



## Effectiveness of E-Modules for Physical Education, Sports and Health Subjects in Improving Learning Outcomes of Junior High School Students

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### Abstract

Penelitian ini bertujuan untuk mengetahui efektivitas E-modul mata pelajaran pendidikan jasmani olahraga dan kesehatan dalam meningkatkan hasil belajar Siswa SMP . Penelitian ini merupakan jenis penelitian Research and Development (R&D) dengan model ADDIE. Populasi dalam penelitian ini berasal dari siswa SMP Negeri 34 Kerinci. Sampel penelitian berasal dari 2 kelas yakni kelas VII B sebagai kelas eksperimen) dan kelas VII C sebagai Kelas kontrol. Teknik pengumpulan data adalah random sampling. Instrumen yang digunakan berupa Tes dan Angket. Teknik analisis data adalah analisis statistik deskriptif dengan bantuan aplikasi SPSS versi 21. Hasil penelitian menunjukkan nilai Uji T-Tes sebesar  $0.00 < 0.5$ . Temuan ini menjelaskan bahwa pengembangan e-modul sangat efektif dalam meningkatkan pengetahuan siswa dalam mata pembelajaran pendidikan jasmani olahraga dan kesehatan. Selanjutnya, pengembangan E-modul ini membantu siswa lebih kreatif dan inovatif dalam belajar.

**Keywords:** E-Modul, Pembelajaran, PJOK, Hasil belajar

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### Abstract

*This study aims to determine the effectiveness of E-modules in physical education sports and health subjects in improving the learning outcomes of junior high school students. This research is a type of Research and Development (R&D) research with the ADDIE model. The population in this study came from students of SMP Negeri 34 Kerinci. The research sample came from 2 classes, namely class VII B as an experimental class) and class VII C as a control class. The data collection technique is random sampling. The instruments used are tests and questionnaires. The data analysis technique is descriptive statistical analysis with the help of the SPSS version 21 application. The results showed a T-Test value of  $0.00 < 0.5$ . These findings explain that the development of e-modules is very effective in increasing student knowledge in physical education, sports, and health learning subjects. Furthermore, the development of this E-module helps students be more creative and innovative in learning*

**Keywords:** E-Module, Learning, Physical Education, Learning Outcomes

### Introduction

Education is one of the things that cannot be separated in a person's life (Hasanah et al.,2021; Oktarina et al., 2021;Suharyat et al., 2022). Education provides a person with a variety of knowledge

that is useful for his survival and can even affect the people around him. (Robiyanto, 2021). Education is one of the needs in the life of the state and society that should not be ignored. Because, in the progress and retreat of a country cannot be separated from

education. Education aims to improve the quality of a nation's generation, instill character and educate students' personalities and develop the potential possessed by students (Elfira et al. 2023; Sofianora et al., 2023), Both the physical and mental potential that is owned so as not to conflict with the values that apply in social life.

The implementation of education is a lifelong human development process which also includes sports, physical activity and health (PJOK). In essence, sports physical education is an educational process that causes overall changes in the quality of individuals, both physically, mentally and emotionally by utilizing motion or physical activity (Pitnawati et al., 2019; Prasetyo et al., 2018; Raditya et al., 2022). To produce changes in an individual holistically in physical, mental and emotional aspects, it can be done by utilizing the physical education process. In the process of learning PJOK, of course, the game movement is also fun (Prayoga et al., 2022). This upbeat atmosphere influences the release of hormones that accelerate body growth (Ihsan et al., 2017).

Physical education and sports are an integral part of general education (Subakty & Ihsan, 2022). In addition to developing physical potential in students such as physical fitness, it also optimizes movement skills, critical thinking, social skills, reasoning, trains emotional stability, moral function, aspects of healthy living and introduction to a clean environment. Providing learning experiences aims to encourage the improvement of student learning outcomes. Learning outcomes have a very important role for teachers in evaluating the learning process for students. (Zulkifli et al., 2022; Fradila et al., 2021). Learning outcomes are a value obtained by students when they have completed learning activities (Supiandi & Julung, 2016; Nofziarni et al., 2019).

