

Development of Interactive E-Modules to Increase Learning Motivation and Science Literacy in Elementary School Students

Christina Ismaniati¹, Baroroh Iskhamdhanah¹

^{1,1} Universitas Negeri Yogyakarta, Indonesia

 christina_ismaniati@uny.ac.id

ABSTRACT

The article aimed to produce interactive e-modules from my country that meets the qualified criteria and to know the effectiveness of the interactive e-modules of my country produced to improve the learning motivation and science literacy of elementary school students of grade IV in the nearby. The research used research and development (R&D), with ADDIE model. The subject of a pilot project for a small group trial consists of 15 students and 1 teacher in SD Negeri Soka. Next, the test subject of the field trial consists of 20 Muhammadiyah Kalinampu 1 students as a control class and 20 students IV grade SD Muhammadiyah Kalipakem 1 as an experimental class. Collecting data used interview guide, observation guidelines, product assessment sheet, teacher-response scale, student response scale, and the motivational scale of study and science literacy test. The results showed that: (1) the resulting interactive e-module met the criteria of "very appropriate" according to the assessment of media experts and material experts; in the one-to-one trial, it obtained the "Decent" category from the responses given by the teacher and obtained the "Easy" category. Very Feasible" from the responses of students, while in the small group trial, the category "Very Eligible" was obtained from the responses given by the teacher and students; (2) the interactive e-module was found effectively increase learning motivation and science literacy of fourth-grade primary school students. The results of the t-test and the MANOVA test showed a significant level of 0.05, indicating the interactive e-modules, 'the richness of my country,' can significantly increase the learning motivation and science literacy of fourth-grade elementary school students with a significance value of 0.000 < 0.05.

Keywords : *Interactive E-module, Learning Motivation, Science Literacy*

ARTICLE INFO

Article history:

Received
September 28,
2022

Revised
May 22, 2023

Accepted
June 02, 2023

How to cite

Iskhamdhanah, B., & Ismaniati, C., (2023). Development of Interactive E-Modules to Increase Learning Motivation and Science Literacy in Elementary School Students. *Jurnal Iqra' : Kajian Ilmu Pendidikan*, 8(1). 156-173

<https://doi.org/10.25217/ji.v8i1.2699>

Journal Homepage

<http://journal.iaimnumetrolampung.ac.id/index.php/ji/>

This is an open access article under the CC BY SA license

<https://creativecommons.org/licenses/by-sa/4.0/>

INTRODUCTION

In early 2020, Indonesia was hit by an outbreak of the spread of Covid-19, which initially came from China. As a result, WHO has announced a global health emergency according to the level of spread of the Covid-19 virus in China and various other countries (Velavan & Meyer, 2020). Covid-19 is a new type of disease that can cause mild or severe symptoms in humans similar to SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome) (Dewi, 2020).

With the support of the local government, the Indonesian central government has formed a Covid-19 pandemic response team to anticipate the spread of the virus. However, all prevention and handling of the pandemic did not run optimally due to several factors, including non-compliance in public with the government mitigating regulations such as wearing masks, maintaining distance, washing hands, and others, which resulted in the transmission of Covid-19 virus becoming more widespread. The condition of the Covid-19 pandemic has brought many changes, one of which is education. All teaching and learning activities at all levels of education are transferred to online or harnessing internet networks. Online learning is a new paradigm in the education system in Indonesia, where learning is carried out without the need to meet in a classroom. It only uses the internet to convey study materials (Rigianti, 2020). Even though teaching and learning activities are conducted online (with less human interaction than in-person interaction), education institutions still aim to build the same standard of professional HR (human resources) development. The indicators to achieve the aim of professional HR are having proficient academic knowledge, teaching experience, adequate competencies, and sufficient teaching skills (Hidayah, 2018 Ho, H. C., et al., 2023; Leh, F. C., Anduroh, A., & Huda, M. 2021).

Teaching skills in online learning are inseparable from creativity and innovation in making learning more enjoyable and the teacher's skills to train students in harnessing technology for learning. However, using technology during online learning creates new challenges for the education system. Hutauruk and Sidabutar (2020) explained that the problem often encountered in learning online is that some students need help accessing the internet network. In addition, the internet's low quality will make online learning less optimal. This is supported by Dwitalia Sari (2021) which states that the lack of access to the internet network has become a major issue for teachers and parents, especially those who live in remote areas. Moreover, learning activities are done by using zoom meeting application or google meet causing students to underwent obstacles in receiving teaching material presented by teacher (Gunawan & Amaludin, 2021). Suprapmanto & Utomo (2021) argued that not all students have devices such as cellphones, laptops/PCs or other devices to support online learning, therefore there are students who cannot take part in learning activities.

Aji (2020) argues that educators in Indonesia need help to fully operate technology, which causes obstacles in online learning. The teacher's lack of knowledge of technology causes boredom in students when studying at home due to a learning style that only gives assignments, and the teacher only uses printed media teaching materials (Tania, 2020). In addition, the current implementation of online learning is only partially a good teaching and learning situation, but it only follows the emergency of handling Covid-19 (Sakti & Sulung, 2020). This made it difficult for teachers to determine whether students learn and understand the material, especially in science subjects. Eliyana (2020) suggests that the current situation requires students to explore knowledge and solve problems independently without the teacher's guidance in the Natural Sciences (IPA) learning process.

IPA is a field of knowledge that provides discussion related to phenomena and is closely related to natural knowledge building, where experiments carry out the learning process to find scientific proof (Wiyono & Budhi, 2018). Imamora, *et al.* (2020) revealed that science subjects learn about the characteristics of nature and its interrelationships and can provide benefits for social life. This shows that the field of study of natural sciences is a science in which the learning process involves direct observation. However, during online learning, science subjects experienced obstacles

caused by some teachers needing help understanding science material, examples, or direct practice in learning. Implementation of learning using electronic teaching materials, including ways to support science learning in the era of the Covid-19 pandemic.

Based on interviews and observations of students and fourth-grade teachers at SD from Pudong District, it shows that teachers still do not make enough use of teaching materials for implementing science content learning, where what is given during online education is still in the form of printed teaching materials. Then the use of teaching materials still needs to be improved in number. The limited use of these teaching materials makes the effectiveness of online learning low and seems boring, resulting in decreased student learning motivation (Afrizon, 2023). Teachers need to be more optimal when learning science material online, so students' understanding and motivation are low. Students then consider science to be included in complicated learning, and sometimes it could be more exciting. Furthermore, some students need help understanding science concepts correctly.

