



## THE EDUCATIONAL GAME-BASED EMODUL: IS IT EFFECTIVE AND SOLUTION TO THE MERDEKA CURRICULUM?

Syahrul Munir <sup>1\*</sup>, Agung Haryono <sup>2</sup>, Lisa Rokhmani <sup>3</sup>, Roufah Inayati <sup>4</sup>, Anisya <sup>5</sup>, Umi Masruro <sup>6</sup>, Wahyu Fitrianti <sup>7</sup>

<sup>1,2,3,4,5,6,7</sup> Economics Education, Faculty of Economics and Business, Universitas Negeri Malang

Corresponding author: [syahrul.munir.fe@um.ac.id](mailto:syahrul.munir.fe@um.ac.id)

### ABSTRACT

Various innovations in implementing learning activities are efforts to support the implementation of the Merdeka curriculum. One of the innovations was carried out by developing the Android-based " Money Adventure E-module " in economic learning. The Money Adventure e-module is expected to provide a pleasant learning experience and overcome difficulties in understanding money and payment instruments, as well as improving student learning outcomes. This research aims to develop Android-based e-modules as effective learning materials in economics learning to support the implementation of the Merdeka curriculum at SMAN 1 Tulungagung. The development of this e-module was carried out using the 4D model from Thiagrajan, which was followed by testing the effectiveness of the e-module in improving student learning outcomes, through quasi-experimental activities with a nonequivalent control group design model, in class X-2 as an experimental class and class X - 3 as a control class. The material expert validation test results were 91.67 % with very good criteria, while the material and learning media expert validation results were 88.33% with good criteria. The Money Adventure e-module has proven effective in improving student learning outcomes in learning economics regarding money and payment instruments. This can be seen from the average post-test score for the experimental class (88.19 ) which is higher than the control class (65.83). This is also reinforced by the results of the average difference test for the experimental class and the control class which shows that there is a significant difference between the learning outcomes of the experimental class and the control class

### Keywords:

e-module,  
Money Adventure,  
Payment Tools,  
Learning Outcomes

### INTRODUCTION

Technological developments provide a new color to education in Indonesia. In line with technological developments, education in Indonesia continues to strive to perfect the learning process by presenting a new curriculum "Freedom to Learn Curriculum". This curriculum is designed to provide freedom for students and teachers so that classroom learning is quality and varied (Seviana et al., 2023). The independent curriculum offers learning that is free to think, free to innovate, and free to learn independently and creatively. Teachers have the freedom to change the learning environment, learning content, and learning products according to student characteristics (Nafi'ah et al., 1967). The Merdeka Belajar curriculum answers the challenges of education in the era of the Industrial Revolution 4.0. In its implementation, it must be able to support students' critical thinking, be innovative and creative, and be skilled in communicating and collaborating (Manalu et al., 2022).





Various efforts are made by educators to support the success of learning objectives, for example by optimizing the use of technology in learning activities. Educators are required to be able to optimize the use of technology. One way is by using e-learning modules. E-modules are learning modules created using text, images, animations, and videos that are run on a computer (Laili, et al., 2019). E-modules are very suitable to be implemented in the independent curriculum. The e-module developed is based on an Android application because it is adapted to the average *smartphone* used by students with an *Android operating system*. It is also considered that e-modules that can be accessed with *smartphones* will save students' expenses on purchasing study materials, as well as make the use of *smartphones* among students more beneficial for education. E-modules have characteristics that can support student learning by being accessible anywhere and anytime, students do not depend on other people (*self-instructional*), and provide students with the opportunity to be active in teaching and learning activities (Fausih & Danang, 2015).

The development of teaching materials in the form of e-modules has been developed in various schools. However, the content contained in the e-module is still simple without any innovation, causing students to lack motivation to study it. Creative and innovative preparation of e-modules can create a pleasant atmosphere and student learning experience (Tresnaningsih, et al., 2019). Android-based interactive e-modules are multi-product learning (audio-visual integration), high interactivity, and multi-source learning with an internet network connection (Ricu Sidiq & Najuah, 2020).

