

The Development of Volleyball Games Mix Learning for Students

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ABSTRACT

This study aims to produce the appropriate development of volleyball game learning techniques for students. The research method used in this research is the development procedure used in this study using the Research and Development (R & D) method. The results of this study indicate that overall the development of mixed volleyball learning game is suitable for the learning process for the students. The data analysis technique used is descriptive quantitative analysis. The results of this research are the development of learning techniques using several forms of games with the names a) "Games 1 to 1", b) "Games 3 On 3", and c) "Games Mix". The feasibility of development is obtained from the results of the assessment of material experts, it is obtained an average of 81.95% is in the good category so that it can be tested on a small scale. The trial phase on a small scale with a total of 22 students as subjects, obtained results in 3 domains, namely the cognitive, psychomotor, and affective domains of 91.3%, 78.03%, and 76.14%. The results of the assessment are obtained from the assessment process using questionnaires and student performance.

Keywords: *Development, Learning, Games, Volleyball.*

1. INTRODUCTION

Physical education is a learning process through physical activities designed to improve physical fitness, develop motor skills, knowledge and behavior for healthy and active living, sportsmanship, and emotional intelligence. In accordance with the meaning of physical education (Physical Education), namely education through physical activity, one of the main priorities of the goal to be achieved in Physical Education is mastery of motor skills. Therefore, the activities given should be able to awaken and provide opportunities for children to be active and creative, and be able to develop children's potential and motor skills. [1] The National Higher Education standard aims to ensure the achievement of higher education goals which play a strategic role in educating the nation's life, advancing science and technology by applying humanities values as well as the sustainable and sustainable culture and empowerment of the Indonesian nation. so that learning in study, research, and community service programs organized by tertiary institutions throughout the jurisdiction of the

Unitary State of the Republic of Indonesia achieves quality according to the criteria set out in the National Higher Education Standards.

The learning process has many things that can be done by educators in an effort to achieve learning goals, one example is the use of media, it is hoped that learning using *e-learning* media in the Physical Education and Health Study Program can have an impact on the increased student interest in learning, so that it becomes more motivated in learning and able to understand the material being taught [2], the research above is one way that educators can do in an effort to improve student learning outcomes through the use of teaching media.

Educators can also innovate in the learning process using interactive media to achieve learning objectives, this development aims to improve student learning outcomes [3]. In learning there are various learning techniques, each of which has different goals and objectives, so that a teacher or lecturer must be able to adjust the techniques used in a lesson. Based on this, it is necessary to develop a lesson that can be used by

lecturers as a guide in implementing learning in higher education.

Volleyball has always been one of the favorite sports, but research on volleyball is always in the experience stage. In this paper, the characteristics of volleyball are used to determine the impact model of ball passing technology, the impact factors of ball passing to scientific description and interpretation. First, we studied the factors at hand, looked for key factors, and looked at the main factors limiting the development of volleyball [4].

So far, the learning process of volleyball in the Health Study Program still requires the development of new learning. The learning process that occurs is not able to motivate, attract, fun, for students. This situation causes the competence and achievement indicators of lecture learning to be less than optimal. Research conducted by [5] suggests that the development of a volleyball learning model for senior high school students is a good and effective form of learning. Selection of the right learning development is believed to be able to help convey messages correctly, effectively, efficiently, can create and enrich learning experiences. Taking into account the phenomena above, lecturers still need to develop learning that can help achieve the learning achievement indicators. This research and development is expected to produce a development of appropriate learning techniques for games. The development of varied learning techniques can help educators to design learning creatively so that the learning process is innovative, interesting, of higher quality and can improve student learning outcomes [6]. So based on the above opinion, it is necessary to develop volleyball learning techniques. The learning process that occurs is less able to motivate, attract, fun, for students. This situation causes the competence and achievement indicators of lecture learning to be less than optimal, so it is necessary to develop learning in volleyball games. This research is expected to produce a learning development mix ball game that can be used by educators to achieve learning objectives.

2. METHOD

The method used is research and development method. The development procedure used in this study used the *research and Development* (R

& D) method. The steps used in this research are: 1) Conducting preliminary research and gathering information, including field observation and literature review. 2) Developing initial product forms 3) Evaluating experts using one physical education expert and learning expert, and 4) Testing small groups using questionnaires and consultation and evaluation which are then analyzed, product revisions based on the results of expert evaluations and group trials small. This revision is used to improve the initial product that has been made.