The learning process for science content in elementary schools in Pundong District has yet to present problems that occur in everyday life, resulting in students' scientific literacy ability still needing to improve. Their knowledge is limited to the definition of scientific concepts, and they need to practice predicting, analyzing, and applying various concepts from science in their daily lives. The grade IV teacher in Pundong District stated that some students had low motivation in learning science material. This can be seen from the assignments that students often need to complete and the low willingness to answer questions and questions that the teacher submits via WhatsApp. The main factors causing this condition are that teachers' materials and learning media still need to be updated according to the development of generations (Widiawati *et al.*, 2019), and the need for online learning.

In connection with the problems faced, it is necessary to make adjustments and innovations in learning activities during the Covid-19 period by developing and utilizing teaching materials in learning processes that involve technology, one of which is by developing interactive e-modules. E-module is a digital teaching material that contains text, images, animations, and graphics that can be studied anywhere or anytime without being limited by time or space (Septianti *et.al.*, 2023; Wulandari *et.al.*, 2021). Furthermore, technological advances and the educational situation allow e-modules to be displayed via smartphones for students in online learning.

Interactive e-modules are teaching materials that use electronics and are innovated to make them more interactive and make it easier for students to learn the material to achieve educational goals (Retnosari & Hakim, 2021; Lee & Osman, 2012; (Belfi & Jordan, 2022). Learning with the use of interactive e-modules can act as a solution for learning at home, and the use of interactive e-modules can help students to learn more actively to have an impact on learning motivation (Agustriantini *et.al.*, 2016; Fidiastuti, 2016; Flierl *et.al.*, 2018; Schunk, 2012). Therefore, learning with interactive e-modules can act as a solution for learning at home, and the use of interactive e-modules can help students learn more actively to have an impact on learning motivation (Suryaningsih *et.al.*, 2023; Suprpto *et.al.*, 2021; Indra & Widari., 2023). This is in line with Wulandari *et al.*, (2021, who explain that the use of interactive e-modules in online learning can foster student motivation to learn because the content and contents in interactive e-modules are arranged as attractively as possible to provide convenience to students to understand the material. This condition shows that interactive e-modules can be used independently by students during online learning.

Therefore, using interactive e-modules will foster learning motivation and students' scientific literacy in online education while at home.

Referring to the conditions that the researcher has described, the researcher aims to form an alternative through the development of technology-assisted interactive teaching materials needed by Grade IV students during online learning to support scientific literacy skills and motivation to learn science with theme 9, "The Richness of My Country." Regarding functionality, interactive e-modules like my country can replace the role of the teacher during online and face-to-face learning and are applied through electronic media, making it easier for students to access and study them anytime and anywhere. Therefore, this research is entitled "Development of Interactive E-Modules to Increase Learning Motivation and Science Literacy in Elementary School Students."

METHOD

This research is a Research and Development (R&D) study using the ADDIE model. Media and material expert validators carried out the product feasibility test in this study. The trial subjects consisted of one-to-one, small group, and field trials. The one-to-one trial consisted of three grade IV students and one teacher at SD Negeri Becari. The subject of the small group trial consisted of 15 students in class IV and one teacher at SD Negeri Soka. The field trial test subjects involved 20 fourth-grade students at Muhammadiyah Kalinampu 1 Elementary School as the control class and 20 fourth-grade students at Kalinampu 1 Muhammadiyah Elementary School as the experimental class.

The procedure in this study consisted of five stages, namely the first stage of analysis, this stage analyzing interviews with class IV teachers at SD Negeri Soka, SD Negeri Becari, SD Muhammadiyah Kalipakem 1, and SD Muhammadiyah Kalinampu 1 Pundong which was intended to see how the characteristics of the participant's students, the activities of learning in schools, and what learning resources are often used in learning. This analysis stage also analyzes the curriculum, which consists of the analysis of KI and KD and material aligned to problems obtained from acquiring observations and interviews to develop products. The analysis carried out is the fundamental stage of the product development process. After the data has gone through the curriculum and needs analysis, solutions will be taken from the problems obtained. The second stage is design; at this stage, making flowcharts, designing storyboards to provide an overview of the appearance of each frame in teaching materials, and collecting material to be used. The third stage is development; at this stage, media experts carry out validation to assess the quality of interactive e-modules based on aspects of language feasibility, presentation, and graphics. Then also by material experts in terms of the quality of the material content and the use of language as a whole. At this stage, a one to one trial and a small group trial were also carried out to see the feasibility of the interactive e-module before being used at the implementation stage. The product can be used at a later stage if it meets the "decent" criteria based on the total score obtained.

The fourth stage is implementation; this is intended to see the effectiveness of interactive e-modules in fostering students' learning motivation and scientific literacy before and after using interactive e-modules like my country that researchers have developed. Furthermore, the fifth stage, namely evaluation, the evaluation stage is carried out in each stage of development, including analysis, planning, development, and implementation. The evaluation stage aims to find out how feasible the interactive

e-module that has been developed is. Data collection in this study used interview guidelines, observation guidelines, product assessment sheets, teacher response scales, student response scales, learning motivation scales, and scientific literacy tests (Sartika et.al., 2023; Suryaningsih et.al., 2023) The effectiveness of interactive e-modules like my country in increasing learning motivation and scientific literacy of fourth-grade elementary school students was analyzed using the t-test and the MANOVA test (Multivariate Analysis of Variance) at a significance level of 0.05. The MANOVA is used to see the effect of interactive e-modules like my country on increasing students' learning motivation and scientific literacy. Sugiyono (2013:333) describes analysis techniques that can be applied to respond to a problem formulation and test the hypothesis the researcher has previously formulated.

RESULT AND DISCUSSION

This interactive e-module is prepared following the principles of the module development procedure, where this e-module is developed according to an analysis of students' needs so that the interactive module's quality can be guaranteed. Daryanto (2013: 15) states that learning modules are structured based on the principles of developing a module which includes needs analysis, module design development, implementation, assessment, evaluation, and validation, as well as quality assurance. The quality of interactive e-modules can be of high quality if the results of developing interactive e-modules stimulate students so that learning can run more effectively. This aligns with Rufii (2015), who revealed that the "development of learning modules as a form of learning materials can be more effective than conventional learning. The module's effectiveness also provides alternative action learning"—learning using interactive e-modules like my country as learning materials can be more effective than conventional learning. The effectiveness of interactive e-modules, like my country, also provides an alternative to the learning process.