On the other hand, economics is a branch of social science that has an important role in society's life. The science of human behavior and actions to meet their diverse and developing daily needs with existing resources through choices of production, consumption, and/or distribution activities to improve the quality of life (Rahardja, 2008: 3). Economics not only makes a real contribution to technological development but also educates students to be able to face changes in all aspects, think creatively, critically and innovatively (Megalista & Fandyansari, 2020).

Based on field observations and interviews with economics teachers at SMAN 1 Tulungagung, information was obtained that learning was not only focused on learning books but also utilized module teaching materials. The module components used are still simple with content in the form of presenting material in the form of long narratives and practice questions. These teaching materials have not been able to stimulate students' motivation and independent learning. This can be proven by the majority of students who are passive in learning in class.

Apart from that, from the results of student learning in the economics subject, the main subject of money, which has been carried out previously, out of 72 classes. Therefore, this is a demand for educators to create a fun and unique classroom atmosphere to create interactive learning. The causes of low student learning outcomes are caused by several problems that occur during the learning process, including students who are busy alone with their classmates so that questions asked by teachers are rarely answered, the lack of optimal learning media used by teachers makes the learning atmosphere less interesting, and teachers only use materials. teach books. So



the creation of interactive learning can be done by selecting teaching materials that suit students' needs (Mardono, 2016).

Based on these reflections and observation results, educators as the main actors in learning have not yet optimized the use of technology related to the development of innovative teaching materials to increase students' motivation and independence. So it is necessary to modify previous teaching materials so that they are relevant to the learning characteristics of students. One of these developments is an educational game-based e-module on the subject of money in class

The addition of game features in the preparation of e-modules causes students to have a different way of thinking than students who don't play them because games can create their learning style. Those who play games have a more creative way of thinking. Games used as learning media are called educational games (Lakoro, 2019). This is in line with research by Ita Fitria et al. (2021) entitled Implementation of Digital Game-Based Learning Using the Educandy Application for Evaluation and Learning Motivation of Bima Students, shows that learning using a digital *game approach* is considered more relevant for increasing student motivation and creativity in the learning process.

Based on the background above, it can be said that the use of technology has not been utilized optimally in preparing creative e-module teaching materials. In other words, achieving learning goals for students is still not completely successful as evidenced by the low student learning outcomes. An e-module on the subject of money is needed that can combine sight (images) and hearing (sound) in a way that is enjoyable for students. Therefore, researchers feel it is necessary to carry out research and development of educational game-based e-modules to welcome freedom of learning at SMAN 1 Tulungagung.

## METHOD

Research and development (*Research and Development*) adopts the 4D model developed by Thiagrajan, and Semmel (1974), which consists of 4 stages, namely definition, design, development, and dissemination, as depicted in Figure 1.

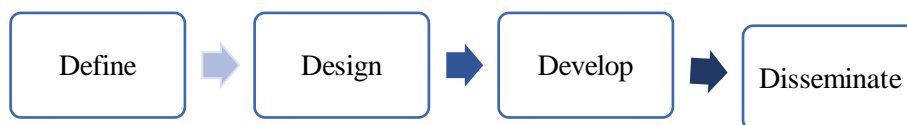


Figure 1 Research Flow

The validation test for the Money Adventure E-module development product was carried out by two lecturers material experts and media experts. Product feasibility trials were carried out with limited trials on class X-2 students and economics subject teachers at SMAN 1 Tulungagung. To see how effective these learning materials and media are in improving learning outcomes, a quasi-experimental test was carried out with a nonequivalent *control group design* in the experimental class (X-2) and control class (X-3), with the design as described in Table 1 below.





**Table 1** Quasi-Experimental Design Design

Group	Pre-test	Treatment	Post-test
Experimental Class (X-2)	O1	X1	O2
Control Class (X-3)	O3	X2	O4

Sampling in this study used a *purposive sampling technique*. in two selected classes with almost the same class characteristics. The characteristics of this class include having a total of 36 students each and the majority having a visual learning style. Research data collection techniques use tests, distributing questionnaires, and observation.

