

The Development of Electronic Football Teaching Materials (E-Book)

Amir Supriadi¹, Mesnan², Filli Azandi³, Indra Kasih⁴

^{1,2,4}Faculty of Sports Science, Universitas Negeri Medan, Indonesia

³STOCK Bina Guna Medan, Indonesia

amirsupriadidr@gmail.com, mesnanmed@gmail.com, filliazandi@gmail.com, loveindra833@gmail.com

Abstract

This study aims to produce electronic soccer teaching materials (ebooks) in basic soccer subjects. This study uses research and development methods by developing electronic soccer teaching materials based on competency standards through needs analysis from lecturers and students. Based on the results of the needs analysis for soccer course lecturers, 90% and 95% of students taking basic soccer courses stated that it was necessary to develop electronic soccer teaching materials for the needs of basic soccer lectures. The results of the validation of the feasibility of content, media feasibility and material feasibility obtained an average of 77.7% (very good) for content feasibility: 81.7% (very good) for media feasibility: and 80.3 (very good) good) for the feasibility of the material. With the average validation result of the three components is 79.9% (very good). The results of the effectiveness test of electronic soccer teaching materials in small-scale trials obtained an average percentage of 89.6%. In testing the effectiveness of electronic soccer teaching materials in small-scale trials, an average percentage of 91.4% was obtained. The conclusion is that the electronic soccer teaching materials developed can be used in online and offline basic soccer lectures.

Keywords

Football; teaching materials; electronics



I. Introduction

The soccer learning process carried out in the Sports Coaching Education department refers to the 2014 soccer curriculum where learning has developed a holistic approach. This approach to the implementation of learning or training combines all components in the soccer game. The components that are combined in the learning/practice process such as technique, physical, tactical, strategy and mental are taught/trained simultaneously. In other words, learning is carried out as in an actual game, so that students will get the real experience of playing football.

Determination of graduation in basic soccer courses is seen from three elements, namely affective, cognitive and psychomotor. However, the three elements are all interrelated. For affective elements, such as attendance, speech, and all elements related to the attitudes of students. The cognitive element is the level of understanding of the concepts possessed by students in soccer material. As for psychomotor, what is seen is the level of students' ability in displaying basic soccer tactical motor skills.

The application of affective and cognitive elements will be easier for students to do, because if students are really diligent in reading through both printed and electronic sources. Meanwhile, to be able to have good soccer motor skills, of course, students must work hard to carry out the movement assignments given by the lecturer. Students must plunge into the field so that they can practice basic soccer technical skills such as ball feeling, kicking the ball, dribbling and other basic soccer techniques.

In addition to these problems, at this time when the covid-19 pandemic outbreak is happening which requires everyone around the world to do activities at home. It also requires the university leadership to make a policy by issuing a circular letter regarding this even semester lecture, namely the Unimed Chancellor Circular Number 000809/UN33/SE/2020 dated March 16, 2020 and the Unimed Vice Chancellor II Letter Number 000933/UN33.II/ LL/2020 dated March 23, 2020 regarding the learning process and other academic activities carried out online (online). Based on the issuance of the circular, education at Unimed is carried out online, so that new problems for practical courses such as soccer courses arise.

In connection with these problems, the researchers want to overcome these problems by conducting research on the development of soccer teaching materials in the form of hard copies into electronic soccer teaching materials. These electronic soccer teaching materials will present the content of teaching materials in addition to descriptions and pictures of soccer lecture materials, also in the presentation videos of lecturers and video tutorials on basic soccer techniques contained in the soccer teaching materials. The electronic teaching materials that will be developed are not only easy to carry because they can be carried through android so it will be very helpful for students in learning and training them. This is because students can take and study it anywhere, especially with conditions like today. where learning must be done through a network (online). Where these electronic teaching materials are designed in accordance with the SIPDA system that is being implemented by Unimed, so that in addition to being easy to access and learn, they are also easy to supervise.

The purpose of this research is to develop electronic soccer teaching materials that will be used in soccer lectures in the Department of Sports Coaching Education, Faculty of Sports Science.