The data analysis technique used in this study is a quantitative analysis technique that is assessed using numbers. Percentage is intended to determine the status of something that is presented as a percentage. Furthermore, the feasibility of developing learning techniques for volleyball games in semester 2 students.

3. RESULT AND DISCUSSION

3.1. Result

The results obtained were based on research steps starting from the expert validation stage and group trials on a small scale

3.1.1. Expert validation stage

Before the learning products developed were tested on subjects, the products made were evaluated first by one volleyball expert and one learning expert. The variables validated by the experts include the facilities/equipment used and the content of the development of the volleyball mix volleyball learning technique. To collect data from the experts a questionnaire is used. The results of evaluations from experts in the form of input and suggestions for products that have been made, are used as a basic reference for product development. The following is an evaluation sheet for the validation of volleyball experts and learning experts.

The results of the validation of volleyball game experts and learning experts on the development of mixed volleyball game learning techniques for students can be seen in Table 1.

The results of the assessment of the validation of learning experts and soccer game experts at this validation stage obtained an average of 81.95% by

entering the good classification. The average value is obtained from the assessment of learning experts with percentage PE of 85, 3 % and for the results of expert validation volleyball games with a percentage of 78.6%. Based on this assessment, this validation stage can be continued at the small group stage.

Table 1. Validation expert

No Statement	Expert Code	
	WA	HY
1	4	4
2	4	4
3	3	4
4	4	5
5	5	5
6	4	4
7	4	4
8	5	5
9	4	4
10	4	4
11	3	4
12	4	4
13	4	4
14	3	4
15	4	5
Σ	59	64
Percentage	78.6	85,3
Classification	well	well

Learning volleyball games are validated there are 3 forms of development that "game of 1 to 1," 3 on 3 games "and" games mix ". In this volleyball learning technique, there are less than 6 players playing in one team with the number of each team according to the name of the game form. The field size used in the learning technique "games 1 to 1" "3 on 3", and "games mix" uses a smaller field size than the actual volleyball playing field. Volleyball rules are relatively easy for students, especially for beginners. The number of members in each team is 1 player who enters the field, the size of the field used is 16x8 m and a net height of 2.1 meters with 1 player entering the game area in each team using predetermined rules.

Table 2. Student cognitive results using the development of learning techniques for the mix volleyball game

Student Code	Question										Σ	Percentage (%)
	1	2	3	4	5	6	7	8	9	10		
	1	2	3	4	5	6	7	8	9	10	8	80
DEA	1	1	1	1	1	0	1	1	1	0	8	80

AH	1	1	1	1	0	0	1	1	1	1	9	90
LS	1	1	1	1	1	0	1	1	1	1	8	80
MAN	1	1	1	1	1	0	1	1	1	0	9	90
MD	1	1	1	0	1	1	1	1	1	1	8	80
DF	1	1	1	1	1	0	1	1	1	0	9	90
KMT	1	1	1	1	1	1	1	0	1	1	9	90
LP	1	1	1	1	0	1	1	1	1	1	8	80
MK	1	1	1	1	1	0	1	1	1	0	10	100
NFB	1	1	1	1	1	1	1	1	1	1	9	90
OZB	1	1	1	1	1	1	1	1	1	0	9	90
SAP	1	1	1	1	1	1	0	1	1	1	9	90
TAC	1	1	1	1	1	0	1	1	1	1	9	90
WPS	1	0	1	1	1	1	1	1	1	1	8	80
OAK	1	1	1	0	1	1	0	1	1	1	10	100
JN	1	1	1	1	1	1	1	1	1	1	8	80
PPS	0	1	1	1	1	0	1	1	1	1	9	90
DR	1	1	1	1	1	1	1	1	1	0	9	90
HN	1	1	1	1	1	0	1	1	1	1	9	90
KB	0	1	1	1	1	1	1	1	1	1	10	100
PF	1	1	1	1	1	1	1	1	1	1	8	80
HP	1	1	1	1	1	0	1	1	1	0	8	80
amount												2010
Average												91.3

According to table 2 on the cognitive tests PE class student of Palembang on top with the number 22 through the test questionnaires obtained on average the average percentage of 91.3%. In general, the average obtained indicate that, at the stage of a small group This development of learning techniques can be used. Furthermore, in the psychomotor domain (quality of motion). Assessment in the psychomotor domain is carried out through student performance assessed by researchers with predetermined assessment indicators. In this psychomotor domain, a performance test of the basic techniques of volleyball is carried out, starting from the top serve, bottom pass, and smash. Students get grades based on assessment indicators that have been made according to the implementation of each basic technique. The maximum value for each basic technique is a value of "4" with the provisions that have been made. Table 3 below are presented the results of student psychomotor observations using the development of volleyball learning techniques.