In the first stage the researcher conducted an initial analysis. Preliminary analysis was carried out through interviews with IV grade teachers in elementary schools. Based on the interview results, information was obtained that students' learning motivation and scientific literacy were still low. The first interview was conducted with class IV teachers related to learning motivation and scientific literacy. The teacher revealed that students were very less motivated in the learning process. Majority of students have a smartphone but uses it to play games, and the assignments given are not immediately carried out. The students' understanding of science concepts varies, but most have a low understanding. The following is an excerpt from an interview with grade IV teacher.

"Regarding motivation to learn, yes, if given an assignment, they still do it but not on time. As for the score of science itself, they got 60-70, still below the scores of other subjects. Since the science material in student books only contains pictures, even if there is text even though it isn't explains a lot so students look unenthusiastic and seem confused." (JW).

The following is an excerpt from interviews with teachers regarding the suggested solutions.

"The teaching materials needed are certainly technology-based and can be operated via smartphones or laptops, which will definitely attract children to learn. If, for example, you want to develop

teaching materials, children will definitely be interested. Indeed, the teaching materials used in online learning are currently not optimal because they still use printed media/teaching materials, which of course children tend to very bored to learn. If you can develop teaching materials, of course it will be good. Instead of children spending hours playing games that are less educational or to see things that are felt to be less positive. It is better for students to have learning applications in which there are materials, pictures, questions, and so on. (NAS).

Based on the excerpts from the interview results, it can be concluded that teachers need teaching materials that can support learning, teaching materials that are fun and can be used anytime and anywhere. Interactive e-modules are an alternative that can be provided to increase learning motivation and scientific literacy, especially in science content, theme 9 "Kayanya Negeriku", material on energy sources.

The second stage is design. The design stage aims to prepare for product research and development. The product plan to be developed is teaching materials in the form of interactive e-modules to increase the learning motivation and scientific literacy of IV grade elementary school students. The product development planning stages in this study are 1) Designing learning materials. Material designing must pay attention to the use of language that is easy to understand, the use of effective sentences, the use of standard sentences, the use of enhanced spelling (EYD), communicative language, and suitability with the characteristics and cognitive development of students. 2) making flowcharts and storyboards to make it easier in designing interactive e-modules. 3) design result. The results of the interactive e-module design *kayanya negeriku* consist of the front page, main menu, user manual page, introductory page, learning page, evaluation page, developer profile page and bibliography page. The following is a picture of some of the pages in the interactive e-module.

Picture 1. Design Result



Based on the picture above, the e-module is developed in combination with bright colors, pictures (illustrations), sounds, shapes and font sizes that are appropriate

so that students can be interested in learning. This is in line with Yanti et al, (2021) argues that the use of interactive e-modules can increase learning motivation because the e-modules are developed systematically and are supported by images, audio, animation and other features. On the cover consisting of interactive e-module titles that are interesting and can provide an overview of the learning in them, there is a target identity, namely "Class IV SD/MI", there is a "start" button to open the interactive e-module, there is the developer's name and student number, as well as the identity of the developer's agency. Furthermore, on the main menu page there are buttons which when clicked will be directing user to the desired page. On the main menu page there are several buttons, namely the instructions, introduction, learning, evaluation, developer profile and bibliography buttons. For example, when you click the learning button, the "learning material" page will appear. The page has 2 learning activities, namely learning activity 1 and learning activity 2, each learning activity has a description of the material, exercises, summaries, and formative tests along with the scores obtained and formative test answer keys. The material selected during the development of this interactive e-module is in accordance with the class IV thematic book revision 2017 theme 9 (Kayanya Negeriku) on natural science content, material on energy sources.

The material contained in the interactive e-module is in the form of explanations accompanied by illustrations or pictures that make it easier for students to understand the material and the material presented is in the form of reading phenomena that exist in nature or the surrounding environment, so as to increase scientific literacy in students. Tasks and exercises are packaged in such a way that is interesting and can foster enthusiasm in completing the tasks and exercises. On the "learning material" page, it is designed to use a lock in the learning activity section 2. The lock can be opened after students have completed learning activity 1 and worked on formative questions in learning activity 1 by obtaining a score of more than 80. However, if students get a score of less than 80, then students are automatically directed to repeat the material in learning activity 1. The use of this lock is intended to foster curiosity in students about the content in learning activities 2, thereby encouraging students to carry out learning activities and foster learning motivation.

The third stage is development. This stage is the realization of the interactive e-module product design Kayanya Negeriku, which was made at the design stage and then validates the product to experts so that it becomes a viable product and is ready to be implemented. Product validation is carried out by involving material experts and media experts. In addition to experts involvement at this stage product trials are carried out to see the feasibility of the product before being used at the implementation stage.

Experts say that interactive E-module teaching materials like my country are "proper" because they follow the elements of developing learning modules. Moreover, the selected expert/validator is competent and professional in their respective fields. Based on the data from the material validation results, an average score of 3.65 was obtained, and the media validation obtained an average score of 3.85, which was included in the very decent category. Based on these data, it can be concluded that interactive e-modules like my country are very suitable for teaching materials in the learning process on theme 9, "My rich country," specifically for science content to increase learning motivation and scientific literacy in fourth-grade elementary school students.

Material experts determine the eligibility of interactive e-module products based on several aspects, one of which is the material's suitability and the material's correctness of the product. Material content must be related to the learning objectives achieved based on KD and indicators to clarify the direction and objectives. The presentation of the material must be based on systematic, logical order, namely from simple material to more complex material or from concrete material to abstract material (Switri, 2022). Media experts determine the eligibility of interactive e-module products based on several aspects, including the display aspect. The display of interactive e-modules is related to the theme, layout, color, text quality, images, animation, audio, navigation functions, presentation methodology, cognitive load capacity, user control, and quality of feedback/questions. The quality of the text also depends on the font used to make it easy for students to understand the material, and it is better to use a clear, upright, and unrelated type of font (Farisy 2016).