Online learning resources allow the learning process to obtain achievements in the form of "complex skills" needed in the global era while enabling student centered learning (Mills, 2006:3). This electronic teaching material is very important to overcome the limitations in learning soccer courses so far. Especially with the current conditions with the outbreak of the Covid-19 pandemic which makes it impossible to conduct practical lectures face to face. This is due to the fact that teaching materials have several advantages including; (1) increasing motivation and interest in reading, (2) containing material according to the demands of the needs, (3) using flexible learning patterns; (4) can be re-learned at any time; (5) accommodate various difficulties; (6) provide a summary; (7) have a communicative writing style Hunter,

Online learning is learning that is carried out using an internet connection as a liaison for communication between educators and students without any physical contact. Online learning has several weaknesses, namely the use of the internet network requires adequate infrastructure, requires a lot of money, communication via the internet has various obstacles / lags. Besides that, there are also advantages which include the level of interaction between students and lecturers, learning can be done anywhere and anytime (time and place flexibility), Reaching students in a broad scope (potential to reach a global audience), and making it easier for improvement. and storage of learning materials (easy updating of content as well as archivable capabilities. (Batubara, et al. 2021)

Development Research according to Tegeh and Jampel (2017) "development research is an effort that develops and produces a product in the form of materials, media, tools or learning strategies, which are used to overcome learning problems in the classroom/laboratory, and not to test theories". Research like this will focus more on the goal of producing and developing products that are suitable for use according to needs.

Meanwhile, Putra (2011) stated that development research is a research method that is intentionally, systematic, aims/directed to find, formulate, improve, develop, produce, test the effectiveness of products, models, methods/strategies/methods, services, certain procedures that are more effective. superior, new, effective, efficient, productive, and meaningful.

Sukadinata (2005) that development research is research that is used to produce certain products and test the effectiveness of these products. Furthermore, it is said that research and development is a process or steps to develop a new product or improve an existing product, which can be accounted for. Research development is a cycle that begins with a need and requires a solution using a product.

Lectures that use technology in the lecture process will give birth to new concepts in IT-based lectures or called e-learning systems. Lectures with an e-learning system, many use online lecture media that can be chosen by lecturers as their lecture media. Meanwhile, at the State University of Medan, a forum for lectures conducted online has been created, namely SIPDA Unimed.

Football is a team game played by two teams, where each team consists of eleven players, one of which is a goalkeeper, by kicking the ball, heading the ball except for the goalkeeper who can play the ball by using his hands in a certain area. Mesnan & A. Supriadi, 2019:69). The soccer game itself in order to play well in the match, the player is required to master various basic soccer techniques. The basic techniques of soccer that must be mastered by these players are basic ball feeling techniques, dribbling techniques, basic techniques of kicking the ball, basic techniques of heading the ball and basic throwing-in techniques and basic goalkeeper techniques specifically for goalkeepers.

II. Research Methods

This study uses a research and development approach. Winarno (2011: 76) states that development research is research in the form of developing certain products according to the needs of today's society. This research begins with an analysis of the needs of the user as a material for redesigning the material. Followed by collecting materials to compile basic soccer material.

This research was conducted to produce electronic teaching materials in soccer learning with a tactical approach. The activities carried out are detailed steps for the implementation of Research and Development research as follows; 1). Identification of Potentials, Problems and Needs Researchers conducted preliminary observations at the Faculty of Sports Science to find out potentials and problems. Initial observations were carried out using the interview method to lecturers in basic soccer courses, using guidelines for identifying potentials, problems and needs; 2). Validation of electronic teaching materials for soccer learning with a tactical approach by material experts, media experts, and course lecturers. Revision of electronic teaching materials for soccer learning with a tactical approach. Development of electronic teaching materials for soccer learning with tactical approaches and instruments. Initial data or information collection; 3) Small-scale trials; 4) Revision of electronic teaching materials for soccer learning with a tactical approach by researchers, 5) Large-scale trials, 6) Revision of electronic teaching materials for soccer learning with a tactical approach, 7) the final product of electronic teaching materials for soccer learning with a tactical approach.

The validity test was carried out using an expert judgment sheet (questionnaire) with three aspects, namely material, media, and content aspects. Analysis of the results of the validation test was carried out descriptively using the following formula:

$$P = \frac{n}{N} \times 100$$

Where p is the percentage of validation test results, n is the total score from the expert's assessment and N is the maximum score that may be obtained. The results of the validity of the known percentage can be matched with the criteria that can be seen in table 1 below:

Table 1. Criteria for Validation Results

Percentage	Category
0% - 25%	Very Not Good
26% - 50%	Not good
51% - 75%	Good
76% - 100%	Very good

III. Results and Discussion

To identify potentials, problems and needs, researchers conducted preliminary observations at the Faculty of Sports Science to find out potentials and problems. Initial observations were carried out using the interview method to lecturers who teach basic football courses. Based on the results of observations and interviews with lecturers and students who took basic soccer courses, 90% of the lecturers stated the need to develop electronic soccer teaching materials to meet the needs of online lectures today. While 95% of students stated the importance of developing electronic soccer teaching materials for the needs of basic soccer course lectures carried out online.

