

# Model Physical Education using Modification of Mini Volley Ball Game to Improve Friendly Character at Elementary School

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## Abstract:-

### ➤ *Purpose*

The learning process of physical education aims to form a whole human being including character through motion activities. The purpose of this study is to develop a mini volleyball game learning model that can be done by elementary school children so that it can build and improve the character of students to become more friendly.

### ➤ *Method*

This study applies a research and development model through 9 stages. Respondents used 40 students of fifth grade elementary school. The trial of product results continued with quasi-experiments so that the results of the products were more accountable. Instrument to measure student character values in the form of tests carried out by psychologists. The data is then processed using parametric statistical analysis.

### ➤ *Results*

The results of the study showed that mini volleyball game models with 9 meters long and 4 meters wide field area being played by 5 team students and simplified regulations could build enthusiasm for learning and could develop the character of more friendly students. More than 87% of students develop character values.

### ➤ *Conclusion*

The results of the study on modification models of mini volleyball can be used in the learning process of elementary school students to form characters.

**Keywords:** - Character, Development, Friendly, Learning, Mini Volleyball

## I. INTRODUCTION

The content of physical education (PE) programs in schools for children and young people is under debate globally. This is not new. PE has had an ongoing battle concerning how to gain the greatest and longest benefits for mind and body since it was established at the beginning of the 19th century (Pfister, 2003). These conflicts have been noted between cultures and nations, representing different points of view about the legitimate agenda of physical education, but conflicts have also been noted within nations and educational institutions (Pfister, 2003). Physical education consists of several sports that have taught to students to learn about meaningful physical education (LAMPE) (Chroini, Fletcher, and O'Sullivan, 2018), such as volleyball.

Volleyball is a team sport played by 6 people on each team. The volleyball game performed elementary school which been modified into a mini volleyball game. Mini volleyball game is a game played by 4 people; this game will run well if every player has at least already mastered the basic techniques of playing volleyball. Similarly, mini volleyball games performed in the elementary school must be well controlled by the students. Mini volleyball games will be well controlled by students if students get good learning from teachers. Mini learning done in elementary school has still the same as volleyball learning in general, so students can't learn the real mini volleyball game. That is same thing about performance analysis in sport is a field characterized by an increasing number of applications, not only for coaching strategies but also in sports marketing, media and in the scouting practice (Ferrari, 2017). For other, it is in accordance by the learning of physical education in elementary school. The lessons of mini volleyball are service, passing, and smash. Service is done to start the game, while the passing is done to be able to play the ball in the air in a long time in a game of volleyball. Smash is done to get points and aims so that the opponent cannot return the ball. Service, passing, and smash are the main capital to master the game of volleyball. The type of service and passing are up and down techniques.

Many benefits are obtained from the volleyball learning process for elementary school children. Perceptual skills form the foundation of the ability to predict and react to a stimulus with an effective response. These skills are required for athletes to perform their motor skills competently in sports (Kuan, et.al 2018), especially in volleyball, where the game dynamics and short time of reaction to the changing situations are extremely important (Mroczek, D. 2007). Volleyball can be defined as a situational sport, requiring great adaptation capacity to the variables that continuously change (Maciel, et.al 2009). The players are excessively subject to arousal in the competition environment and need to predict and respond quickly in a limited time (Zhou, Y. 2018). “The ability to quickly see the incoming ball or change one’s position on the court decide whether a point is scored and, in the end, the game is won” (Mroczek, 2007). Volleyball players need to be at a sufficient level in terms of sensory and cognitive skills as well as physical and motor skills. Coinciding anticipation timing (CAT) and reaction time are an important sensory and cognitive skills (Kuan, et.al 2018, Nuri, et.al 2013).

To be a professional player as early as possible, basic training techniques should be given from early childhood (Kokubu, et.al 2006). Based on the statement is very evident that the skills of playing volleyball have to be trained from an early age. Likewise, mini volleyball skills should be trained from an early age, for that need to find alternative solutions to solve the problem of students who are less true in the mini volleyball game. Mroczek, et.al (2013) said that service is a prefix for starting a volleyball game, then he suggests that the skill of doing the passing well is the main capital in playing volleyball. Therefore, the basic techniques that should be taught for the first time are lower service and lower passing. It can be concluded that basic techniques must be mastered to be able to do mini volleyball games.