Interactive e-modules like my country, which have been declared "very feasible" by material experts and the media, are then tested. Interactive e-modules, like my country, first conducted a one-to-one trial of 1 teacher and three students. After obtaining expert validation, one-to-one trials are carried out on products in natural conditions in the first stage. Implementation of initial trials through the involvement of students and teachers of class IV at SD Becari Public Primary School to see and identify the strengths and weaknesses of the interactive e-module teaching materials like my country that researchers developed. The trial results obtained an average score of 3.3 for teachers, where the score was included in the "decent" category, and an average score of 3.4 for students, where the score was included in the "very feasible" category. Then a small group trial was carried out.

Small group trials were carried out on products in actual conditions in the second stage after product improvements were carried out based on the suggestions of students and teachers in one-to-one trials. This test's implementation involved students and class IV teachers at SD Negeri Soka. The subjects of the small group trial consisted of 1 teacher and 15 students; from this trial, an average score of 4 was obtained for teachers and an average score of 3.5 for students, where both scores belonged to the category "very worth it"—after carrying out the small group trial product trial, then conducting a field trial test.

The fifth stage is the implementation stage. At this stage, a large-scale trial is carried out or the application of the product that has been developed, namely interactive e-modules Kayanya Negeriku in science learning activities. At this stage the researcher will implement interactive e-modules Kayanya Negeriku in field trials in 2 classes, namely the experimental class and the control class. The experimental class is the class that is used in implementing the product that has been developed, while the control class is the comparison class which in the learning process only uses teaching materials available at school. The field trial test was carried out after the product was revised according to the teacher's and students' suggestions obtained at the two previous trial stages. A field trial test was conducted to determine the effectiveness of interactive e-modules like my country in increasing fourth-grade elementary school students learning motivation and scientific literacy. This trial phase was carried out in 1 control class and one experimental class. The analysis of the effectiveness test in this study used the t-test with the help of SPSS 21.0. The t-test consists of those used, namely the Paired Sample t-Test and the Independent Sample t-Test. Before the t-test, prerequisite tests, namely Normality and homogeneity tests, will be carried out. This Normality and homogeneity can be fulfilled if the test results are insignificant at the sig

level (α) = 0.05. The normality test uses the One Sample K-S (Kolmogorov-Smirnov), and the homogeneity test uses Levene's Test (Test F). The normality test is based on the hypothesis:

Ho: Data comes from a population that is normally distributed

Ha: Data comes from a population that is not normally distributed

While the homogeneity test is based on the hypothesis:

Ho: data variance in each homogeneous group (same)

Ha: The variance of the data in each group is not homogeneous (not the same)

Through the implementation of Normality, we can find out whether the sample data that the researcher uses is from a normally distributed population. For example, the normality test results on the learning motivation variable can be seen in Table 1.

Table 1. Results of the Normality Test of Learning Motivation Data

Kelas	Nilai <i>Kolomorof Smirnov</i>	Asymp Sig (2-tailed)	Keterangan
Pretest Eksperimen	0.663	0.772 > 0.05	Normal
Posttest Eksperimen	0.842	0.478 > 0.05	Normal
Pretest Kontrol	0.553	0.920 > 0.05	Normal
Posttest Kontrol	0.587	0.881 > 0.05	Normal

This table shows that all motivational pretest and posttest data show Asymp Sig (2-tailed) > 0.05. This condition indicates that the hypothesis accepted is H0, meaning that the learning motivation data comes from a normal data population in distribution. The results of the normality test on the scientific literacy variable can be seen in Table 2.

Table 2. Science Literacy Data Normality Test Results

Kelas	Nilai <i>Kolomorof Smirnov</i>	Asymp Sig (2-tailed)	Keterangan
Pretest Eksperimen	1.233	0.095 > 0.05	Normal
Posttest Eksperimen	1.281	0.075 > 0.05	Normal
Pretest Kontrol	1.281	0.075 > 0.05	Normal
Posttest Kontrol	1.062	0.209 > 0.05	Normal

This table shows that all pretest and posttest scientific literacy data show Asymp Sig (2-tailed) > 0.05. Therefore, the accepted hypothesis is H0 or scientific literacy data originating from a normal data population in distribution. The next stage is the homogeneity test. The homogeneity test results on the learning motivation variable are described in Table 3.

Table 3. Learning Motivation Homogeneity Test
Test of Homogeneity of Variances

	Box's M	df1	df2	Sig.
Pretest_Motivasi	0.182	1	4332.000	0.674
Posttest_Motivasi	0.327	1	4332.000	0.573

This table illustrates that the learning outcomes data shows a Sig pretest value of learning motivation of 0.674 and a Sig posttest of 0.573, which means the Sig value. > 0.05. This indicates that the H0 hypothesis is accepted, and it can be concluded that the data comes from a homogeneous population. In comparison, the homogeneity test results on the scientific literacy variable are described in Table 4.

Table 4. Results of Scientific Literacy Homogeneity Test
Test of Homogeneity of Variances

	Box's M	df1	df2	Sig.
Pretest_Literasi	0.216	1	4332.000	0.647
Posttest_Litera si	0.804	1	4332.000	0.376

The table above illustrates that the scientific literacy data shows a Sig pretest value of 0.647 and a Sig posttest of 0.376 which means sig. >0.05. The H0 hypothesis is accepted and reflects the original data from a homogeneous population. After the normality and homogeneity tests are fulfilled, the paired-sample t-test is carried out.

Paired-t-test (paired-sample t-test) aims to see any differences between students' learning motivation and scientific literacy in the experimental class before and after using interactive e-module teaching materials like my country. Calculations were performed using the SPSS 21.0 program. Data analysis and input were carried out using the SPSS 21.0 application. If the acquisition of sig > 0.05 will indicate H0 is accepted; conversely, if the acquisition of sig <0.05 indicates H0 is rejected – the paired t-test results of student learning motivation that described in the following Table 5.

Table 5. Paired t-test results on Learning Motivation
Tabel Paired Samples Test Motivasi Belajar

		Paired Differences				T	Df	Sig. (2- tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
Pair 1	Posttest_Motivasi - Pretest_Motivasi	12.000	12.539	1.983	7.990 16.010	6.053	39	.000

The table above illustrates that the scientific literacy data shows a Sig pretest value of 0.647 and a Sig posttest of 0.376 which means sig. >0.05. The H0 hypothesis is accepted and reflects the original data from a homogeneous population. After the normality and homogeneity tests are fulfilled, the paired-sample t-test is carried out.