After the needs analysis is obtained, and it is known what is needed in basic soccer lectures during the covid 19 pandemic, where the learning process must be carried out online. Online lectures are conducted regardless of whether the course is a field course or an indoor course (practice/theory). Basic soccer courses that should be carried out in practice in the field, due to the COVID-19 pandemic, must be carried out online. So to support online lectures, electronic soccer teaching materials are needed that are easily accessible by students. The next step is to draft soccer teaching materials to be used as electronic teaching materials. After the draft of the electronic soccer teaching materials was compiled,

The validation of electronic soccer teaching materials was carried out to see the feasibility of the content, the feasibility of the media and the feasibility of the material. Validation is carried out individually by three validators in each of its components. The results of the validation can be seen in tables 2, 3, and 4 below.

Table 2. Expert Validation Results Content Feasibility

Validator	Score	Maximum Score	Percentage	Category
I	20	24	83%	Very good
II	18	24	75%	Good
III	19	24	79%	Very good
Average	19	24	77.7%	Very good

Based on table 2 above, that from the feasibility of the contents of the electronic soccer teaching materials developed is already in a very good or valid level with an average percentage of 77.7%.

Table 3. Validation Results of Media Feasibility Experts

Validator	Score	Maximum Score	Percentage	Category
I	19	24	79	Very good
II	20	24	83	Very good
III	20	24	83	Very good
Average	19.7	24	81.7	Very good

Based on table 3 above, that from the feasibility of the media on electronic soccer teaching materials developed are already in a very good or valid level with an average percentage of 81.7%.

Table 4. Results of Material Feasibility Expert Validation

Validator	Score	Maximum Score	Percentage	Category
I	19	24	79	Good
II	20	24	83	Very good
III	19	24	79	Very good
Average	19.3	24	80.3	Very good

Based on table 4 above, that from the feasibility of the material on the electronic soccer teaching materials developed is already in a very good or valid level with an average percentage of 80.3%.

Table 5. Total Validation Test Results

Aspect	Average value	Category
Content Eligibility	77.7%	Very good
Media Eligibility	81.7	Very good
Material Eligibility	80.3	Very good
Average	79.9	Very good

Based on table 5 about the results of the total validation test of the three elements of feasibility, namely content, media and material, an average of 79.9 was obtained, thus the electronic soccer teaching materials developed were valid and suitable for use in soccer lectures for students majoring in Coaching Education Sports.

After expert validation by the validator, testing of electronic soccer teaching materials was carried out to users of the developed teaching materials, namely to students of Sports Coaching Education. In this testing process, 30 students were taken, by providing an explanation in advance about how to use learning media in the form of electronic soccer teaching materials using a tactical approach.

After validation from the experts, and it was stated that electronic soccer teaching materials could be continued to the next stage, a small-scale trial was carried out. The results obtained from a small-scale trial of 30 students in the basic soccer course majoring in Sports Coaching Education FIK Unimed obtained the results from testing the effectiveness of electronic soccer teaching materials from the aspect of material presentation with a percentage of 88.7%, the attractiveness of the display of teaching

materials obtained a percentage of 90.3%, and the ease of understanding the content of the material obtained a percentage of 89.7%. From the three components, the results of small-scale trials obtained an average percentage of 83.7%, the complete data can be seen in table 6 below.

Table 6. Data of Small-Scale Trial Results

No	Aspect	Score	Maximum Score	Percentage
1	Material Presentation	266	300	88.7%
2	Display Attractiveness	271	300	90.3%
3	Convenience For Understood	269	300	89.7%
Average		268.7	300	89.6

After the small-scale trial step was carried out, it was continued with a large-scale trial involving 60 students majoring in Sports Coaching Education FIK Unimed in basic soccer courses. After obtaining the results of small-scale group trials and large-scale group trials, the next step is to test the effectiveness of electronic soccer teaching materials in large-scale groups. From the aspect of material presentation, data obtained with a percentage of 91.5%, the attractiveness of the appearance of teaching materials obtained a percentage of 90.5%, and the ease of understanding the content of the material obtained a percentage of 92.3%. From the three components, the results of small-scale trials obtained an average percentage of 91.4%, the complete data can be seen in table 7 below.

Table 7. Large-Scale Trial Results Data

No	Aspect	Score	Maximum Score	Percentage
1	Material Presentation	549	600	91.5%
2	Display Attractiveness	543	600	90.5%
3	Convenience For Understood	554	600	92.3%
Average		548.7	600	91.4%

The product resulting from the development is electronic soccer teaching materials in basic soccer courses for students majoring in Sports Coaching Education, Faculty of Sports Science, Unimed. In this electronic soccer teaching material, it presents material intended for first semester students, and can be accessed by the wider community who need the material contained in electronic soccer teaching materials in basic soccer courses. This electronic soccer teaching material presents a log book model with a tactical approach.

The electronic soccer teaching materials that have been developed have gone through a process of validation stages carried out by experts in their fields, especially the field of soccer material, and the field of learning media and the field of soccer learning curriculum. Based on the validation results from these experts, there are several important suggestions that are useful for improving the perfection of the developed soccer teaching materials. The suggestions include the order from the presentation of the first material to the next material that must be more systematic; the layout of the pictures presented in the teaching materials must be more dynamic; Do not use too contrasting colors. These things will of course be used as the basis for researchers to be able to further refine the electronic soccer teaching materials developed.

The advantage of the product in this development is that soccer teaching materials are easily accessible to all students. This electronic soccer teaching material is easy to take

anywhere because it can be opened via Android. The electronic soccer teaching materials developed are equipped with pictures and picture captions in carrying out movement exercises. The form of training developed in electronic soccer teaching materials has combined all elements of both technical, physical, tactical and mental elements at once. With these developed electronic soccer teaching materials, students and anyone can practice independently or in groups. Electronic soccer teaching materials can be used in college football lectures as a learning medium.

The electronic soccer teaching materials developed are easy to access and can be taken anywhere and can be studied at any time, this is in line with research from Purwaningtyas et al. (2017: 128), which states that electronic modules can be opened on the computer, so users can learn as they wish, the material for this product can be opened on mobile phones with Android features by downloading the Edmodo program from the Playstore, this product can be used as a learning resource for students who want to learn without time limit.

The drawback of this developed electronic soccer teaching material is that the teaching materials are still being tested only for students majoring in Sports Coaching Education FIK Unimed, not yet tested on students of all majors at FIK Unimed. And it has not been tested on sports students who take soccer lectures at other sports colleges, so its effectiveness has not been tested nationally.

IV. Conclusion

The electronic soccer teaching materials that have been developed can be used for basic soccer lectures for students majoring in Sports Coaching Education, FIK Unimed. This can be proven from the results of expert validation by experts who have given their assessment of the feasibility of content, feasibility as a medium and feasibility of material with an average percentage of 79.9% with a very good predicate. The feasibility of electronic soccer teaching materials can be used as lecture materials and is also strengthened by the results of the effectiveness test of electronic soccer teaching materials in small-scale group trials with an average percentage of 89.6% and testing the effectiveness of electronic soccer teaching materials in small-scale group trials. The average percentage obtained is 91.4%.

References

- Batubara, I. (2021). The Effectiveness of Learning Using Social Media during the Covid 19 Pandemic in Higher Education. Budapest International Research and Critics Institute-Journal (BIRCI-Journal). P. 2177-2183
- Hunter, Madeline (1997) Improve Instruction. California: TIP Publication.
- Mesnan, Amir Supriadi & S. Irwansyah. (2019). Pengembangan Log Book Pembelajaran Sepak bola Dengan Pendekatan Taktis, Jurnal Prestasi, - jurnal.unimed.ac.id
- Mills, C.S. (2006). Using the Internet for Active Teaching and Learning. Ohio: Pearson Merrill Prentice Hall.
- Purwaningtyas, Wasis D. Dwiyoogo, Imam Hariyadi. (2017). Pengembangan Modul Elektronik Mata Pelajaran Pendidikan jasmani, Olahraga dan Kesehatan Kelas XI Berbasis Onlie Dengan Program Edmodo, Jurnal Pendidikan.
- Putra, Nusa. (2011). Research & Development Penelitian dan Pengembangan: Suatu Pengantar. Jakarta: Rajawali Pers
- Sukmadinata, (2005) Metode Penelitian, Bandung: PPs UPI dan PT Remaja Rosdakarya.

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Tegeh, I Made dan I Nyoman Jampel. (2017). Metode Penelitian Pengembangan. Singaraja: Undiksha.

Winarno, M.E. (2011). Metode Penelitian dalam Pendidikan Jasmani. Malang: Media Cakrawala Utama Press.