



## Development of E-Book Based Volleyball Learning Model

Dewi Endriani\*<sup>1</sup>, Imran Akhmad<sup>2</sup>, Basyaruddin Daulay<sup>3</sup>

<sup>123</sup>Sports Coaching Education, Faculty of Sports Science, Universitas Negeri Medan, Medan, Indonesia.

### Article Info

Article History :

Received : June 2022

Revised : June 2022

Accepted : June 2022

### Keywords:

Based on E-Book,  
Learning Model,  
Volleyball,

### Abstract

Based volleyball learning model e-book- and developed it as a sports lecturer's guide in teaching courses volleyball The resulting products are learning models volleyball learning materials volleyball based E-Book-. This research was developed by adapting the Borg & Gall educational research and development model. The development procedure used includes several stages: 1) recognizing the content of the product being developed, 2) developing the initial product of the game, 3) expert validation, 4) testing field The data analysis technique used in this research is done in two ways, namely quantitative and qualitative. Based on media trials in the field, the following results were obtained: 1) The media developed was very valid (good) with an average media validation questionnaire by experts of 92.39%. 2) The learning media developed is very practical, by getting a very good response where the average questionnaire is 92.12% which gives a positive response, 3) the E-Book media developed is quite effective, where the completeness of student learning outcomes reaches 87.19 %. From these results, it shows that the animation-based E-Book media that was developed is very feasible to be used in supporting learning activities in the classroom.



\*Corresponding email : [endriani@unimed.ac.id](mailto:endriani@unimed.ac.id)

## INTRODUCTION

Education is an effort to attract something in humans as an effort to provide programmed learning experiences in the form of formal, non-formal, and informal education at school and outside school, which lasts a lifetime. Life that aims to optimize individual abilities so that in the future they can play a role in life appropriately (Suprpto et al., 2019).

Physical Education, Sports and Health (Penjasorkes) is a group of subjects taught from basic education to secondary or vocational education through physical activity, which is expected to encourage physical growth, psychological development, motor skills, knowledge and reasoning, appreciation of values (attitudes). -mental-emotional-sportivity-spiritual-social) (Dewi & Verawati, 2022) (Supriadi et al., 2022). As well as healthy living habits that lead to stimulating growth and development of physical and psychological quality and quantity (Akhmad, 2016).

Therefore, education is one of the most important parts of a person's life. (Saraswati et al., 2022), it is explained that the purpose of education is to develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become good citizens. democratic and responsible (Depdiknas, 2006).

The tragedy of the COVID-19 pandemic at the end of 2019 that hit almost all countries was a boomerang for all countries in the world and has not been resolved until now. The outbreak of the coronavirus covid-19 which lasted for quite a long time had an impact on almost all sectors of life, including the education sector. A very striking impact on the world of education in all countries including

Indonesia is the change in the learning model applied by schools at all levels, where previously face-to-face learning turned into online learning by utilizing information technology (Endriani & Development, 2022). This is in accordance with the government's policy through a circular letter from the Ministry of Education to implement learning from home.

The implementation of online learning forces all teachers/lecturers to be able to use information technology in the learning process. Education implementation online cannot be separated from the use of technology. This is because in online education there is no direct contact between teachers and students. The process of communication between teachers and students is carried out through the use of information and communication technology. Various platforms can be used by utilizing information technology that can be used as a medium to facilitate the implementation of online learning.

In response to the above, it is necessary to have learning media that can foster student learning independence by creating interactive questions, learning media that are able to stimulate and inspire students' learning enthusiasm, as well as learning media that can be used individually or in groups (Yudha et al. al., 2019) One of the media that is widely used today is books. The demands of the globalization era with the development of information technology can be utilized for the development of learning (Suprpto et al., 2019); (Fitrianna et al., 2021) (Lestari et al., 2016) one of which is a book that is presented in electronic form or known as an Electronic Book (E-Book). E-Book is an electronic book containing information that can be in the form of text and images (Dianti & Hakim, 2021). Through the use of e-books, it is expected to increase knowledge and strengthen the level of student mastery of

the subject matter given by the teacher in the classroom. However, the presentation of EBooks should not only contain material as in printed books, but need to be innovated to make it more interesting for students. This is in line with the results of expert validation from the development of E-Books by (Lestari et al., 2016) and (Hidayat, 2017) who suggested that E-Books developed in variations with animation and video support the material and are associated with applications in life. daily. Several other research results also state that products in the form of E-Books make it very easy for students to open anywhere and anytime (Suprpto et al., 2019), and make it easier for students to understand abstract learning to be clear on the material (Lestari et al., 2016)

