

Development of Basic Football Learning Techniques (Kicking) Through Digitalization of Learning Material

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Abstract—This research aimed at improving the quality of learning the basic techniques of kicking football in the form of digitalization. The method used in this study included the method of analysis. The design methods were structured through making an implementation of digital application designs. The research instrument was divided into two processes, namely the digitalization process using the AVS Video Editor Application, and measurement for considering the results of the implementation of digitalization activities in football learning using questionnaires, documentation and observation. The subjects of this study were football athlete students, because the football athletes could exemplify the basic techniques of football properly and correctly. The results of this study revealed that students could understand better and apply the basic techniques of kicking football properly after seeing the results of digitalizing learning in the AVS Video Editor application.

Keywords—digitalization; development; kicking; learning.

I. INTRODUCTION

Current factual conditions indicate that digitalization develops rapidly, implying that so technology is more common to be used in various fields, including in the scope of education [1]. There are many benefits that can be derived from digital utilization in education according to reference [2]. For instance, the digital utilization in education can promote more effective learning processes. Moreover, it is also stated that digital utilization in education also expands the availability of access to information and sources of knowledge that are in accordance with students' needs [2].

In order to bring the digital application into the classroom to facilitate learning there should be preparations. Among the many considerations for digital utilization in education, the the design of the teaching learning process should not fail to cover the aspects that can develop the students' cognitive, affective and psychomotor abilities [3]. This is also true for education in tertiary level, reference [3] further adds. This should also include the education in sport education programs. Although most of the learning goals set for students in sport education programs are concerned with skills in doing and teaching branches of sports which makes digitalization seems irrelevant

for their teaching, the present study argues that students in sport education programs can benefit just as much from the utilization of digital media in their lessons.

One of the most popular learning programs for most sports education students is football because it brings benefits in terms of health and social football. In terms of health, it can improve body fitness, optimize body movement and prevent diseases caused by lack of body movement. Related to the three aspects of teaching, namely the cognitive, affective and psychomotoric aspects of learning football, the students of sports education are not only required to be able to play football properly, they are also required to have a good understanding of the sports and how to teach them to school teacher and also how to use football games to develop the students' affective and social aspects as football can develop awareness and cooperation between students [4]. This is very important for the development of students to live in society.

This is a clear example of where the utilization of digital technology can bring benefits for the students of sports education. The football course is design to achieve a set of goals concerning their cognitive, affective and psychomotor skills. The football course requires students to have the knowledge, attitude, and skill to play football in accordance with the correct techniques [5]. Some of the techniques need to be mastered by the students as future Physical Exercise teachers are the dribbling, passing, kicking, heading techniques and intercepting [5].

Students are expected to be able to apply it in personal skills activities as well as in the interests of the teaching and learning process, and be able to absorb ideas creatively in following the latest issues related to the development of physical education progress in the world [6]. This indicates that the results obtained in learning are not only intended for students to understand the basic techniques of football, but it can also teach the basic techniques of football in the learning process. Theoretically, there are five basic football techniques that must be mastered by students during the learning process such as kicking, stopping, dribbling, heading and intercepting [7].

Every basic technique of football has different difficulties. Consequently, each technique must be digitalized as a visual exercise media for students in order to make them understand the five basic techniques of football. In an effort to optimize the digitization of basic football techniques, the design process involved football athletes who won POMNAS (or Pekan Olahraga Mahasiswa Nasional, the National College Students Sport Week) as a strategy to exemplify effective and efficient football basic techniques, so that students can learn each football technique practically and easily.

In terms of a concept, the problem of learning football is students' condition in learning process of football, in which they find obstacles in achieving learning outcomes [8]. Obstacles in the learning process can be considered as difficulties for students to understand and apply learning material which make them unable to optimize their abilities in football, so that learning outcomes are not achieved and they do not get brilliant achievements in football championships. At the level of football implementation, there are problems in every football technique exhibited by students. Students are often wrong in dribbling technique, as well as when they run and move the ball toward the ring.

Apart from the inappropriate dribbling technique, students also encounter errors in passing techniques, which are seen from inaccurate bait. It is because of the wrong prop when the students kick often too weak or too hard. The errors of kicking techniques are indicated by the kicks that are too wide from the target, because the students see the perspective of the kick and the estimated kick of the ball is intended. Accordingly, at the time of the heading technique, students often experience headache due to the wrong technique. There is no power when doing the heading and the intercepting technique is often wrong because it leads to the opponent's injury or even injury to themselves, which is due to incorrect intercepting techniques.