Learning is done like that without any exercise or game variations, so students need an interesting variety of exercises and that can improve lower passing skills and lower service of mini volleyball. For that, we need to develop audio-visual learning mini volleyball for elementary students as a reference of physical education teacher. Admittedly, one of the main drawbacks of physical education at the present day is the domination of practical approach in which the most important is to improve the students’ physical qualities (Arvinen, et al. (2015). And then, the success of the study will be more efficient if implemented in groups. One of the major factors that make the team successful or failed is the team spirit and team cohesion (Gamble, P., (2016). Alongside its social theoretical lens on digital games-based learning, the paper analyses game-based social interactions in tandem with game design decisions enabling additional implications to

be drawn for pedagogical practice and game design (Vasalou, 2017).

By looking at the physical condition of elementary school students who are relatively still children, the volleyball learning process needs to be modified. In this study, the number of 4 student squad players and a 4 meter wide field 9 meters long, as well as a more simplified score, the main thing is that students can do mini volleyball games. By doing mini volleyball games, students' character values are expected to be formed. The purpose of this study is to make a model of mini volleyball game of elementary school students to form character values. The study, which was carried out to determine the level of self-efficacy among the collective games players, revealed some important information, findings, and results (Mouloud, 2016).

The final results of this study create a model of mini volleyball games that can be used by elementary school children and can improve the character value better.

## II. PHYSICAL EDUCATION (PE)

Physical education is an integral part of the whole process of education through various physical activities aimed at developing individuals or students physically. Kavussanu and Stanger (2017) said that small-sided games are widely used training methods because they permit the trainer to focus on technical and physical aspects at the same time. Afterward, Sutomo, Sugiyanto and Kristiyanto, (2018) explains that physical education is a comprehensive component of education, and then it has conscious by many people. It greatly affects students because with the physical condition of healthy students, that will certainly greatly support student learning activities. Physical education is defined as a process of learning through physical activity that is designed systematically to improve physical fitness, develop motoric skills. The purpose of physical education also includes three aspects of the cognitive domain (knowledge), affective sphere (attitude) and psychomotor (skill). A psychomotor domain of physical education is more emphasis on the use of nerves that exist in the body to produce a good movement (Schmidt, & Lee, 1999). There is one more realm that is contained of the purpose of Physical Education is the physical realm which is the purpose of functioning well the student body system, so that students can face the demands of the environment well. Delas, et.al. (2017) that even if perceived ability predicted achievement during physical education classes, results showed that state hope is directly associated with performance at school.

Physical education is basically an integral part of the education system as a whole. Therefore, its implementation should be directed towards achieving that goal. (Walsh, E. 2015). The aim of physical education is not only to

develop the physical realm, but also to develop aspects of health, physical fitness, critical thinking skills, emotional stability, social skills, reasoning and moral actions through physical activity and sports activities. The physical education is a medium to encourage motor development, physical ability, knowledge and reasoning, values appreciation (mental emotional-spiritual-and-social attitude), and healthy lifestyle habits that lead to stimulate balanced growth and development. (Zavydivska, et.al 2015). Physical education has a very important role in intensifying the implementation of education as a lifelong process of human development. (Joko, et.al., 2018).

According to Gråstén and Watt (2017) explained in their article that The Achievement Goal Theory postulates the motivational processes in PE (Physical Education), such as motivation is dependent on the motivational climate largely generated by teachers. Task-involving motivational climate relates to teaching structures that support effort and cooperation, and emphasize learning and self-referenced criteria for evaluation, whereas ego-involving motivational climate refers to learning situations that advance normative comparisons and competition.

In contrast, perceptions of an ego-involving climate in PE is either negligibly related or negatively related to similar outcomes. Previous findings have shown that girls perceived higher perceptions of a task-involving climate, whereas boys reported higher perceptions of an ego-involving climate in PE classes. (Peter, et.al., 2015) mentions that "skills as proficiency in performing the duty".