Therefore, in learning, lecturers must be able to use technology and the internet to increase student motivation and activities in learning, one of which is by utilizing and developing E-Books. Utilization of E-Books in developing learning media that are in accordance with the characteristics of students and the learning model currently applied, namely online learning. With the hope that it can increase student learning motivation which is increasingly decreasing as a result of too long online learning. One solution that can be applied to overcome this problem is to develop a volleyball learning model using an E-Book. The increasingly diverse use of information technology tools has influenced publishers in developing their publications innovations. (Handayati, 2020) One of them is the existence of electronic books E-Books which are continuously published by publishers. E-Book is basically a book designed in electronic form. Readers need facilities such as computers, netbooks/laptops, smartphones, or tabs to read these electronic products.

Making E-Book so far is quite easy and simple in the process. We can edit existing

templates or add PDF files that we created earlier with various relevant components, such as logos, images and language and characters that can beautify the E-Book. so that students will be interested and motivated to read and learn. Learning media through E-Book used as a stimulus for students to carry out the learning process. (Dwi et al., 2020), the media used by lecturers or students properly can affect the effectiveness of the teaching and learning process. Utilization and use of E-Book in learning will be better implemented because E-Book have many advantages that can be utilized to help successful learning (Putro & Lumintuarso, 2013). Meanwhile (Verawati & Dewi, 2019) media E-Book from an educational point of view is an instrument in determining the success of the learning process. media E-Book can directly provide dynamics to learning.

Based on some of these opinions, it can be concluded that the use of E-Books can stimulate students to learn, can streamline the teaching and learning process and this is in accordance with the objectives of learning, so the use of (e-books) necessary to increase learning motivation. Thus, the development of an E-Book-based volleyball learning model by lecturers is very necessary in learning, especially online learning, where lecturers and students are limited by time and space.

## METHODS

The research method used is a development research method with a qualitative approach based on the volleyball learning model product E-Book.

The development method used in this research is the Borg and Gall development model with 7 steps. This was done due to time and cost constraints. This is supported by (Bayu, 2020) which states that development research can be stopped until a final draft is produced, without

testing the results.-based volleyball learning model E-Book. The steps are described as follows: 1) Conducting preliminary research (pre-survey), 2) planning, 3) product drafting, 4) expert validation, 5) trials field of the product. The subjects in this study were students of the sport science faculty of basic volleyball subjects.

## RESULT

Activities carried out at the initial stage are the study and assessment of the feasibility of the media developed by the validator. After the feasibility assessment was carried out by the expert, it was continued with field trials which aimed to obtain student response data through questionnaires and the effectiveness of the E Book media through learning outcomes tests. The preliminary research stage includes design validation, design revision, field trials, learning media data analysis, development output. Indicators of research achievement are presented in Table 1 as follows:

**Table 1.** Achievement

No	Criteria	For Collection	Techniques Analysis
1	Validity of E Book	media Validation of E Book media by experts/experts using instruments validation	E Book media is said to be valid if the average validator assessment on each component instrument at least 3 good categories
2	Practicality of E Book	media Practicality of E Book media is seen based on student responses through filling out questionnaires	E Book media is said to be practical if at least 75% of students give good responses to the developed

3	Effectiveness of E Book	media The effectiveness of E Book media is seen from the test results Student learning	E-book media is said to be effective if at least 75% of students achieve complete learning
---	-------------------------	----------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------

Validator results and questionnaire responses are used as input for making improvements for the sake of improving the E-Book-based volleyball learning model product so that the resulting product will be consistent and effective to use. The results of the assessment by the validator can be seen in table 2. as follows:

**Table 2.** Expert Validation Result Data on the Product Draft.

No	Aspect	Percentage	Category
1	Material	93.27%	Very Valid
	Content	94%	Very Valid
2	Display	92 %	Very Valid
	Figure	90.3%	Very Valid
<b>Average</b>		<b>92.39</b>	<b>Very Valid</b>

E-Book-based volleyball learning model developed, analyzed based on the results of expert validation, student response questionnaires and student achievement test results. These are the stages in development research that was carried out before the E-Book-based volleyball learning model was used in a wider scope. The validity of the E-Book-based volleyball learning model that was developed was based on the results of the assessments of 2 material experts and 1 media expert. From the results of the assessment carried out (Table 2), an average score of 3.69 was obtained. This shows that the E-Book-based volleyball learning model developed can be categorized as very good. The validity of a learning device is important to know because validity is a measure that indicates

the level of validity or validity of an instrument (Nursalam, 2003). If an instrument / learning device is said to be valid / valid it will be able to measure well what is being measured.

#### Field Trial

Based on filling out a response questionnaire by 30 students from the Faculty of Sports Science (FIK) after using the E-Book-based volleyball learning model that was developed.

In addition to measuring the level of validity, the application-based volleyball learning model that was developed was also tested for practicality through student responses that were filled in in the questionnaire. The results of the field trials obtained can be seen in the summary of Table 3. as follows:

**Table 3.** Summary of the Results of Filling Out Student Response Questionnaires

Total Scores Obtained	Total Ideal Scores	Percentage of Student Responses
1,415	1,536	92.12%

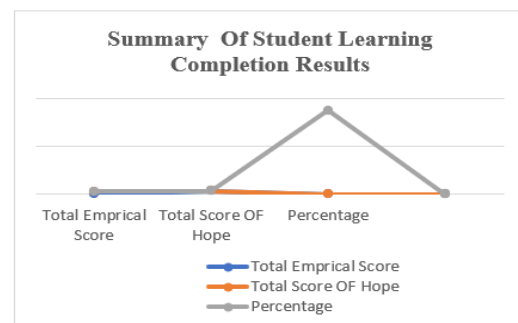
From the results obtained the response questionnaire (Table 3), shows that the percentage of student responses in the field trial is 92.12% giving a positive response. This shows that the developed media is included in the very practical category. From field observations, students seemed enthusiastic in using the E-Book-based volleyball learning model that had been developed.

Based on the results of the study test of 30 students after using the developed E Book media, the following summary results were obtained:

**Table 4.** Summary of Student Learning Completeness Results.

Total Empirical Score	Total Expected Score	Percentage
2,790	3,200	87.19%

The test of the effectiveness of the E-Book media in this study was also carried out to see the impact of learning using the media that had been developed. Based on the summary of the results of the implementation of learning tools (Table 4), it was found that the completeness of learning outcomes in this study reached 87.19% of students who were said to be complete. The results of the summary of student learning mastery results can be seen in Figure 1. As follows.



**Figure 1.** Summary of Student Learning Outcomes Completeness

## DISCUSSION

The E-Book-based volleyball learning model that was developed was analyzed based on the results of expert validation, student response questionnaires and student achievement test results. These are the stages in development research that was carried out before the E-Book-based volleyball learning model was used in a wider scope. The validity of the developed E-Book media is based on the results of the assessment of 2 material experts and 1

media expert. From the results of the assessment carried out (Table 2), an average score of 3.69 was obtained. This shows that the E-Book-based volleyball learning model developed can be categorized as very good. The validity of a learning device is important to know because validity is a measure that shows the level of validity or validity of an instrument (Sutini, 2018). If an instrument / learning device is said to be valid / valid it will be able to measure well what is being measured. In addition to measuring the level of validity, the volleyball learning model based on the E-Book that was developed was also tested for practicality through student responses that were filled in in the questionnaire. Based on the results obtained by the response questionnaire (Table 3), it shows that the percentage of student responses in the field trial is 92.12% giving a positive response. This shows that the E-Book-based volleyball learning model developed is in the very practical category. From observations in the field, students seemed enthusiastic in using the E-Book media that had been developed. This is shown in some of their learning activities which look more enthusiastic, can stimulate discussion activities between students and foster student confidence in asking and answering questions from lecturers. Students also think that the E-Book-based volleyball learning model is very interesting and practical, and can be used anytime and anywhere. This is in line with research conducted by (Suprpto et al., 2019), which states that the product is in the form of an E-Book equipped with animations, videos, and images that can be played at any time and in offline form, making it very easy for students to learn. open anywhere and anytime.