Based on observations at SMP Negeri 34 Kerinci, it was found that there were limited

teaching materials used by teachers, the learning process was still centered on the teacher, the low value of student learning outcomes in Physical Education Olahraga and Health (PJOK) subjects. This is influenced by teaching materials, methods and infrastructure used in learning activities (Hidayat & Sujarwo, 2022; Adi & Soenyoto, 2018; Gumara & Wahyuri, 2022; Ariantesa et al., 2022). Furthermore, student learning outcomes are also influenced by the use of effective teaching materials or modules in the learning process (Kurniawan et al., 2022; Taddei et al., 2020; Nuryadi et al., 2023; Putu et al., 2021). Oleh karena itu, perlu adanya modul yang dapat meningkatkan hasil belajar siswa.

E-modules are technology-based modules that are used as teaching materials in learning activities (Suarsana & Mahayukti, 2013). The advantages of e-modules have interesting images, videos, audio and animation that help students more easily understand the subject matter (Laili et al., 2019; Winatha et al., 2018; Muzijah et al., 2020). According to (Aryawan et al., 2018) e-modules train students to learn independently and are able to encourage student learning outcomes. Research results Violadini & Mustika (2021) stated that e-modules can increase students' interest and achievement in learning. Hamid & Alberida (2021) the use of e-modules in learning helps students be more active and creative in learning.

Previous research by Diantari et al., (2018) Learning e-modules encourage students to think critically and innovatively in learning. Furthermore, the research Solihudin (2018) stated that the development of e-modules in learning increases student competence. But in reality, the application of e-modules in Physical Education, Sports and Health (PJOK) learning subjects is still small. So, there is a need for the application of e-modules for PJOK learning. Research Wahyudi et al., (2022) stated that the

application of e-modules can encourage student learning outcomes in PJOK learning. Based on the above problems, this study aims to determine the effectiveness of E-modules in physical education sports and health subjects in improving the learning outcomes of junior high school students.

## Methods

Contains This research is a type of Research and Development (R&D) research type with the ADDIE model consisting of Analysis, Design, Develop, Implementation and Evaluation which can be seen in (Figure 1.). The population in this study came from students of SMP Negeri 34 Kerinci. The research sample came from 2 classes, namely class VII B as the experimental class and class VII C as the control class. Data collection technique is random sampling. The instruments used are tests and questionnaires. The data analysis technique is descriptive statistical analysis by calculating the T-Test test value with a sig value. 0.05 with the help of the SPSS version 21 application.

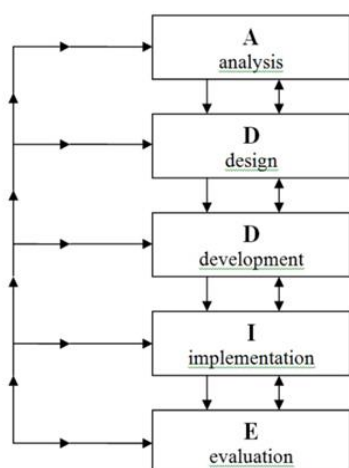


Figure 1. ADDIE Development Model

## Result and Discussion

### Result

The results of the research that has been conducted on the effectiveness of e-modules for Physical Education, Sports and Health (PJOK) subjects can be seen in Table 1.

Table. 1 Small Scale Trial Results

No	Aspects	Ass ess men t	Perce ntage (%)	Category
1	E-Module Display	10.4	86.7	Very feasible
2	E-module Operatio n	10.7	89.16	Very feasible
3	Product Convenie nce	28.1	87.81	Very feasible
4	Benefits of E- Modules	14.5	90.62	Very feasible