The instruction about the quality of movement instructs more detailed the particular motor skill, and also constraints the criteria and conditions for obtaining techniques for performing this skill. (Ilana, et.al., 2016)

### III. CHARACTERISTICS OF ELEMENTARY CHILDREN

The statement Mitchell (2010) reveals there are three main characteristics that stand out in the elementary school namely: 1) a big push to connect with peer groups; 2) a curious urge about the world around them 3) Physical growth that will encourages children to enjoy a game that can easily lead to them when they are working in the future. Characteristics of elementary school children prefer to play and in accepting the learning should be in a pleasant atmosphere so that learning can take place effectively. (Ilana, et.al 2016) At this time, it is the period of growth and development of children, so it needs to be considered to shape the characteristics of children better. The establishment of meaningful relationships (adult-to-peer and peer-to-peer) is a cornerstone for youth development programs, which also facilitates ownership and a sense of belonging in the program (Hercksteden, et.al 2015). Programs have caring, connected and supportive adults

who genuinely work to earn quality relationships with youth (Veri and Walsh, 2016).

Mini Volleyball Game is a play of interactive nature. It is logical to expect that players' performances in one phase of the game will be dependent upon their performances in the previous phase. Meanwhile, according to Takeyama, T., Hirose, N., & Mori, S. (2011). a mini volleyball game was created for elementary school children, especially fifth and sixth grade as a way of developing and refining basic motion, as well as improving physical fitness. Meantime, according to Puspitasari (2003) mini volleyball game is made from the actual volleyball that modified by making it easier to perform and more interesting to implement, it is proven by rules that are easier to understand, because it is intended for early childhood.

The concept of mini volleyball game is an actual volleyball modification game by making it easier to play by making changes to the rules that are used so that it is appropriate for elementary age (McCarthy, Allen, & Jones, 2013).

### IV. TEACHING MINI VOLLEYBALL MOVEMENT

A mini volleyball game was created for elementary school children, especially fifth and sixth grade as a way of developing and refining basic motion, as well as improving physical fitness. At the same time, according to mini volleyball game is made from the actual volleyball modification by making it easier to play and more interesting to implement, this is proved by the rules that are easier to understand because the game is intended for early childhood (Bijen, Aydin, 2016). The concept of mini volleyball game is an actual volleyball modification game by making it easier to play by making changes to the rules that are used so that it is appropriate for elementary age (Maciel, et.al 2009). Service is a sign at the start of the game and an initial attack for the team that performs. Passing is done to be able to play the ball in the air for a long time. It is the most commonly used movement in the course of a volleyball game, so this passing must be completely mastered. There are some attitudes that must be mastered properly so that the ball can be on target. It will be done by the player if the ball that came falling in front or at the side of the body as high as the stomach down.

The rules of the mini volleyball game is to use a field measuring 12 times 6 meters, 1.9 meters' net height, using a knitting ball weighing 1.8-2 ounces' ball circle 63-65 centimeters. Meanwhile, Meng, et.al (2015) revealed that the size of the field used to play mini volleyball is 4.5 meters wide and 12 meters long, using volleyball which weighs 200 grams, in addition, the net shape also need to be modified and its height adjusted to the height of the average child age.

The rules of the mini volleyball game are the length of the field is 12 meters, the width of the field 6 meters. The net height used for male students is 2.1 meters and for female students is 2 meters. The ball used is ball number 4 with a weight of 180-220 grams. Used is ball number 4 weighing 180-220 grams. Mini volleyball played by 4 players with 2 spare players.

## V. CHARACTER BUILDING

Nicholson and David (2018) found that there were character values integrated in lesson plans studied. The lesson plan integrated the values of confidence, logical thinking, creativity, innovativeness, open-mindedness, responsibility, politeness, activeness, politeness, respect, discipline, and cooperativeness. The most frequent character value integrated in teaching learning process was confidence. The less frequent character values integrated in the process of teaching and learning were logical thinking, respect, politeness, and discipline.

According to Kavussanu, M., Stanger, N., & Ring, C. (2015). the teachers could use various methods to integrate character values in teaching learning process. However, the teachers were doubtful of integrating character values in teaching learning process. They focused on the materials too much so that they didn't remember to integrate character values. This problem was also related to the teachers' competences not good enough. Therefore, the teachers should improve their competences about character building.