Paired-t-test (paired-sample t-test) aims to see any differences between the learning motivation and scientific literacy of students in the experimental class before and after using interactive e-module teaching materials like my country. Calculations were performed using the SPSS 21.0 program. Data analysis and input were carried out using the SPSS 21.0 application. If the acquisition of sig > 0.05 will indicate H0 is accepted; conversely, if the acquisition of sig <0.05 indicates H0 is rejected – the paired t-test results of student learning motivation that described in the following Table 6.

Table 6. Paired Science Literacy t-test results
Tabel. Paired Samples Test Literasi Sains

		Paired Differences					T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Posttest_Literasi - Pretest Literasi	25.000	23.205	3.669	17.579	32.421	6.814	39	.000

Table 6 illustrates that the data from the t-test paired with scientific literacy show a Sig. 0.000, which means <0.05 . This means that the H_0 hypothesis is rejected or there is a significant increase in the scientific literacy scores of students before using interactive e-modules like my country and after using interactive e-modules like my country. The next step is to carry out the Independent Sample t-test.

An independent t-test was used to determine the significance of the differences in learning motivation and scientific literacy of students who used interactive e-module teaching materials for Kaya Negeriku (experimental class) and students who did not use interactive e-module teaching materials for Kaya Negeriku (control class). The Independent Sample t-test shows that the independent t-test results for the experimental and control classes show Sig values. (2-tailed) of 0.000, which means <0.05 . Thus H_0 is rejected, and the hypothesis H_a is accepted, so it can be concluded that there are differences in learning motivation and scientific literacy of students who take part in the learning process using interactive e-modules rich in my country and those who do not use interactive e-modules rich in my country.

Interactive e-modules in science learning are expected to provide an understanding of the material through various readings and written information that the teacher has compiled systematically and interestingly. This can increase students' interest in reading so that scientific literacy will grow in students and students' scientific literacy skills can increase (Wulandari et al., 2021; Almeida et.al., 2023). Furthermore, in addition to scientific literacy, interactive e-modules can increase students' learning motivation because interactive e-modules have exciting features such as pictures, animations, sounds, and others (Elhai., 2023; Fidiastuti & Bariska, 2020). This is supported by the statement of Putri et al., (2021), which revealed that interactive e-modules containing pictures, audio, and learning videos make students more motivated and can develop students' ways of thinking through interactive activities.

Motivation is the drive or desire to achieve planned goals with effort and tenacity (Schunk et al., 2012:475). This drive or desire is influenced by intrinsic factors and extrinsic factors simultaneously. In the learning process, motivated students will carry out activities to collect information, connect new knowledge with old knowledge, and ask questions (Schunk et al., 2012:475). A motivated individual tends to carry out learning activities enthusiastically and will carry out a series of efforts that can last long until the desired goals are achieved. In this study, to see whether learning

motivation and scientific literacy increase or not after using interactive e-modules can be seen from the MANOVA hypothesis testing.

The MANOVA hypothesis testing was carried out to know whether interactive e-modules like my country could significantly increase the learning motivation and scientific literacy of fourth-grade elementary school students. Data analysis and input were carried out using the SPSS 21.0 application. They take into account the significance level value of 0.05. If the acquisition of a significant value > 0.05 , H_0 is accepted; conversely, if the acquisition of a significant value < 0.05 , H_0 is rejected. Complete hypothesis test results can be described in Table 7.

Table 7. MANOVA Hypothesis Test Results
Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.983	1046.274 ^b	2.000	37.000	.000
	Wilks' Lambda	.017	1046.274 ^b	2.000	37.000	.000
	Hotelling's Trace	56.555	1046.274 ^b	2.000	37.000	.000
	Roy's Largest	56.555	1046.274 ^b	2.000	37.000	.000
	Root					
Kelas	Pillai's Trace	.011	.208 ^b	2.000	37.000	.813
	Wilks' Lambda	.989	.208 ^b	2.000	37.000	.813
	Hotelling's Trace	.011	.208 ^b	2.000	37.000	.813
	Roy's Largest	.011	.208 ^b	2.000	37.000	.813
	Root					

a. Design: Intercept + Kelas

b. Exact statistic

The table above illustrates that the data from the MANOVA hypothesis test consisting of Pillai's Trace, Wilk's Lambda, Hotelling's Trace, and Roy's Largest Root shows a Sign value (2-tailed) of 0.000, which means a signed value < 0.05 . Thus hypothesis H_0 is rejected, and hypothesis H_a is accepted. So there is a significant difference between learning motivation and scientific literacy of fourth-grade elementary school students who take part in the learning process using interactive e-modules rich in my country and those who do not use interactive e-modules rich in my country. Therefore, interactive e-modules like my country can increase the learning motivation and scientific literacy of fourth-grade elementary school students in the Pundong District.

The advantage of interactive e-modules is that they are arranged systematically and interestingly, from instructions for using the module and learning materials to evaluation questions that have been well prepared to be used to realize learning objectives. This aligns with Akbar (2016:32) opinion that modules are teaching materials arranged systematically. The module's contents include materials, instructions for use, and study instructions, as well as evaluation methods that are designed systematically and attractively to achieve the expected competencies according to the level of complexity.

Interactive e-modules implemented in grade IV elementary schools in the Pundong sub-district have proven effective in increasing student learning motivation. This was obtained from the SPSS calculation of learning motivation. The results of the independent t-test also showed that there were differences in the posttest scores of the

experimental class that used interactive e-modules Kayanya Negeriku of students in the control class who did not use interactive e-modules like my country in science learning activities. Acquisition of a significance value <0.05 , which is equal to 0.000. The results of the paired t-test also show differences in student scores before and after using interactive e-modules Kayanya Negeriku in science learning activities with a significance value of <0.05 , which is equal to 0.000. In addition, interactive e-modules are also effective for increasing scientific literacy. The results of the independent t-test showed that there were differences in the posttest scores of the experimental class that used interactive e-modules Kayanya Negeriku in learning activities with students in the control class who did not use interactive e-modules Kayanya Negeriku in science learning activities. Acquisition of a significance value <0.05 , which is equal to 0.000. The results of the paired t-test also show differences in student scores before and after using interactive e-modules Kayanya Negeriku in science learning activities with a significance value of <0.05 , which is equal to 0.000.