## RESULTS AND DISCUSSION

### Results

The results of the research entitled "Development of an educational game-based e-module in welcoming freedom of learning at SMAN 1 Tulungagung" is an application-based economic learning e-module with the name Money Adventure. The Money Adventure e-module can be installed and accessed via an Android *smartphone* which presents material about money integrating text, images, videos, and interesting educational *games*. The Money Adventure e-module is expected to provide an adventure experience in rupiah as Indonesian currency in this e-module. The Money Adventure e-module product was developed using a 4D development model with four stages, namely *Define, Design, Development, and Disseminate* (Sugiyono, 2016).

*The first stage* in developing the Money Adventure e-module is defining it. At this stage, information is collected in the form of an analysis of student and teacher needs, facilities, and subject analysis. In analyzing student needs, an instrument in the form of a questionnaire is used to determine student needs. Student analysis found that 83% of students used *Android cellphones* and 17% of students used *iPhone cellphones*. Based on the results of a questionnaire to determine student learning styles, the average student has a visual learning style (30 students), an audio learning style (21 students), a kinesthetic learning style (17 students), and a visual and kinesthetic learning style (4 students). The results of the learning styles questionnaire can be seen in Figure 2 below.

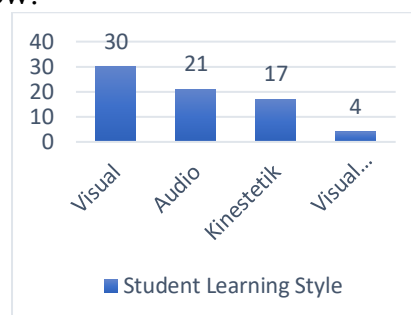


Figure 2. Learning Style of Class X Students

The results of the cognitive test on money material that was carried out were only 22 students out of 72 class X students whose scores were above 75 so it can be concluded that students' understanding of money material is still low. Based on the



results of interviews with economics teachers at SMAN 1 Tulungagung, problems that are often faced during learning include students being busy along with their classmates, the lack of optimal learning media used by teachers making the learning atmosphere less interesting, and teachers only using simple printed teaching materials. *The second stage* that must be carried out is planning. At this stage, the activities carried out are: a) analyzing existing learning tools, b) designing learning tools containing Learning Implementation Plans (RPP), learning objectives, and learning materials, c) designing storyboards for the e-module application being *developed*, d) collect reference design images and current and relevant issues regarding money and payment instruments, e) design educational e-module *games*, f) revise the e-module according to deficiencies found.

The *third stage*, namely development, includes the process of creating the Money Adventure e-module based on a previously created design. Developing the Money Adventure e-module using the Smart Apps Creator 3.1 version application. The Money Adventure e-module product image can be seen in the following image.