Table 3. Results of student psychomotor observations using the development of learning techniques for the mix volleyball game

Student Code	Ability Level			Σ	Maximum value	%
	Service	Passing	Smash			
DEA	2	3	2	7	12	58.3
AH	3	3	2	8	12	66.7
LS	4	3	2	9	12	75
MAN	4	2	2	8	12	83.3
MD	3	3	4	10	12	75
DF	4	2	3	9	12	91.6
KMT	4	3	3	11	12	91.6
LP	4	3	4	11	12	75
MK	3	3	3	9	12	75
NFB	3	3	3	9	12	83.3
OZB	3	4	3	10	12	83.3
SAP	3	4	3	10	12	75
TAC	3	3	3	9	12	75
WPS	3	2	3	8	12	66.7
OAK	3	3	2	8	12	66.7
JN	2	3	3	8	12	66.7
PPS	3	4	3	10	12	83.3
DR	4	4	3	11	12	91.6
HN	3	2	3	8	12	66.7
KB	4	4	4	12	12	100
PF	4	4	3	11	12	91.6
HP	4	3	3	10	12	83.3
amount						1716.7
Average						78.03

Based on the observation table of the psychomotor domain of a small group of students in the physical education program of Palembang class above with a total of 22 people through tests on the top service, lower passing, and smash techniques using the assessment process obtained an average percentage of an average of 78.03% and these results fall into the good category. This shows that at this small group stage the development of this learning technique can be used and will be revised according to the deficiencies in the learning process. Can be seen on the results of servicing most of the students were able to serve with the correct technique and can get in the area of the opponent, and there are only a few participants that one of the techniques and have not been able to serve incoming stricken opponent, will but in general the results of servicing on a student already well. Furthermore, the results of the lower pass test, the students are able to do the basic technique correctly, but in general for under passing the students to direct the ball, not all of them

can direct the ball according to the target or the appropriate passing direction, and for the smash results based on the table above it can be explained that Most students when smashing have used the prefix smash, but in general, the results of the smashes that have been carried out cannot get points when the smash enters the opponent's area The results of the affective domain assessment can be seen in the affective domain assessment Table 4.

Based on the assessment table affective student of PE with the number 22 through the observation of the performance in which students use assessment process percentage average gained an average of 76,14 % and this results in the classification good sign. This shows that at this small group stage the development of learning techniques in the affective domain can be used and will be revised. Based on the table above shows the general tolerance own tolerance, will however not all indicators of tolerance can be met. Likewise, the attitude of cooperation, honesty, and general responsibility when the volleyball game process takes place can be seen an attitude of cooperation, honesty, and responsibility by being given several tasks according to the form of the game given.

Table 4. Affective Domain Assessment

Student Code	Ability Level				Σ	%
	Cooperation	Tolerance	Honest	Responsible		
DEA	3	3	4	4	14	87.5
AH	2	2	4	4	12	75
LS	3	3	3	4	13	81.25
MAN	2	3	4	3	12	75
MD	3	2	3	3	11	68.75
DF	3	3	2	3	11	68.75
KMT	2	3	3	3	11	68.75
LP	3	3	3	3	12	75
MK	3	2	3	4	12	75
NFB	2	3	3	3	11	68.75
OZB	2	3	3	3	11	68.75
SAP	3	2	3	4	12	75
TAC	3	3	3	4	13	81.25
WPS	3	2	4	3	12	75
OAK	3	3	4	3	13	81.25
JN	3	3	3	3	12	75
PPS	3	3	4	3	13	81.25
DR	3	3	3	3	12	75
HN	4	2	3	3	12	75
KB	4	3	3	3	13	81.25
PF	3	3	4	4	14	87.5

HP	3	3	3	3	12	75
amount						1675
Average						76.14

3.2. Discussion

The data from the assessment of 3 domains, namely the cognitive, psychomotor, and affective domains, amounted to 91, 3 %, 78.03%, and 76.14%. Based on these data it can be seen that the overall learning outcomes of the three domains using the development of mixed volleyball game learning techniques are good [7]. For the result of student learning it is already in the good grade category then it can be continued at the large-scale trial stage by revising existing products. The way to motivate students in learning is to provide variations in learning through the development of a game [8].