Lautenbach, et.al (2016) found that character building activities affect positively on positive behavior of the students leading to recommendations to implement character building in elementary schools. Negative behaviors of the students decreased whereas the student understanding of values improved. Then peter found character building should be integrated with the curriculum, not taught separately. The rules of classroom at school should be on the basis of good character principles. In addition to this, the teachers should be a model of good character observed by the student. Character should be taught for the students with hands-on activities contributing to the school and the community leading to improve student behavior.

Character education is a process of forming the character itself is always a positive impact on the

development of the students on the emotional, spiritual and personality of a person, the character education is a key part of building a strong personal dedicated. (Vierimaa, et.al 2012). Efforts to maximize the implementation of character education should run as a strategy of strengthening its implementation such as: strengthening the implementation of character education guides, it accommodates institutions that already implement character education and strengthen existing activities in school.

## VI. RESEARCH METHODOLOGY

The research respondents were 40 grade V students of elementary school. They did the learning process of the modified mini volleyball game for 4 meetings. The method used in this research is Borg and Gall (1983, 2003) development model which adapted to be simple model that are 1) determining research potential and problem; 2) collect information: (a) review the literature, (b) needs analysis; 3) designing products; 4) design validation: (a) mini volleyball test (b) test of teaching expert in elementary school; 5) design improvement or revision; 6) pilot phase I (small group); 7) revision II; 8) phase II trials (large groups); 9) products. Then, this research use quantitative and qualitative method for analysis some data observation (Sugiyono, 2015).

Lazarus (2000) tells it is, "In a broad sense, an experiment is to conduct experimental activities to see a result." In an experiment, there are several variables that will be seen the cause and effect relationship. Previous research has revealed that task-involving climate in PE is positively related to perceived physical competence, intrinsic motivation, the importance of PE, PE enjoyment, physical activity in PE, and total physical activity.

After finding a mini volleyball game model suitable for children in elementary school, a field trial was conducted on children in elementary school with 40 students as respondents. Instrument to measure student character values in the form of tests carried out by psychologists. The data is then processed using parametric statistical analysis.

## VII. RESULTS

The result data of requirement analysis that is need of learning development of mini volleyball game modification at Elementary School such as:

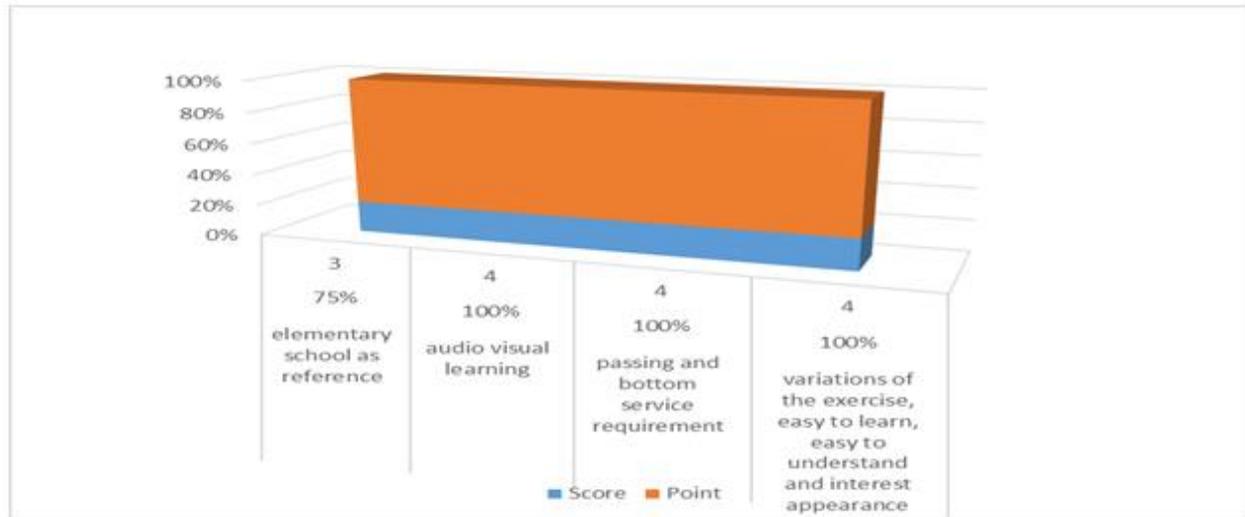


Fig 1:- Analysis Development Game Learning

And then, for developing the game learning what have to some aspects, such as in the table below