Figure 3. Initial View

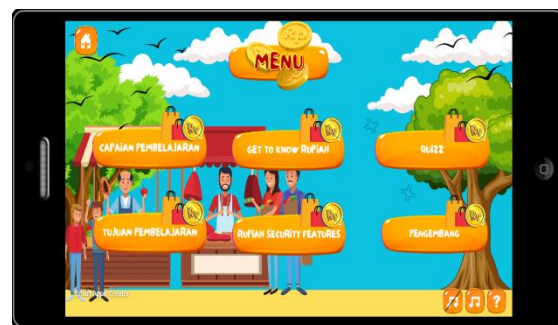


Figure 4. Main Menu

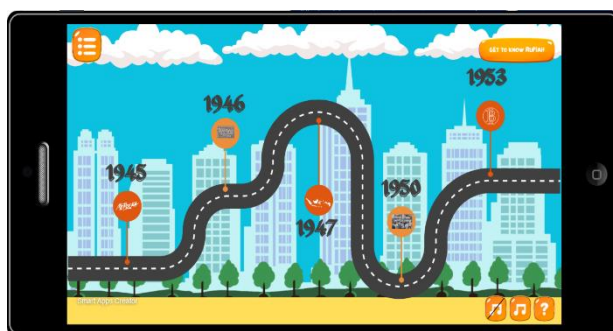


Figure 5 Material display

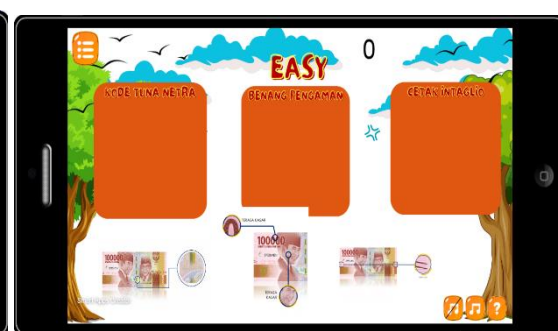


Figure 6. Educational Game

After the Money Adventure e-module is validated by an assessment from a team of experts, namely material experts and experts to obtain suggestions and recommendations, as well as whether improvements need to be made or not. Validation was carried out by Malang State University lecturers, material expert validators from the Development Economics Department, and media expert validators from the Educational Technology Department. The validation results from material experts can be seen in the following table.



**Table 2** Results of Material Validator Expert Assessment

No.	Assessment Aspects	Assessment Items	Score
1.	Quality of material content	4 items	13
2.	Technical quality	4 items	15
3.	Instructional quality	3 items	12
4.	Quiz games	4 items	15
<b>Amount</b>		<b>15 items</b>	<b>55</b>
<b>Percentage</b>			<b>91.67%</b>
<b>Category</b>		<b>Very good (no revision needed)</b>	

Based on the results of the material expert's assessment, a score of 55 was obtained, so the overall percentage of the assessment aspects by the material expert was 91.67 %. These results show that the Android-based Money Adventure e-module is in the 90%-100% interval, so this e-module is included in the very good (valid) category and does not need revision.

Furthermore, based on the results of the media expert validation assessment, it is known that the total score is 53 with a percentage of 88.33 %. The results of the presentation are in the interval 75%-89% included in the good category and require revision as necessary. This revision was carried out on the appearance of the Money Adventure e-module which found unclear images and writing errors. The results of the assessment by media validators can be seen in the following table.

**Table 3** Results of Media Validator Expert Assessment

No.	Assessment Aspects	Assessment Items	Score
1.	Display quality	8 items	30
2.	Technical quality	7 items	23
<b>Amount</b>		<b>15 items</b>	<b>53</b>
<b>Percentage</b>			<b>88.33%</b>
<b>Category</b>		<b>Good (revised as necessary)</b>	

The results of validation tests by a team of experts show that the Money Adventure e-module is valid and can be tested before being applied to classroom learning. Limited field trials were carried out on 8 X-2 students with high, medium, and low learning outcomes as well as economics teachers at SMAN 1 Tulungagung. The results of the response assessment questionnaire using the Money Adventure e-module are shown in the following table.

**Table 4** Student Responses to Limited Trials

No.	Assessment Aspects	Assessment Items	Total value	Percentage
1.	Appearance	7 items	221	98.67%
2.	Material presentation	5 items	140	87.5%
3.	Benefit	5 items	145	90.63%
<b>Total</b>		<b>17 items</b>	<b>506</b>	<b>93.01%</b>

Table 4 shows the results of student responses in the limited field trial conducted on 8 students, obtaining a total score of 506 out of a maximum score of 544.



A score of 506 means the feasibility percentage obtained is 93.01%, which is included in the very feasible criteria. Revised results from limited field trials followed by testing in larger groups, before mass media production.

Next, to see the effectiveness of the results of this development, we continued by conducting an effectiveness test by giving cognitive tests in class X-2 and class X-3. The results of the *pre-test* and *post-test* calculations can be seen in Table 5 below.

**Table 5** Pre-Test and Post-Test Calculation Results

Class	Average Pre-Test Score	Average Post-Test Score	Completeness	Gain Score
Experimental Class	57.22	88.19	86.11%	0.71
Control Class	52.22	65.83	22.22%	0.29

*Pre-test* results, both the control class (X-3) and the experimental class (X-2), showed almost the same cognitive level regarding money. *Pre-test* data shows that the minimum score achieved by students was 20, while the maximum score was 85, with an average *pre-test* score for the experimental class of 57, higher than the average score for the control class of 52. The results of calculating the average *post-test* score in the experimental class and control class showed significant differences. The *post-test* score for the experimental class was 88.19, higher than the control class, only 65.83. Based on the results of this *post-test*, it can be concluded that the Money Adventure e-module is effective in improving student learning outcomes in money economics subjects.