In a learning process, cooperation is needed because collaboration is the most important fact in Physical Education learning. And according to [9] that the affective domain is a domain that is often ignored in the learning process, so an educator must provide a complete learning process to students. In the relationship of cooperation with learning activities, [10] the most important thing is how to create a learning process that directs students to carry out learning activities and how educators also make efforts to be able to foster students' cooperation in order to carry out good learning activities.

[11] in the research that has been done, this research and development stage produces a product for volleyball learning teaching materials through the TGFU method that is valid and effective. Based on the overall stages that have been carried out by showing this learning method, it can make student learning outcomes better, especially in volleyball game material.

Physical education is a learning process through physical activities designed to improve physical fitness, develop motor skills, develop knowledge and behavior for healthy and active living, sportsmanship, and emotional intelligence. Through the development of learning techniques in the volleyball game mix, student learning outcomes in the small-scale trial stage obtained an average score in the cognitive domain of 91.3%, which are classified as good, in line with the opinion of [12]. who states that the learning environment is carefully regulated to enhance the growth and

development of all domains, physical, psychomotor, cognitive, and affective for each student.

Research conducted by [13] shows that the effect of feedback through observation of performance and learning volleyball passing skills and motivation without experience in volleyball. In psychomotor skills, an assessment of the under-passing process is carried out so that according to the above research, performance can be assessed through an observation or observation.

The results suggest that physical exercise and observation may provide complementary and mutually reinforcing contributions to the superior perceptual abilities of elite athletes as well as in novice athletes. In addition, direct motor experience is needed to construct new perceptual motor representations that are used to predict the actions of others before realization. This research is in accordance with previous research in developing the ability to perceive motion.

Volleyball game supports children's intelligence because it stimulates better coordination of brain work, thereby supporting children's learning power. The purpose of modifying the volleyball game is to increase student motivation, minimize infrastructure and facilities, basic movements in volleyball games. The results of observing the skills of students (psychomotor) with the achievement in the first cycle of 46.15% which were included in the poor criteria, an increase in the second cycle of 87.18% was included in the very good criteria [14]. [15] State that in the learning process, cooperation is needed, namely cooperation in creating a learning process that directs students to carry out learning activities and teachers and how teachers also make efforts to grow so that students can carry out learning activities well.

One of the subjects that can use the development of a game in learning is physical education. Educators must be able to integrate various information and knowledge from various sources in an interesting way in order to motivate students to study hard. Because motivation is one of the factors that determines the success of children in learning [16], according to this opinion, by using the development of games, learning outcomes in the affective domain are 76.14%.

In research [17] the effectiveness model of test used forearm passing to know the level of forearm passing ability for junior high school age before giving treatment such as forearm passing models that

developed and to determine the forearm passing ability after treatment or forearm passing treatment that was developed, from the initial tests were conducted obtained the student forearm passing levels are 21.06 [18]. As well as research conducted by [19] in changing the actual rules in beach volleyball, which can increase the attractiveness of the game of beach volleyball itself. In line with the research conducted by [20] that the development is carried out on game rules that combine female and male students during the game. Combining games is done because there are more male students who are more skilled at playing than female students, with the combination of male and female students can help each other during the process of playing volleyball, which makes volleyball lively or more interesting.

4. CONCLUSION

Based on the results of the data and discussion above, it can be concluded that the development of mixed volleyball game learning for the students of the National Health Education Faculty, Sriwijaya University, consists of 3 forms of games, namely "games 1 to 1", "games 3 on 3", and "games mix" by using changes. From the rules, field size, net height, number of players and basic techniques used, and the final score of the game. Development of learning volleyball game mix is adjusted right with customized based on the learning objectives Semester Lesson Plan. The learning development made is feasible to be used for learning, through the assessment of volleyball game experts and physical and health education experts. The results of small-scale trials were assessed through 3 cognitive, psychomotor, and affective domains. The development of mixed volleyball learning can be used as an alternative form of learning for educators in the learning process to achieve the expected learning objectives.

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