Development Aspect	Point	Score
development of the arm swing	75%	3
developing the attitude of the body	75%	3
the need to develop the ball with the sleeve (reflect)	100%	4
development of hand grip on the service below	100%	4
developing the arm swing at the bottom service	100%	4
developing the attitude of the service at the bottom service	75%	3
Service	75%	3
develop the ball with the sleeve (hit)	100%	4

Table 1:- Developing Game Learning Mini Volleyball

In the requirements analysis section, the average score is 3.7 (92%) of very good category. Mini volleyball test results data that there is a preliminary part an average get score of 3 (75%) of good category; in the overall audiovisual obtained an average score of 3.3 (81.3%) of very good category; on part of the procedure of passing down gain average score 3 (75%) of good category. The category is very good, in the variation of exercise 2 it acquires the average score of 3 (75%) of the good category; in the variation of the passing bottom 3 exercises have an average score of 3 (75%) of good category; in the variation of passing down 4 exercise of both have an average score of 3 (75%) of the category; in the implementation of the bottom of passing game get an average score of 3 (75%) of good category. In the service procedure section down the mini volleyball get average score of 3 (75%) of good category; in the variation of the practice of 1 service down get the average score of 3 (75%) of good category; in the

variation of the practice 2 it has an average score of 3.3 (81.3%) of very good category; in the variation of practice 3 it gets an average score of 3 (75%) of good category; in the variation of practice 4 it well get average score of 3 (75%) of category. In the implementation section of the evaluation obtained average score 3 (75%) of the good category; in the cooling implementation obtained an average score of 3 (75%) of the good category; in the bottom game service implementation gain an average score of 3 (75%) by either category. From the results of mini volleyball experts' evaluation obtained a percentage of 76,63% of the good category, so this product can be used in the development of mini volleyball game.

The data of test result of phase I (small group test) that is in the preliminary part got the average score of 4 (100%) of very good category; in the content obtained average score 3.5 (87,5%) of very good category; on the cover obtained an average score of 3.5 (87,5%) of very good category. The results of the first phase test (small group test) obtained a percentage of 90% of a very good category of teachers of Physical Education in a very good category.

The data of the result of the second phase test (big group test) that is on the variation of exercise 1 passing down obtained an average score of 3.3 (81,3%) of very good category; in the variation of the 2 passing exercises below obtained an average score of 3.3 (81,3%) of very good category; in the variation of 3 bottom passing exercises obtained the average score of 3 (75%) of good category; in the variation of the 4 passing exercises below obtained an average score of 3,5 (87,5%) of very good category. In the variation of the first service exercise below; the average score of 3,75 (93,75%) of the category is very good; in the variation of the bottom 2 service training; the average score of 3,75 (93,75%) of the category is very good; In the variation of the bottom 3 service

training obtained an average score of 3,5 (87,75%) of very good category; in the variation of the 4-service training below obtained an average score of 3.3 (81,3%) of very category good. From the result of phase II test (big group test); it is obtained a percentage of 86,41% of very good category from 25 students; so this product can be used by the teacher of Physical Education and Health as a reference in giving learning of mini volleyball game at Al Falah elementary school. This research and development produce a product that is audio-visual learning mini volleyball game.