The purpose of this study was to improve the quality of learning outcomes for students which are characterized by an increase in cognitive, affective and psychomotor abilities in the process of learning basic football techniques [9], through creation of learning products in the form of digitizing basic football techniques, combination of the learning process with technology so that the teaching and learning process can be optimized in order to improve students' cognitive, affective and psychomotor abilities. Current advances in technology and information must be included in the learning process at Indonesia university of Education. It is an effort to accelerate learning outcomes. Performing digitalization activities in football is a very important aspect in supporting the success of the learning process because it can produce more comprehensive and flexible learning products, and it can emphasize Indonesia university of Education as a pioneer campus and superior in aspects of the learning model. This study focuses on the basic technique of football (kicking) because basically football concerns with kicking techniques. Then, this research started from the basic kicking technique.

A. The Era of Digitalized Education in Indonesia

The fast development of digital era has resulted in technology being used in every aspect of life, including the use of applications in the scope of education [10]. That is because there are many benefits that can be obtained from the use of application technology and education digitalization, ranging from making the learning process more effective, extend the availability of access to information and sources of knowledge that are in line with students' needs. However, the important thing is that digitalization can be implemented with the need for systems and applications that have been prepared [11]. If the application cannot be accessed when needed safely and quickly, an application-centric strategy becomes increasingly crucial to be applied. Optimization of digitalization in education is greatly affected by the presence of good application because it is an important factor that must be passed by users to be able to access the system and various stricken information [12]. The most important aspect to be understood is the high demands of users for applications from time to time. It is necessary for the availability of applications that have reliable capabilities so that they can be accessed safely and quickly. Even, including various elements of technology in digitalizing education, its infrastructures and systems must be prepared as the main driving machine.

The development of information technology is very rapid and may not be organized, so in every minute, there must be the latest discoveries, which in this case is internet-based learning media or commonly as electronic learning (E-Learning) [13]. E-Learning has many terms including virtual learning, internet learning, online learning, network learning, distances learning and so on [14]. All of these terms have the same meaning, namely the learning process that utilizes computer technology and the internet network, where students do not need to meet their lecturers directly or face to face, as opposed to what happens in conventional learning. In addition to the many terms, E-Learning also has a broad meaning in its development, so that many experts describe the definition of E-Learning from their perspective. Exposes E-Learning is one use of internet technologies in the delivery of learning in a wide range that is based on three criteria, namely a) E-learning is the network with the ability to renew, store, distribute, and share learning materials or information, b) It is released up to the final user through the computer by using an internet technology standard, and c) It focuses on the most extensive view of learning [15].

Changes in the scope of education by utilizing digital technology innovations have occurred in Indonesia [16] because reliability, availability, and application security become important elements of the process of digitalizing education, because user experience when accessing applications determines various technological innovations that are able to optimize the educational process. To apply an application-centric strategy, educational institutions need to be helped by experts who have a deep understanding of applications [17]. Educational institutions can utilize the experience and knowledge of experts who aim to ensure the

availability, security, and performance of applications to find out the smooth process of digitalizing education. Therefore, learning outcomes can be maximized properly.

B. Basic Football Techniques

Sports education cannot be separated from football, because this sport is very popular among Indonesian people. Football is a sport that uses foot which aims to score against the opponent's goal [18]. Players are required to be alert, fast, agile, and have the ability to control the ball.

In football, there are basic football techniques [19] that must be mastered by the students. The followings are explanations of the basic football techniques according to [19]

1. Kicking (Kicking)

Kicking technique is the most dominant characteristic in a football game, because the game depends on kicking technique. This technique serves to give the bait and shoot the ball toward the opponent's goal. Based on the position of the foot on the ball, kicking techniques can be divided into three categories: kicking with the inside foot, kicking with the outside foot, and kicking with the back of the foot.

2. Dribbling

Basically, the technique of dribbling is almost the same as kicking, but the difference is that the player's feet tend to be slower and more direct to feed the ball to other players in dribbling. The goal of dribbling is to direct the ball to the target, traverse the opponent, and hinder the opponent's play.

3. Passing

Feeding the ball or passing the ball is one of the important techniques that must be mastered. Passing technique can be done by 3 techniques, namely by using the outer legs, inner legs, and the back of the foot, but basically it also uses the basic technique of kicking the ball. This technique is very important because the football game will not run well if the football player cannot master the ball passing technique.