Next, a student response test was carried out in the experimental class, totaling 36 students, to the Android-based Money Adventure e-module that was developed. The results of the student response questionnaire can be seen in Table 6 below.

**Table 6** Experimental Class Response Questionnaire Results

No.	Assessment Aspects	Percentage (%)	Category
1.	Appearance	88.78	Very Worth It
2.	Material presentation	91.11	Very Worth It
3.	Benefit	87.5	Very Worth It
	<b>Average</b>	<b>89.13</b>	<b>Very Worth It</b>

Based on Table 6, it is known that the results of the student response questionnaire in the experimental class show a high percentage for each aspect of appearance, material presentation, and benefits. The response to the Money Adventure e-module was 89.13 %, indicating that the criteria are very suitable for application in economic learning.

Before carrying out hypothesis testing, the data is tested for normality and homogeneity as a prerequisite for analysis. Based on the results of the *Kolomogorov-Smirnov* normality test, it can be concluded that the data in this study is normally distributed. With a significance level in the experimental class, the *pre-test* value was 0.073 ( $> 0.05$ ) and the *post-test* value was 0.93 ( $> 0.05$ ). Likewise in the control class, the significance level for the *pre-test* value was 0.60 and *post-test* 0.98  $> 0.05$ . The results of the "Test of Homogeneity of Variances" show a significance value (Sig.) 0.054  $> 0.05$ ,





so it can be said that the learning outcomes in the research come from homogeneous classes.

Based on the research results, it is known that the average score for the experimental class is 88.19, while the control class is 65.82, meaning that there is a difference in the average student learning outcomes between the experimental class and the control class. This is confirmed by the results of the *Independent Samples Test* in the Equal variances assumed section, which shows the significance value of Sig. (2-tailed) is  $0.000 < 0.05$ , so it can be said that the average student learning outcomes in the experimental class and control class have a significant difference. Thus, it can be concluded that the learning *outcomes* of class

The final stage is dissemination, at this stage the Money Adventure e-module only carries out limited dissemination, namely by disseminating and promoting the e-module on a limited basis to economics teachers at SMAN 1 Tulungagung. Thus, the entire research, development, and effectiveness testing process of the Money Adventure e-module has been completed and is ready for mass production.

## Discussion

Based on the research results, the Money Adventure e-module was developed according to the needs of students and teachers in the economics learning process. Apart from that, from the results of the feasibility test analysis, products in class X-2 received a presentation of 89.13 % in the very feasible category. These results indicate that the Money Adventure e-module received positive responses from students in learning. The Money Adventure e-module is here to overcome the problems that exist in learning the economics of money material. In learning, teachers can combine the money that students have with *the games* in the Money Adventure e-module so that students can directly compare the money they have with the excitement of *the games* available. The Money Adventure e-module can help students understand money and payment instruments and is effective in improving learning outcomes.

The thing that needs to be paid attention to is the aspect of material presentation. The Money Adventure e-module is packaged in language that is easy to understand, concise, and clear, but still pays attention to the learning objectives to be achieved. The development of this application-based e-module can be understood as having a short duration, but it is technology-based. This Money Adventure e-module integrates text, images, *YouTube* videos, and fun educational *games*. The presentation of material in this e-module takes into account the needs of students as Generation Z, a generation that is very dependent on technology, likes things that are instant, concise, and visually based (Sasmita et al., 2021). The Android-based Money Adventure e-module is very easy for students to access anywhere and anytime. Using this Android-based e-module, students tend to easily remember and understand the material because they do not only rely on one type of sense (Sari et al., 2022).

The Money Adventure e-module as a media for economic learning, material about money and payment instruments, is included in the practical category because it gives students freedom and ease in understanding the material. The effect of *Android-based* learning is increasing students' motivation and interest in the learning process so that students' memory of the material will become stronger (Dewi et al.,





2021). During its development, the Money Adventure e-module not only presents material like a normal module but is also equipped with educational *games*. This educational *game* is presented in several levels ranging from easy to most difficult. The questions presented in this *game* have been adapted to higher-order thinking skills (HOTS). The use of educational *games* allows students to learn while playing, students are not burdened because they feel like they are playing. Students will be motivated to learn so they can play *games* well (M. Rohwati, 2012). The use of Android-based media can also improve student learning outcomes (Fatmawati et al., 2021). The use of this e-module is very close to students because students often use *smartphone-based applications* in their daily activities. Thus, the Android-based Money Adventure e-module is very feasible and effective for use in the economics learning process.

This research is strengthened by previous research which explains that the use of *game-based learning media* can improve memory so that it influences student learning outcomes in central banking material and payment systems (Pamungkas & Ghofur, 2021). Apart from that, other research explains that the presentation of Android-based material on APBN and APBD material received a positive response from students and triggered an increase in learning outcomes (Pratama & Sakti, 2020).

## CONCLUSION

The Android-based Money Adventure e-module on money and payment instruments is very suitable for use in the economic learning process. This e-module can improve student learning outcomes in class X SMAN 1 Tulungagung. Therefore, the Android-based Money Adventure e-module that has been developed is effectively applied to economics learning in the classroom. Students can learn money and payment instruments, easily, and flexibly. The existence of the Android-based Money Adventure e-module helps teachers improve the quality of learning in this era of independent curriculum. It is also hoped that this development research can motivate teachers to make more use of technology in learning so that students will not feel bored with the material being taught, and can be used as a reference for further development of Android-based application products in economics subjects.

## REFERENCES

- Dewi, IP, Akbar, H., Jalinus, N., Waskito, & Irfan, D. (2021). Development of Android-Based Interactive Learning Media Using Ispring Suite Application. *Journal of Information Technology and Education* , 14 (3), 49–55.
- Fatma, Y., Salim, A., & Hayami, R. (2021). Android-Based Augmented Reality as a Learning Media for the Solar System. *CoSciTech (Computer Science and Information Technology) Journal* , 2 (1), 53–59. <https://doi.org/10.37859/coscitech.v2i1.2178>
- Fatmawati, F., Yusrizal, Y., & Hasibuan, AM (2021). Development of Android Application-Based Learning Media to Improve Student Science Learning Outcomes. *Elementary School Journal Pgsd Fip Unimed* , 11 (2), 134. <https://doi.org/10.24114/esjpsd.v11i2.28862>
- M. Rohwati. (2012). Using Educational Games to Improve Biology Science Learning Outcomes, Concepts of Classification of Living Creatures. *Indonesian Journal of*





- Science Education* , 1 (1), 75–81.
- Manalu, J.B., Sitohang, P., Heriwati, N., & Turnip, H. (2022). Development of Independent Learning Curriculum Learning Tools. *Mahesa Center Research* , 1 (1), 80–86. <https://doi.org/10.34007/ppd.v1i1.174>  
<https://ejournal.undiksha.ac.id/index.php/JEU/article/view/20294>
- Pamungkas, PWG, & Ghofur, MA (2021). Development of Android-Based Word Search Puzzle Learning Media for Class X Economics Subjects During the Covid-19 Pandemic. *Educative: Journal of Educational Sciences* , 3 (6), 4363–4373. <https://doi.org/10.31004/edukatif.v3i6.1464>
- Pratama, DPA, & Sakti, NC (2020). Development of Android-Based Digital Handout Learning Media on APBN and APBD Material for Class XI IPS. *Undiksha Journal of Economic Education* , 12 (1), 15–28.
- Sari, AK, Rahmiati, R., Rosalina, L., & Irfan, D. (2022). Development of Android-based facial care learning media for beauty care competencies in vocational high schools. *JRTI (Indonesian Journal of Action Research)* , 7 (3), 602. <https://doi.org/10.29210/30032220000>
- Sasmita, DH, Utami, WS, & Budiyo, E. (2021). Development of Android-Based Learning Media for Class X SMA Geography Learning in SURABAYA. *Journal of Education and Development, South Tapanuli Education Institute* , 4 (2), 621–631.
- Seviana, R., Suharto, Y., Rosyida, F., & Masitoh, F. (2023). Android-Based Volcano Application on Volcanism Material as Geography Microlearning Media. *Scientific Journal of Teacher Professional Education* , 6 (1), 196–208. <https://doi.org/10.23887/jippg.v6i1.59506>
- Sugiyono. (2016). *Quantitative, Qualitative, and R&D Research Methods* . Alphabeta Publishers.
- Tegeh, IM, Simamora, AH, & Dwipayana, K. (2019). Development of Learning Video Media Using the 4D Development Model in Hindu Religion Subjects. *Pulpit Science* , 24 (2), 158. <https://doi.org/10.23887/mi.v24i2.21262>
- Arsyad, Azhar. (2011). *Instructional Media*. Jakarta: Pt. Raja Grafindo Persada.
- Fitriati, Itta (2021). Implementation of Digital Game Based Learning Using the Educandy Application for Evaluation and Learning Motivation of Bima Students. Proceedings of the 2021 National Research and Service Seminar, "Innovative Research and Service During the Covid-19 Pandemic", Isbn : 978-623-6535-49-3
- Hutahaean, Lidia Aprileny Et. , Al (2020). Utilization of Interactive E-Modules as Media
- Ibadullah Malawi, AK (2018). *Learning Renewal in Elementary Schools*. Magetan: Cv. Ae Media Graphics.
- Jannah, Yunata Et. , Al (2020). Development of E-Modules Based on Game Based Learning Measurement Materials by Strengthening Characters Who Like Reading and Rewarding Achievement. *Gantang Journal V* (2) (2020): 179 – 189
- Laili, Ismi et al., (2019). Effectiveness of Project Based Learning Module Development in Electric Motor Installation Subjects. *Scientific Journal of Education and Learning*, 3 (3): 306-315



- Lakoro, R. (2009). Considering the Role of Educational Games in Education in Indonesia. Its Annual Creative Industries Seminar.
- Mardono, NA (2016, October 29). Development of Application Game Learning Media in Economics Subjects Class X Iis Sma Laboratory Um. *Journal of Economic Education*, 2, 18-29.
- Munadi, Y. (2013). *Learning Media: A New Approach*. Jakarta: Reference.
- Megalista, M., & Fandyansari, MW (2020). Development of Stop Motion Media on Material for Cash Payment (Money) for Class X Social Sciences Students at SMAN 01 Banyuke Hulu. *Proceedings of the IKIP Budi Utomo National Seminar* , 1 (01), 797-804. <https://doi.org/10.33503/prosiding.v1i01.1071>
- Nafi'ah, J., Faruq, DJ, & Mutmainah, S. (1967). LEARNING CHARACTERISTICS IN THE INDEPENDENT LEARNING CURRICULUM AT MADRASAH IBTIDAIYAH. *Journal of Madrasah Ibtidaiyah Teacher Education Study Program* , Mi , 5-24.
- Learning in the Digital Era. Proceedings of the National Seminar on Postgraduate Education Technology Unimed Isbn: 978-623-92913-0-3
- Rahardja , P. & Mandala Manurung. 2008. *Introduction to Economics (Microeconomics and Macroeconomics)*. Jakarta: FE University of Indonesia
- Ramadhan, Dian Sari et al., (2022). Development of ICT-Based Interactive Modules on Wave Subject Matter Using a Scientific Approach. *Journal of Physics Learning*. Vol 2, No 3 (2014)
- Ricu Sidiq, & Najuah. (2020). Development of Android-Based Interactive E-Modules in Teaching and Learning Strategy Courses. *Journal of History Education* , 9 (1), 1-14. <https://doi.org/10.21009/jps.091.01>
- Thiagarajan, Semmel and Semmel. (1974). *Instructional Development For Training Teachers Of Exceptional Children A Source Book*. Indiana: Eric.
- Tresnaningsih, F., Santi, Dwi , DP, & Suminarsih, E. (2019). Learning Independence of Class III Students at Sdn Karang Jalak I in Thematic Learning. *Pedagogy: Journal of Educational Research*, 6(2), 51-59. <https://doi.org/10.25134/Pedagogi.V6i2.2407>
- Zuliyanti, Nurma et al., (2021) Needs Analysis for Educational Game-Based Modules in Era 4.0 Using the Discovery Model. *Pedagogical Initiative Journal* Vol. 4 No. 1, June 2021 Pg. 70-76

