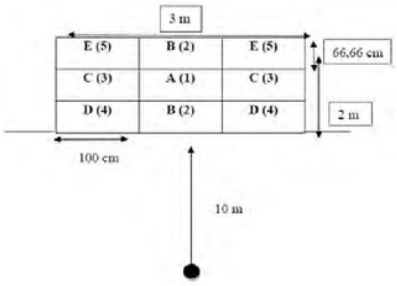

Fig 9. The target for futsal shooting accuracy test [17}

Information:

Shooting was conducted from the second penalty point within ten meters from the gate. The ball was shot to the target in form of a gate two meters in height and three meters in width. The target was divided into nine; each target with a size of 66.66cm in height and 100cm in width. The assessment was as follows: score one for the target (A), score two for the target (B), score three for the target (C), score four for the target (D), and score five for the target (E). If the ball hit but did not enter the gate, then there was not score recorded.

IV. THE DATASET

The data was collected through interviews, quesionnaires, test, and observation. Evaluation by experts displays a score of 91.42%, the result of small scale trials is 80.88%, and that of the large scale trials is 92.76%. From this, it can be interpreted that the developed model can be tested for its effectiveness. The result of testing the effectiveness compares the two grups; the treatment group which used developed model, and control group which used the pretest and postest design. Based on the comparison of those test results, the test result for the experiment group increased significanly at the level of sig < 0.05. The mean score of each group based on presentage shows that the effectiveness of the experimental group is higher than that of the control group. The avarage score of the effectiveness of the experimental group in the instep shooting is 76% and in the foot tip shooting is 80%, while the avarage score of the effectiveness of the control group in instep shooting is 48% and that of the foot tip is 44%.

TABLE I. CLASSIFICATION OF EVALUATION RESULTS

Percentage	Information
80% - 100%	Valid/used
60% - 79%	Adequately valid/used
50% - 59%	Less valid/replaced
<50%	Invalid/replaced

V. CONCLUSIONS

F The final conclusion is that the developed models is effective in improving the ability of junior high school students in Yogyakarta city to shoot precisely.

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PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5