The results of hypothesis testing using MANOVA illustrate that the sig. 0.000 means sig. < 0.05 . This means that there is a significant difference in the learning motivation and scientific literacy of IV grade elementary school students who use interactive e-modules Kayanya Negeriku and students who do not use interactive e-modules Kayanya Negeriku. Based on the findings, it shows that the interactive e-module on theme 9 "Kayanya Negeriku", science content with energy source materials in grade IV elementary schools can increase learning motivation and scientific literacy in students.

Interactive e-modules have several components, namely in the form of images, sounds, animations, and text. These components can make students more interested in learning, because this interest can foster students' learning motivation and the better their learning outcomes will be. This means that interactive e-modules Kayanya Negeriku can be one of the teaching materials used to help to increase students' learning motivation. In line with research by Oksa & Soenarto (2020) who found that e-modules are very feasible and effective to use to increase learning motivation in students. The use of animation that can be controlled by students makes learning more effective (Rusli & Rinarta, 2017). It is also supported by Putri et al., (2021) who revealed that interactive e-modules containing pictures, audio, and learning videos make students more motivated and can develop students' way of thinking through interactive activities. In addition to images, audio, animation and video, narrated texts can also facilitate students who have visual and verbal learning styles (Rusli & Rinarta, 2017). Display of narrated text, images, animations and audio in the interactive e-module will help to visualize the material being studied, so that students are helped to understand the material in the interactive e-module easily in understanding difficult concepts, using the e-module will more effective for increasing understanding, enthusiasm for learning students, and making students not easily bored in the learning process.

Interactive e-modules can also increase scientific literacy, because interactive e-modules can be operated easily and have interesting features that make it easier for students to understand the material. This is in line with the opinion by Kimianti & Prasetyo (2019) which states that the Science e-module is a teaching material that is operated using technological assistance, so that it is practical, flexible, can learn independently and makes it easier for participants to learn and can facilitate scientific literacy skills in students so they can solve problems in everyday life and to meet future challenges. It is said to be interactive because someone who will operate it will

experience interaction and make the user more active, for example actively clicking buttons, paying attention to the images in it, paying attention to varied and colorful writing, sound, animation and even video.(Raharjo et al., 2017). The presence of interactive e-modules in science learning is expected to provide an understanding of the material through various readings and written information that has been compiled by the teacher in a systematic and interesting way. This can increase students' interest in reading so that scientific literacy will grow in students and students' scientific literacy skills can increase (Wulandari et al., 2021). The science learning process emphasizes providing direct experience to develop competencies in order to understand the natural surroundings. Someone who has scientific literacy skills, namely having the ability to solve problems, use scientific concepts obtained in education according to their level, knows the technology that is around them and their impacts, is able to use simplified technology and is able to make decisions based on values.

This research is an illustration of the importance of interactive e-modules in increasing learning motivation and scientific literacy in fourth grade elementary school students. Interactive e-modules present material in the form of reading phenomena that exist in nature or the surrounding environment, so as to increase scientific literacy in students. In addition, interactive e-modules are packaged systematically using various colors and fonts adapted to elementary school students, using attractive pictures and sounds, so as to foster students' learning motivation. The interactive e-modules developed provide convenience for students, because students can use them anytime and anywhere.

CONCLUSION

The conclusion obtained based on the results of this assessment is that interactive e-modules are declared feasible to be used to increase learning motivation and scientific literacy. The media expert's review results obtained the "very appropriate" category, and the material expert's assessment obtained the "very appropriate" category. In the one-to-one trial, the "proper" category was obtained from the response given by the teacher, and the participant's response was "very appropriate" for students. In contrast, the small group trial obtained the category "very feasible" from the responses given by the teacher and students who had done it. Therefore, interactive e-module products like my country are effectively used in increasing learning motivation and scientific literacy of fourth-grade elementary school students in Pundong District based on the results of the effectiveness test conducted in the field trial test through independent t-test analysis, paired t-test, and MANOVA test. The independent t-test, paired t-test, and MANOVA results show a Sign value (2-tailed) of 0.000, which means a value <0.05 . Thus hypothesis H_0 is rejected, and hypothesis H_a is accepted. So that there is a significant difference between learning motivation and scientific literacy of fourth-grade elementary school students who take part in the learning process using interactive e-modules like my country and those who do not use interactive e-modules like my country. Therefore, interactive e-modules like my country can increase the learning motivation and scientific literacy of fourth-grade elementary school students in the Pundong District.

ACKNOWLEDGEMENT

Thank God for the grace God Almighty bestows so researchers can finish writing this article. On this occasion, the researcher would like to thank the teachers

and students at SD Negeri Becari, SD Negeri Soka, SD Muhammadiyah Kalinampu 1, and SD Muhammadiyah Kalipakem 1, who have participated in carrying out this research and thank the supervisors for assisting in the research.

AUTHOR CONTRIBUTION STATEMENT

All researchers have actively participated in the research and agree on the final results of writing the manuscript.