(Lestari et al., 2016) in the study also concluded that interactive E-Books are a learning media used to help students

understand abstract learning to be clear on the material.

Testing the effectiveness of the E-Book-based volleyball learning model in this study was also carried out to see the impact of learning using the media that had been developed. Based on the summary of the results of the implementation of learning tools (Table 4), it was found that the completeness of learning outcomes in this study reached 87.19% of students who were said to be complete. This is supported by (Taqwim et al., 2020), who in his research concluded that the use of Interactive E-Book media is effective in increasing students' learning motivation, which is explained in 3 aspects, namely cognitive motivational (cognitive motivation), self-expression aspects (self-appearance) and aspects of self-enhancement (self-improvement). From these three aspects, Rohmah explained that through the use of interactive E-Book media, students have more independence in learning, can develop their creativity and increase their learning motivation. Similar results were also expressed by (Fitriani et al., 2021) in his research, which stated that the application of interactive E-Book teaching materials in learning was quite effective in growing students' critical thinking skills. Based on the discussion of the three aspects mentioned above, it can be concluded that the animation-based interactive E-Book media that was developed can be said to be a good learning media and suitable for use in learning. CONCLUSIONS of the E-Book-based volleyball learning model, it can be concluded that the learning media is feasible to use with the following details: (1) The level of validity of the development of learning media using the E-Book-based volleyball learning model meets the criteria of media validity achieving a validation score of 3.69; (2) The level of practicality of developing learning media for volleyball

learning models based on E Books is included in the very practical category with the average results of obtaining positive response questionnaires of students reaching 92.12%; (3) the effective E Book-based volleyball learning model, which is shown through the results of student learning tests with a percentage of 87.19% of students who are said to be complete.

In general, the use of the E-Book-based volleyball learning model has a very good influence on students. Students become more enthusiastic in learning, have independent learning and high self-confidence, can develop their learning creativity and are more motivated in solving the problems they face.

## CONCLUSION

The E-Book-based volleyball learning model on the line and series material that has been developed, it can be concluded that the E-Book-based volleyball learning model is feasible to use with the following details: (1) The level of validity of the development of learning media using E-Books in the basic skills course for playing volleyball meets the criteria of validity achieving a validation score of 3.69; (2) The level of practicality of developing a volleyball learning model based on E-Books is included in the very practical category with the average result of obtaining a positive response questionnaire for students reaching 92.12%; (3) The E-Book-based volleyball learning model is quite effective, which is shown through the results of student learning tests with a percentage of 87.19% of students who are said to be complete. In general, the use of the E-Book-based volleyball learning model has a very good influence on students. Students become more enthusiastic in learning, have independent learning and high self-confidence, can develop their learning

creativity and are more motivated in solving the problems they face.

## ACKNOWLEDGEMENT

Research thanks go to the Medan State University Research and Service Institute (LPPM UNIMED) which has assisted in providing research funds. It is hoped that the results achieved can make a positive contribution to the progress of the State University of Medan (UNIMED). The researcher would also like to thank everyone who was involved in this research.