Based on Table 1. Shows that the above data is obtained from student responses to the electronic module that has been designed. The results obtained from testing in small groups in terms of the appearance of the E-Module obtained a score of 10.4 with a percentage reaching 86.7%, then in the aspect of ease of operation of the E-Module obtained a score of 10.7 with a percentage reaching 89.16%, while the aspect of convenience with a score of 28.1 with a percentage reaching 87.81% and for the usefulness aspect of the E-Module obtained a score of 14.5 with a percentage of 90.62%. 81% and for the aspect of the usefulness of the E-Modul obtained a score of 14.5 with a percentage of 90.62%. From the scores that have been obtained then converted so that it will be known that each aspect is classified in a certain category. From the explanation above, it can be classified that in terms of the

appearance of the E-Module, it is classified as "Very Feasible", the "Very Feasible" qualification is given to the aspect of ease of operating the E-Module, then for the aspect of ease of learning the contents of the product is classified in the "Very Feasible" category, and in the aspect of the usefulness of the electronic module in the "Very Feasible" category. However, there are some notes from students as users to be reviewed and improved, namely for the font size needs to be enlarged to make it clearer, there are errors in the appearance of images on nutrition material. Input from students becomes the author's reference to improve the module being designed, after being corrected, then the module is ready to continue for trials on larger subjects which can be seen in Table 2.

Table. 2 Large Scale Test Results

N	Aspect	Assessment	Percentage (%)	Category
1	E-Module Display	10.5	87.5	worth
2	E-module Operation	10.2	85	worth
3	Product Convenience	27.2	85	worth
4	Benefits of E-Modules	13.7	85.62	worth

Based on Table 2. Shows that the above data is obtained from student responses to the electronic module that has been designed. The results obtained from testing in small groups in terms of the appearance of the E-Module obtained a score of 10.5 with a percentage reaching 87.5%, then in the aspect of ease of operation of the E-Module obtained a score of 10.2 with a percentage reaching 85%, while the aspect of

convenience with a score of 27.2 with a percentage reaching eight 85% and for the aspect of the usefulness of the E-Module obtained a score of 13.7 with a percentage of 85.62%. These results can be concluded that the use of e-modules is feasible to use in Physical Education, Sports and Health (PJOK) subjects. To see the effectiveness of e-modules in learning Physical Education Sports and Health (PJOK), a T-Test test was conducted which can be seen in Table. 3.

Tabel 3. Hasil Uji-Test Efektivitas E-Modul Dalam Pembelajaran PJOK

	Paired Differences			
	Mean	SD	t	Sig. (2-tailed)
Pair Pretest- Protest	-20.00	8.14	-20.933	0.00

Based on Table 3. Shows that the sig value.  $< 0.00$  or  $0.00 < 0.05$ . These results explain that e-modules for Physical Education, Sports and Health (PJOK) subjects are effective for improving student learning outcomes.

### Discussion

The application of e-modules for Physical Education, Sports and Health (PJOK) subjects is effective for improving student learning outcomes. This can be seen from the T-Test results with a sig value.  $< 0.05$ . Learning activities that use e-modules can improve student learning outcomes (Hidayat & Sujarwo, 2022; Erfayliana et al., 2022). Research results (Sinurat et al., 2022) stated that the use of e-modules in learning Physical Education Sports and Health (PJOK) helps students grow students' interest and learning outcomes. E-modules train students' learning process more interesting and independent in learning (Rosadi et al., 2019), Not only that, students can express their ideas in learning

(Rahman & Ristiana, 2020; Rahman et al., 2023). The development of e-modules in learning stimulates students to think critically and creatively (Kahar & Fathurrahman, 2013).

Furthermore, the learning process using E-modules trained students in mastering learning technology. The technology-based learning process helps students more easily obtain information and learning resources (Yusuf et al., 2020; Santosa et al., 2021; Pratama et al., 2021). In addition, the application of e-modules helps teachers and students more easily access teaching materials (Handayani et al., 2019; Putri et al., 2023). The application of e-modules in Physical Education, Sports and Health (PJOK) subjects has a big impact on improving student learning outcomes. Furthermore, e-modules are very important to be applied in learning PJOK. According to Sumarmi (2018) The development of e-modules helps students access Physical Education, Sports and Health teaching materials without time limits.

## Conclusion

From this study it can be concluded that the T-Test value is  $0.00 < 0.5$ . This finding explains that the development of e-modules is very effective in increasing students' knowledge in physical education, sports and health learning subjects. Furthermore, the development of this E-module helps students be more creative and innovative in learning. So, the use of E-modules in Physical Education Sports and Health subjects encourages students to improve learning outcomes.

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