### VIII. DISCUSSION

The result data of requirement analysis that is need of learning development of mini volleyball game at elementary school as a reference in the form of modification. Educational games are very interesting to develop. There are several advantages of educational games compared to conventional educational methods. One of the main advantages of educational games is on the visualization of the real issues (Bebson, Bruner, Eys, 2017). Games are very useful for improving the player's logic and understanding of a problem through a game project called Scratch. Based on the results of previous research, no doubt that educational games can support the educational process (Benson and Bruner, 2018) Educational games excel in some aspects when compared with conventional learning methods. One of the significant advantages is the modification that can improve memory so that children can store the material lessons in a long time compared with conventional teaching methods (MacDonald, et.al 2011). Simulation-based educational games are designed to simulate existing problems to obtain the essence or knowledge that can be used to solve the problem what works (Cain and Allan, 2017). This simulation game with educational purpose can be used as one of the education media which has learning by doing learning pattern. Based on the pattern possessed by the game, players are required to learn so as to solve existing problems (Fedewa and Soyeon, 2011). Game status, instructions, and tools provided by the game will guide players actively to explore information so as to enrich knowledge and strategy while playing (DeFreese and Smith, 2014). Fewer teachers mentioned motivational effects of learning with digital games. The implications of these findings for the use of digital games in teachers' educational practice are discussed (Huizenga, 2017).

Psychologically individual characters are harnessed as a result of the integration of the four parts of the heart, mind, exercise, and taste and intention, which produces a level of care and strengthens the bonds of friendship (Hopkins, 2015). Thus, an individual's life experiences, including their involvement in sport and physical activity as children and youth and their specific cultural and community values (Beni, Fletcher and Chroinin, 2017).

But, the students in Elementary School can be friends without distinguishing between religious, racial, cultural, social and economic groups. Learning result from the educational game with game learning method of mini volleyball can improve character building. Nicholson and Putwain (2018) have good statements that educational re-engagement using the self-system model of motivational processes. Teacher (or other school staff) practices that facilitated and inhibited the students' physiological needs for autonomy, relatedness and competence were identified (Dubnewick, etal. 2018).

This development research produces audiovisual product for mini volleyball learning at elementary school as the reference of physical education teacher. That of this product is tailored to the characteristics of elementary students who prefer to play and have fun lessons. This product is through expert test and product user test, so it undergoes several revisions. The image is intended to impair more easily interpreted (either by manure or machine) by manipulating the image of. (Yaaribi, 2018) Based on the results of expert tests and product user test, audio-visual learning has advantages in terms of four criteria of usability, convenience, attractiveness, and accuracy. Modification learning (Harper LD, McCunn R. (2017) mini volleyball has several other advantages that this product is very easy to use by physical education teachers in the elementary school because this product is equipped of instructions for use as well as parts that have been arranged well. Modification learning development results are tailored to the needs of students and contain a variety of interesting and fun exercises so that students are more motivated to learn mini volleyball games. This product has been through an expert test, so a lot of input for product improvements to achieve desired goals. Such events can help to create scenarios where the difference between mini volleyball playing and sports behavior is skipped because students realize that many reasons they enjoy modification sports are also the reason they enjoy actually attending and watching sporting events (Hong and Magnusen, 2017).

Character education is a system of cultivation of character values to the students which include, knowledge, awareness, willingness, as well as actions to implement these values. social skills (social skills), personal development (personal improvement) and solving the problem in a comprehensive manner (comprehensive problem solving). (Graupensperger, et.al 2018, Kevin, et.al, 2018). Character education can be defined as "the deliberate use of all dimensions of school life to foster optimal character development". In all components of character education should be involved (Fuller, et.al 2015). The product is very interesting because it comes with color and picture. So that, Dewar, Kavusaanu and Ring, (2013) said that some studies have found strong, positive relationships between physical activity and cognitive

outcomes, while other studies have reported small, negative associations.

## IX. CONCLUSION

Product development is a form of mini volleyball learning modification game as a reference for physical Education teachers in providing physical education learning. Learning to modify mini volleyball has several other advantages from conventional learning models, including increasing the character of elementary school students. Students are more confident, responsible for groups, tolerance, and able to work together.

Variations in lower passing and lower service practices included in the modification of learning are arranged systematically, ranging from easy practice variations, to various difficult exercises.

## RECOMMENDATIONS

The product of this research still needs evaluation in a broader subject. Before disseminating it needs to be a better product, including broader respondents, as well as more detailed modification models. However, the results of this study are suitable for all physical education teachers. Ease in effective learning for student character development.

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