REFERENCES

- Afrizon, R., Hidayati, H., & Novitri, L. (2023, April). Analysis of senior high school student's motivation to study physics in Padang city for the development of physics learning games with scientific literacy. In *AIP Conference Proceedings* (Vol. 2619, No. 1). AIP Publishing. <https://doi.org/10.1063/5.0123730>
- Agustrianti, S., Cahyono, B. Y., & Laksmi, E. D. (2016). Indonesian EFL students' motivation in English Learning and their literacy skills across gender. *International Journal of Applied Linguistics and English Literature*, 5(4), 219-227. <https://doi.org/10.7575/aiac.ijalel.v.5n.4p.219>
- Aji, R. H. S. (2020). Dampak Covid-19 pada Pendidikan di Indonesia: Sekolah, Keterampilan, dan Proses Pembelajaran. *SALAM: Jurnal Sosial dan Budaya Syar-i*, 7(5). <https://doi.org/10.15408/sjsbs.v7i5.15314>
- Almeida, B., Santos, M., & Justi, R. (2023). Aspects and abilities of science literacy in the context of nature of science teaching. *Science & Education*, 32(3), 567-587. <https://doi.org/10.1007/s11191-022-00324-4>
- Akbar, S. (2016). *Implementasi Pembelajaran Tematik di Sekolah Dasar*. PT. Remaja Rosdakarya Offset. [Google Scholar](#)
- Belfi, L. M., & Jordan, S. G. (2022). Web-Based Radiology Learning Module Design: The Author Perspective. *Academic Radiology*, 29(4), 584-590. <https://doi.org/10.1016/J.ACRA.2021.02.017>
- Daryanto. (2013). *Menyusun Modul (Bahan Ajar Untuk Persiapan Guru Dalam Mengajar)*. Gava Media. [Google Scholar](#)
- Dewi, W. A. F. (2020). Dampak Covid-19 Terhadap Implementasi Pembelajaran Daring Di Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 2(1), 55-61. <https://doi.org/10.31004/edukatif.v2i1.89>
- Dwitalia Sari, D. (2021). Permasalahan Guru Sekolah Dasar Selama Pembelajaran Daring. *Jurnal Ilmiah Kontekstual*, 2(02), 27-35. <https://doi.org/10.46772/kontekstual.v2i02.394>
- Dwiyantri, I., Supriatna, A. R., & Marini, A. (2021). Studi Fenomenologi Penggunaan E-Modul Dalam Pembelajaran Daring Muatan Ipa Di Sd Muhammadiyah 5 Jakarta. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, 6(1). <https://doi.org/10.23969/jp.v6i1.4175>
- Elhai, J. (2023). Science Literacy: a More Fundamental Meaning. *Journal of Microbiology & Biology Education*, e00212-22. <https://doi.org/10.1128/jmbe.00212-22>
- Eliyana, E. (2020). Analisis Keterampilan Proses Sains Siswa Belajar Ipa Materi Tumbuhan Hijau Pada Siswa Kelas V SDN 3 Panjerejo di Masa Pandemi Covid-19. *Eduproxima: Jurnal Ilmiah Pendidikan IPA*, 2(2), 87. <https://doi.org/10.29100/eduproxima.v2i2.1628>

- Farisy, M. S. (2016). Penyusunan Buku Cerita Bergambar Untuk Pengenalan Memasak Kepada Anak. *EProceedings of Art \& Design*, 3(3), 704–713. [Google Scholar](#)
- Fidiastuti, H. R., Prabowo, C. A., & Bariska, H. F. (2020, March). Pojok digital: The role of technology to improve learning motivation and literacy of primary school students. In *Journal of Physics: Conference Series* (Vol. 1511, No. 1, p. 012018). IOP Publishing. <https://doi.org/10.1088/1742-6596/1511/1/012018>
- Flierl, M., Bonem, E., Maybee, C., & Fundator, R. (2018). Information literacy supporting student motivation and performance: Course-level analyses. *Library & Information Science Research*, 40(1), 30-37. <https://doi.org/10.1016/j.lisr.2018.03.001>
- Gunawan, P. I. Y., & Amaludin, A. (2021). Pemanfaatan teknologi pembelajaran dalam jaringan di masa pandemi covid-19. *Jurnal Madaniyah*, 11(2), 133–150. [Google Scholar](#)
- Hidayah, N. (2018). Analisis Kesiapan Mahasiswa Prodi Pendidikan Guru Madrasah Ibtidaiyah Sebagai Calon Pendidik Profesional. *Terampil : Jurnal Pendidikan dan Pembelajaran Dasar*, 5(1), 116. <https://doi.org/10.24042/terampil.v5i1.2936>
- Ho, H. C., Poon, K. T., Chan, K. K. S., Cheung, S. K., Datu, J. A. D., & Tse, C. Y. A. (2023). Promoting preservice teachers' psychological and pedagogical competencies for online learning and teaching: The TEACH program. *Computers & Education*, 104725. <https://doi.org/10.1016/j.compedu.2023.104725>
- Hutauruk, A., & Sidabutar, R. (2020). Kendala Pembelajaran Daring Selama Masa Pandemi di Kalangan Mahasiswa Pendidikan Matematika: Kajian Kualitatif Deskriptif. *Sepren: Journal of Mathematics Education and Applied*, 02(01), 45–51. <https://doi.org/10.36655/sepren.v2i1.364>
- Indra, M., Munadi, S., & Widari, T. (2023). The Correlation of Motivation and Habit with Learning Outcomes in New Normal Era. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 8(1), 51-70. <https://doi.org/10.25217/ji.v8i1.2749>
- Imamora, M., Fitri, D. W., & Lizelwati, N. (2020). Pengembangan Modul Gejala Pemanasan Global Berbasis Pendekatan SETS untuk Meningkatkan Hasil Belajar Siswa Fisika Kelas XI SMAN 7 Sijunjung. *Sainstek: Jurnal Sains dan Teknologi*, 12(2), 51. <https://doi.org/10.31958/js.v12i2.2625>
- Kimianti, F., & Prasetyo, Z. K. (2019). Pengembangan E-Modul Ipa Berbasis Problem Based Learning Untuk Meningkatkan Literasi Sains Siswa. *Kwangsan: Jurnal Teknologi Pendidikan*, 7(2), 91. <https://doi.org/10.31800/jtp.kw.v7n2.p91--103>
- Leh, F. C., Anduroh, A., & Huda, M. (2021). Level of knowledge, skills and attitude of trainee teachers on Web 2.0 applications in teaching geography in Malaysia schools. *Heliyon*, 7(12), e08568. <https://doi.org/10.1016/j.heliyon.2021.e08568>
- Lee, T. T., & Osman, K. (2012). Interactive Multimedia Module in the Learning of Electrochemistry: Effects on Students' Understanding and Motivation. *Procedia - Social and Behavioral Sciences*, 46, 1323–1327. <https://doi.org/10.1016/J.SBSPRO.2012.05.295>
- Oksa, S., & Soenarto, S. (2020). Pengembangan E-Modul Berbasis Proyek Untuk Memotivasi Belajar Siswa Sekolah Kejuruan. *Jurnal Kependidikan*, <https://news.ge/anakliis-porti-aris-qveynis-momava>. [Google Scholar](#)
- Putri, N. K. R. C., Margunayasa, I. G., & Yudiana, K. (2021). E-Modul Interaktif pada Muatan IPA Subtema 1 Tema 8 Kelas V Sekolah Dasar. *Jurnal Penelitian Dan*