## REFERENCES

- Akhmad, I. (2016). Competency standards for corner subjects. Ministry of Education and Culture Directorate General of Teachers and Education Personnel, 1–8.
- Bayu, MI (2020). Development of Study Assessment Instruments Large Ball Games on Basketball Materials in Lessons PJOK in Junior High School Students. 23(UniCoSS 2019), 14–16. <https://doi.org/10.22158/wjer.v4n1p178>. E.
- Ministry of National Education. (2006). Ministerial Regulation No. 22. 1–35.
- Dewi, R., & Verawati, I. (2022). The Effect of Manipulative Games to Improve Fundamental Motor Skills in Elementary School Students. *International Journal of Education in Mathematics, Science and Technology*, 10(1), 24–37. <https://doi.org/10.46328/ijemst.2163>
- Dianti, AP, & Hakim, L. (2021). Development of Android-Based Interactive E-Book Subjects Islamic Financial Institution Services. *Journal of Accounting Education (JPAK)*, 9(2), 243–253. <https://doi.org/10.26740/jpak.v9n2.p243-253>
- Dwi, I, Wati, P., & Jaenudin, MA (2020). Elementary Elementary School Students Lower Class. 8, 50–57.
- Endriani, D., & Development, R. (2022). Development of a Lower Passing Model for Volleyball Based Umbrella Learning



- Approach To cite this article:  
Development of a Lower Passing Model for Volleyball Based Umbrella Learning Approach.
- Fitrianna, AY, Priatna, N., & Dahlan, JA (2021). Development of an Inductive Learning-Based Interactive E-Book Model to Practice Algebraic Reasoning Skills for Junior High School Students. *Scholar's Journal: Journal of Education ...*, 05(02), 1562–1577. <https://j-cup.org/index.php/cendekia/article/view/653>
- Handayati, S. (2020). Development of E-Book Learning Media By Utilizing Home Learning Features in Science Subjects. *JIRA: Journal of Academic Innovation And Research*, 1(4), 369–384. <https://doi.org/10.47387/jira.v1i4.61>
- Hidayat, A. (2017). Increasing Locomotor, Non-locomotor and Manipulative Movement Activities Using Game Models for Elementary School Students. *Journal of Physical Education and Sports*, 2(2), 21. <https://doi.org/10.17509/jpjo.v2i2.8175>
- Lestari, RT, Adi, EP, & Soepriyanto, Y. (2016). Interactive Learning Media Ebook. E-ISSN: 2615-8787 E-BOOK, 71–76. <http://journal2.um.ac.id/index.php/jktp/article/view/3529/2184>
- Putro, DE, & Lumintuarsa, R. (2013). Development of Learning Media for Basic Volleyball Techniques for Junior High School Students. *Journal of Sports*, 1(1), 37–48. <https://doi.org/10.21831/jk.v1i1.2344>
- Saraswati, S., Safitri, A., & Kabiba, K. (2022). Teacher's Role in 2013 Curriculum Implementation. *Journal of Education and Teaching (JPP)*, 1(3), 120–128. <https://doi.org/10.51454/jpp.v1i3.56>
- Suprpto, E., Apriandi, D., & Pamungkas, IP (2019). Development of Animation-Based Interactive E-Book for Vocational High School Students. *ANARGYA: Scientific Journal of Mathematics Education*, 2(2), 124–130. <https://doi.org/10.24176/anargya.v2i2.4089>
- Supriadi, A., Akhmad, I., Dewi, R., Mesnan, I., Akhmad, R., & Dewi, S. (2022). The Effect of Learning Manipulative Skills Using Ball Thrower Learning Media on the Ability to Throw and Catch the Ball in Elementary School Students. *International Journal of Education in Mathematics*, 10(3), 590–603.
- Sutini, A. (2018). Improving Motor Skills in Early Childhood Through Traditional Games. *Early Horizons: Journal of Early Childhood Education*, 4(2), 67–77. <https://doi.org/10.17509/cd.v4i2.10386>
- Taqwim, RI, Winarno, ME, & Roesdiyanto, R. (2020). Implementation of Physical Education, Sports, and Health Learning. *Journal of Education: Theory, Research, And Development*, 5(3), 395. <https://doi.org/10.17977/jptpp.v5i3.13303>
- Verawati, I., & Dewi, R. (2019). Media Development Video Tutorial Model Big Ball Game to Improve Basic Manipulative Movement Skills. 3134–3142.
- Yudha, RP, Anggara, DS, & Zulaeha, O. (2019). Authentic assessment instruments for performance in mathematics learning in elementary schools. *Journal of Physics: Conference Series*, 1321(3). <https://doi.org/10.1088/1742-6596/1321/3/032012>.