4. Heading

The term for this basic technique is heading which has purposes to pass, throw the ball, break the attack from the opposing team, and score a goal. In basic training, students really need to learn heading the ball by using the forehead, because forehead is very strong for heading the ball. The position of the player's body when heading the ball can be in a jumping position or standing position. It is important to understand that a football player is not about a player only, but it is the player who heads the ball when the ball comes towards him.

5. Intercepting (Tackling)

The basic technique which is also called intercepting or called as interception is the movement to grab the ball that is led by the opponent's feet. This is closely related to the ability of players to be able to analyse the circumstances that occur in the field. Therefore, intercepting can be done properly.

II. METHODOLOGY

The method used in this study included two main parts, namely the analysis method [20] and the development of the digitalized football teaching material. The analysis method was carried out through four stages, namely survey, analysis of survey findings, identification of information needs, and identification of requirements system. The design method of this study was structured design, which was done through making the implementation of digital application designs. The research would be carried out continuously for 5 years. For each year, there would be production of a football technique in the form of visual digitalization of football athletes. In the first phase, it would conduct research to create a passing application and disseminate the application on the official FPOK website to be downloaded by the students. The research schedule was carried out for 5 years because the process of making digital football techniques requires a long process and the results of test, it would intend that the results would be obtained optimally and could be used by other institutions.

The subjects of this research were football athletes who won POMNAS (or Pekan Olah Raga Mahasiswa Nasional, National College Students Sports Week). Moreover, the subjects were football athletes who won POMNAS in exemplifying the basic techniques of football properly and correctly. Whereas in the learning process or the application of the results of digitizing, the basic techniques of football were conducted by Sports Science Lecturers and Sports Sciences Indonesia University of Education, and students who are contracting football branching courses. The instruments of data collection involved two activities, namely during the digitization process and the application of digitalized product results in the learning process. At the time of the digitization process, it used the AVS Video Editor Application with an intuitive interface, which is appropriate for the process of digitizing basic football techniques because it has very complete and useful features for the video editing process. At the same time, for measuring and knowing the results of applying digitalization activities in learning football branching courses, it used questionnaires, documentation, and observations conducted by the researcher, so the results of the digitization process and its application in the learning process would be known.

The design of this study was divided into several stages in order to explain the application of digitizing the basic techniques of football athletes, that are visualized in the students' learning process. There are nine stages included [21]; 1) Data collection from football athletes, which was done by video recorder from various perspectives by using a camera when an athlete performed dribbling, passing, kicking, heading and intercepting techniques. 2) The selection of data from each football technique, which was intended so that there was one part of the application that specifically explained one technique in football. Therefore, students did not experience difficulties during the learning process. 3) Analysis of sequential data collection, which was intended to avoid mistakes in organizing football techniques. 4) Evaluations of data retrieval, which was intended that there was an improvement, both technically and conceptually. 5)

Compilation of data into applications, which was intended to facilitate students to obtain learning material, and the applications could be installed both on computer and mobile phone. 6) Testing the application, which was intended in practice, so there were no errors in the application. Therefore, the students would not find difficulty to understand the football techniques. 7) Making web, which was intended that the application can be installed by all students from all over Indonesia. So, strengthening the Indonesian Education University as a pioneer and excels in the aspect of instructional media. 8) Socialization to students, which aimed at making each student aware of the goals, benefits and functions of the application of the football technique, and 9) Evaluating the research results, which aimed at always having renewable innovations in developing learning media.

III. FINDINGS AND DISCUSSION

A. Findings

The students already joined the Theory of Football and Theory of Learning. The learning system developed in this course is always changing in terms of ideas or innovations in methods [22], media and assistive devices. This is to improve the ability of students' learning outcomes, engineering skills, and in terms of theory. The data illustrated that students' learning outcomes improved considerably after discussion and simulation regarding the rules of the game of football. The students had deeper understanding of the rule, which proved that the students have learned. To play the ball well, the players were equipped with good basic techniques. Players who had good basic techniques were likely to be able to play football well. Some basic techniques that football players need to have are kicking, stopping, dribbling, heading and tackling. The study focuses on the basic technique of kicking (kicking).

Kicking a ball is one of the most dominant characteristics of a football game. The main purpose of kicking the ball is to pass (passing), and shoot towards the goal (shooting at the goal). Judging from the case of football, kicking can be divided into several types, namely kicking with the inside foot, kicking with the outside foot, and kicking with the back of the foot [19].

1. Kicking with the inner leg

In general, this technique is used to feed short distances. Analysis of motion can be defined:

- 1) The body faces the target behind the ball.
- 2) The foot rests on the side of the ball approximately 15 cm, the tip of the foot facing the target, knees slightly bent.
- 3) Tending feet are pulled back, and swing forward.
- 4) After a collision followed by through, movement was continued.

2. Kicking with the outside foot

In general, the kicking technique with the outside foot is used to feed in short distances:

- 1) The position of the body behind the ball, the foot resting beside the back of the ball at 25 cm, tip of the foot facing the target and knee slightly bent.
- 2) Kick the foot behind the ball, with the toe facing inward.
- 3) Tending feet are pulled back and swing forward.
- 4) The ball is located right on the outside of the foot, and right in the middle of the ball.
- 5) Continuing movement of the tending leg is raised obliquely about 45 degrees facing the target.

3. Kicking with instep

In general, kicking with the back of the foot is used to shoot at the goal or shoot. Analysis of the movements as follows:

- 1) The body behind the ball is slightly inclined forward, the foot rests placed beside the ball with the toe facing the target, the foot slightly bent.
- 2) Tending feet are behind the ball with instep facing forward / target.
- 3) Tending leg pull back and swing forward until it hits the ball.
- 4) Foot on the ball right on the full instep and right in the middle of the ball.
- 5) Continuing movement of the tending foot is directed and raised towards the target.

All of these basic techniques are included in a combination of digitalization that is important and influences the learning of football in the room and in practice. In addition, the students can learn well about football with no education from lecturers.

B. Discussion

Football is a sport that uses a ball which is played by two teams. Every team consists of 11 (eleven) people [23]. Because of the 21st century, this sport has been played by more than 250 million people in 200 countries, which makes it the most popular sport in the world. Football aims at scoring as many goals as possible using a leather ball against the opponent's goal. Football is played in a rectangular field, on grass or synthetic grass. In order to reach good achievements, coaching must start from early childhood because talented young athletes are crucial to achieve optimal quality achievement in the sport of football. The potential of an excellent athlete needs as scientifically processing and coaching, so the athlete's achievements appear to the maximum extent possible at certain ages. In addition, to foster the achievements of football, vital supporting elements are needed. The element is an educated trainer.

The procedure of implementing football learning that has been carried out showed several stages [24]. The first stage was that the lecturer gave an understanding of the importance of basic football techniques in sports, both during training and matches. It focused on aspects of the speed, accuracy and strategy of playing football. The second stage was that the lecturer demonstrated the way of kicking in accordance with the rules of the game of football. The third stage was that the students demonstrated the basic techniques of football that had

been demonstrated by lecturers. The fourth stage was the assessment of the results achieved by students. In the procedure of implementing sports learning, it indicated that there was less comprehensive learning, especially when the lecturer demonstrated the basic techniques of football. It had an impact on the quality and results of learning conducted by students.

The implementation of the digitalization of basic football techniques in sports learning at Indonesia University of Education was expected to be used as a solution to the problems or shortcomings that occurred during the football learning process. In learning media, students' learning outcomes in understanding the basic techniques of football were not in line with learning expectations [25]. In addition, it intended to improve the learning media innovation that exists at Indonesia University of Education as an effort to face the challenges of the industrial revolution that incorporates technology in the learning process.

The perception of digitizing basic football techniques in sports learning for students is a learning strategy that is very relevant to be applied in tertiary institutions, because universities must constantly update innovations and creations about learning model, so that students are able to understand concepts and practices related to learning materials. For lecture, the digitization of basic football techniques can make it easier during the learning process. So, there is effectiveness and efficiency during the learning process.

IV. CONCLUSION

Learning is an important aspect that exists in the academic environment [26]. Therefore, the learning method becomes very decisive for students to be able to understand what is taught or given by a lecturer. There is a need for innovative learning methods, namely digitalization. In this study, digitalization referred to football courses, especially in the basic techniques of kicking football. In this study, after students were given material on digital-based kicking ball technique, students have better understanding and quickly mastered the basic techniques of kicking football. In other words, this digital-based learning method is very effectively to be applied to the learning of football courses, especially kicking techniques for students.

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