- Pengembangan Pendidikan, 5(2), 175–182.
<https://doi.org/10.23887/jppp.v5i2.33653>
- Raharjo, Moh. W. C., Suryati, S., & Khery, Y. (2017). Pengembangan E-Modul Interaktif Menggunakan Adobe Flash Pada Materi Ikatan Kimia Untuk Mendorong Literasi Sains Siswa. *Hydrogen: Jurnal Kependidikan Kimia*, 5(1), 8.
<https://doi.org/10.33394/hjkk.v5i1.102>
- Retnosari, D. S., & Hakim, L. (2021). E-Modul Interaktif Perbankan Syariah Sebagai Bahan Ajar Alternatif dalam Menunjang Perkuliahan Daring Mahasiswa. 5(2), 9.
<https://doi.org/10.23887/jppp.v5i2.34387>
- Rigianti, H. A. (2020). Kendala Pembelajaran Daring Guru Sekolah Dasar Di Kabupaten Banjarnegara. *Jurnal Pendidikan dan Pembelajaran Ke-SD-an*, 6.
<https://doi.org/10.31316/esjurnal.v7i2.768>
- Rufii, R. (2015). Developing Module on Constructivist Learning Strategies to Promote Students' Independence and Performance. *International Journal of Education*, 7(1), 18. <https://doi.org/10.5296/ije.v7i1.6675>
- Rusli, M., & Rinarta, K. (2017). The Effect Of Animation In Multimedia Computer-Based Learning And Learning Style To The Learning Results. *Turkish Online Journal of Distance Education*, 109, 177–190.
<https://doi.org/DOI:10.17718/tojde.340409>
- Sakti, G., & Sulung, N. (2020). Analisis Pembelajaran Di Masa Pandemi Covid 19 (Literatur Review). *Jurnal Endurance: Kajian Ilmiah Problema Kesehatan*, 18.
<https://doi.org/10.22216/jen.v5i3.5553>
- Sartika, D., Nurlina, N., Mutmainna, M., Aris, N. A., & Musliana, M. (2023, April). The scientific literacy profile of senior high school student based on science competence dimension. In *AIP Conference Proceedings* (Vol. 2619, No. 1). AIP Publishing. <https://doi.org/10.1063/5.0122563>
- Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2012). *Motivation in Education: Theory, Research, and Application*. Pearson Education. [Google Scholar](#)
- Septianti, S., Muzzazinah, & Indrowati, M. (2023, January). Development needs analysis of e-modul based on POGIL (process oriented guided inquiry learning) on structure material and function of plant network student class XI. In *AIP Conference Proceedings* (Vol. 2540, No. 1, p. 020019). AIP Publishing LLC. <https://doi.org/10.1063/5.0107274>
- Suryaningsih, S., Nisa, F. A., Muliharto, & Aldiansyah, F. (2023, March). Implementation of ICT literacy in STEAM project learning for measuring student's interest and motivation. In *AIP Conference Proceedings* (Vol. 2572, No. 1, p. 030001). AIP Publishing LLC. <https://doi.org/10.1063/5.0118585>
- Sugiyono. (2013). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R & D*. Alfabeta. [Google Scholar](#)
- Suprapmanto, J., & Utomo. (2021). Analisis Permasalahan Pembelajaran Daring Selama Pandemi Covid 19 dan Solusinya. *Jurnal Belaindika (Pembelajaran Dan Inovasi Pendidikan)*, 3(2), 15–19. <https://doi.org/10.52005/belaindika.v3i2.70>
- Suryaningsih, S., Nisa, F. A., Muliharto, & Aldiansyah, F. (2023, March). Implementation of ICT literacy in STEAM project learning for measuring student's interest and motivation. In *AIP Conference Proceedings* (Vol. 2572, No. 1, p. 030001). AIP Publishing LLC. <https://doi.org/10.1063/5.0118585>

- Suprpto, S., Hamzah, S., Yulistio, D., & Susetyo, S. (2021). The Relationship Organizational Culture, Motivation, Resilience and Leadership of Principals with the Work Ethic of Indonesian Language Teachers. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 6(1), 192-210. <https://doi.org/10.25217/ji.v6i1.1293>
- Switri, E. (2022). *Teknologi dan Media Pendidikan Dalam Pembelajaran*. Penerbit Qiara Media. [Google Scholar](#)
- Tania, A. Y. (2020). Analisis Pembelajaran Daring Selama Pandemi Covid-19 Di Sekolah Dasar Surakarta. *Jenius: Jurnal of Education Policy and Elementary Education Issues*, 1(2), 1-8. <https://doi.org/10.22515/jenius.v1i2.3705>
- Velavan, T. P., & Meyer, C. G. (2020). The Covid-19 epidemic. *Tropical Medicine & International Health*, 25(3), 278-280. <https://doi.org/10.1111/tmi.13383>
- Widiawati, W., Susongko, P., & Widiyanto, B. (2019). Pembelajaran Model Double Loop Problem Solving Berbantuan Alat Peraga untuk Meningkatkan Kemampuan Literasi Sains Peserta Didik. *Jurnal Pendidikan MIPA Pancasakti*, 4(Juli 2019), 1-8. <https://doi.org/10.24905/jpmp.v3i2.1415>
- Wiyono, B. H., & Budhi, W. (2018). Pengaruh Metode Pembelajaran Ctl Terhadap Hasil Belajar Ipa Siswa Kelas Viii Ditinjau Dari Kemampuan Berkomunikasi. *Natural: Jurnal Ilmiah Pendidikan IPA*, 5(1), 11. <https://doi.org/10.30738/natural.v5i1.2561>
- Wulandari, F., Yogica, R., & Darussyamsu, R. (2021). Analisis Manfaat Penggunaan E-Modul Interaktif Sebagai Media Pembelajaran Jarak Jauh di Masa Pandemi Covid-19. *Khazanah Pendidikan: Jurnal Ilmiah Kependidikan*, 15(2), 139-144. <https://doi.org/10.30595/jkp.v15i2.10809>

Copyright Holder :

© Christina Ismanati & Baroroh Iskhamdhanah (2023).

First Publication Right :

© Jurnal Iqra' : Kajian Ilmu Pendidikan

This article is under:

