Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 5249 – 5259
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4632

Development of Project Based Teaching Module to Increase Students' Creativity in Designing Indonesian Language Learning

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Abstract

This research aims to produce a Project Based Teaching Module that is suitable for use in lectures on the Development of Indonesian Language and Literature Learning in elementary schools oriented to the Independent Curriculum. This type of research is R&D with an ADDIE (Analysis, Design, Development, Implementation, and Evaluation) design. This research was carried out on S1 students of the PGSD FIPP UNY Study Program who are taking the Elementary Indonesian Learning Development Course. The data collection techniques that will be used in the study include teaching material assessment scales, observation sheets, and interview guidelines. The research instrument used in the design and develop stage is carried out on an assessment scale to test feasibility using a scale. The data analysis in this study was carried out in two ways, namely (1) the data from the interview was analyzed by descriptive-qualitative analysis techniques and (2) the product feasibility data. The results of the product assessment data were measured and analyzed by qualitative descriptive techniques using score scale conversion. After obtaining data in the form of scores, the next step is to convert quantitative data into qualitative data with a scale assessment classification of 5, namely very feasible, feasible, moderately feasible, less feasible, and very unfeasible. The result of this research is the production of a project-based teaching module that is feasible to increase students' creativity in designing Indonesian language learning in elementary schools. The implication of the results of this study is that designing lectures from scratch—contained in modules—makes it easier for students to understand and implement theory to become a product.

Keywords: *Project Based Teaching, Modules, Creativity, Learning Plan, Indonesian.*

Introduction

Effective curriculum creation and a successful educational program must aim to satisfy the expectations of the communities they serve as well as the requirements and demands of culture and society. Thus, the process of education reform and curriculum development are continually being reviewed, revised, and altered (Johnson et al., 2021). The successful development and updating of the curriculum depends on the participation of all stakeholders, particularly those directly involved in learning, as curriculum development can be difficult.

The teacher is the most crucial individual in the curriculum implementation process. Teachers are at the heart of any curriculum development endeavor because of their expertise, experience, and competency. Since they are the most experienced in teaching methods and are in charge of implementing the curriculum in the classroom, better instructors promote better learning. Teachers should make an effort to learn and comprehend the curriculum if it was created by the other party. Teachers must therefore participate in the creation of curricula. For instance, curriculum creation should take into account the thoughts and opinions of teachers. However, teachers must be taken into account by curriculum development teams as a component of the environment that influences the curriculum (Vhalery et al., 2022). As a result, effective and significant curriculum development depends on teacher involvement. The final phase of curriculum preparation involves teachers acting

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DOI: https://doi.org/10.62754/joe.v3i7.4632

as implementers.

To address community needs, teachers must be included in the curriculum development process. It is imperative that educators take action and consider community needs throughout the curriculum preparation process. But occasionally, it's unclear what procedure teachers are expected to adhere to. However, not every teacher has the chance to participate in the curriculum implementation process. The success of curriculum creation and implementation is significantly influenced by teacher professional development (Hasim, 2020). To effectively contribute to curriculum creation, teachers need to possess the necessary knowledge and abilities. For this reason, in order to be enabled to participate in curriculum development, teachers must get professional development training and workshops.

The tasks and responsibilities of teachers involved in curriculum organization are numerous. Teachers take pleasure in instructing and observing the growth of their pupils' interests and abilities. Since it is their duty to apply the curriculum in order to satisfy the needs of the students, teachers must create lesson plans and curricula within the parameters of the provided curriculum. According to Marisa (2020), the degree of teacher involvement as a hub for curriculum creation results in the implementation of successful educational reforms. As a result, instructors play a crucial role in the construction of curricula, including their consequences and evaluation procedures. In order to organize and compile textbooks, teachers can help by collaborating and working efficiently with curriculum development teams and experts. In order to match the curriculum's content with the requirements of the children in the classroom, teachers must be involved in the curriculum development process. In order to boost the creativity of S1 PGSD students in creating elementary school learning that is focused on the autonomous curriculum, the research topic is to determine how to examine the necessity of developing a project-based teaching module. In the meantime, this study aims to outline the analysis of the necessity of creating a Project Based Teaching Module in order to boost the creativity of S1 PGSD students in creating primary school lessons that are focused on the independent curriculum.

Specifically, the problems found in the field are (1) PGSD S1 students experience limitations in developing creative ideas to design learning in elementary schools oriented to the Independent Curriculum. This can be caused by conventional learning approaches and lack of practical experience in the development of learning modules. (2) Students lack effective learning module design skills. This includes a lack of understanding of learning design principles that are interesting and relevant to elementary school students. (3) Students do not fully understand the concept and objectives of the Independent Curriculum that is being implemented in elementary school. This lack of understanding can affect students' ability to compile learning modules that are in accordance with the principles of the curriculum. (4) Students may face limited resources and access to the technology needed to develop interactive and project-based learning modules.

The theories used in this study are Project Based Learning (Zaeriyah, 2022). The development of learning tools carried out based on PjBL is prioritized is developing learning tools (Tesi Muskania & Wilujeng, 2017), developing student worksheets (Novita et al., 2016), developing learning evaluation models (Yuwono & Syaifuddin, 2017), developing teaching materials (Rahmawati et al., 2022). Module (Maulida, 2022); (Mustadi et al., 2023); (Nurhayati et al., 2022), and development of Merdeka Kurikulum (Wibowo et al., 2022) The reason is that modules are more practical, cheap, and effective (Yuwono & Syaifuddin, 2017). Creativity (Mbebeb, 2019); (Sternberg, 2022); (Kuo & Yeh, 2016), Independent Curriculum (Rahayu et al., 2022); (Vhalery et al., 2022); (Hasim, 2020). Therefore, in order for the goal of implementing this curriculum to be achieved, a good *role model* is needed as a reference (Aji & Putra, 2021).

Research on *project-based teaching* has indeed been carried out a lot. Existing research and scientific publications inform such a thing. Some related research, namely the benefits of multimodal project-based learning in teaching English to international students. The role of teachers and student evaluation in online project-based learning (Guo et al., 2022). Student learning outcomes from

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international engagement projects (Kisaalita et al., 2022). Digital storytelling as a tool for reflection in virtual reality projects (Kim et al., 2021). Develop the competencies and skills of senior nursing assistants through project-based learning and individual coaching (Szplit & Stawiak-Ososińska, 2015). Teaching Computational Thinking Concepts: STEM-Based Programs with Tangible Robots in Project-Based Learning Courses (Hsieh et al., 2022). Collaborative investigation project in urban elementary schools (Ntelioglou et al., 2014). Implementing *Project-Based-Learning* to improve English speaking skills (Tuyen et al., 2022). Based on this fact, it appears that research related to *project-based teaching* to increase student creativity in designing learning does not yet exist. This is a novelty that has emerged and is expected to make a positive contribution to the development of education in Indonesia.

Based on these problems, this research aims to produce *a Project Based Teaching Module* that is suitable for use in lectures on the Development of Indonesian Language and Literature Learning in elementary schools. It is hoped that with the birth of *this Project Based Teaching Module*, it will be able to improve students' ability to understand and develop innovative learning tools oriented to the Independent curriculum.

Method

Type of Research

ADDIE (Analysis, Design, Development, Implementation, and Evaluation) design is the research and development methodology employed (Aldoobie, 2015); (Branch, 2009). The first stage in creating instructional materials is to conduct a needs analysis in the field to learn about the issues and requirements of the elementary school pupils enrolled in the Indonesian Education Development Course. Literature reviews are done in conjunction to needs analyses in order to identify corroborating theories. Additionally, the researcher will investigate the substance of the material for the creation of instructional materials throughout the design stage. Additionally, during the development phase, researchers will create instructional materials based on project-based teaching theory in response to industry demands for resources that can help students comprehend how learning tools are developed. Following the creation of a prototype, a product feasibility test will be conducted using professional judgment. Three different iterations of the practicality test—one-on-one, small-group, and field—will be conducted. Figure 1 below is an illustration of the product development procedure chart.

Research Subject

In order to determine whether this study product is necessary as a teaching tool in the PGSD Study Program, it was conducted on S1 students enrolled in the Indonesian Learning Development Course for Elementary School as part of the PGSD FIPP UNY Study Program. Purposive sampling is a sampling approach that selects study subjects based on predetermined criteria (Creswell, 2009). Students enrolled in the Indonesian Language and Literature Learning Development Course for primary school in their sixth semester meet the requirements.

Data Collection Techniques

The study will include observation sheets, interview instructions, and instructional material assessment scales as data collection methods. Teaching material specialists and material experts use the teaching material evaluation scale to determine if project-based teaching materials are feasible. The Indonesian Learning Development course for primary school students will use the observation sheet to evaluate how well project-based teaching materials are being used to implement learning. The purpose of the interview guidelines is to learn what users think of the instructional materials.

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Research Instruments

In order to test feasibility, the research instrument employed in the design and development stage is conducted on an assessment scale. Additionally, the stage of user testing of the usefulness of instructional materials, including one-on-one, small-group, and field trials, as well as the evaluation of the efficacy of digital teaching material products utilizing tools like questionnaires and interview guidesheets.

Data Analysis

The data analysis in this study was carried out in the following two ways.

Interview Result Data

Descriptive-qualitative analytic methods were used to examine the interview data. Teachers and primary school pupils were interviewed. In the meantime, this interviewing method is used during the media practicality test and needs analysis phases.

Product Eligibility Data

Using score scale conversion, qualitative descriptive approaches were used to measure and analyze the product assessment data. Converting quantitative data into qualitative data using a scale assessment classification of five—very viable, practical, moderately feasible, less feasible, and highly unfeasible—comes next once data is obtained in the form of scores.

Table 1. Scale Grading Classification

Formula	Average	Classification
X > X1 + 1,8 x sbi	>4.2	very worthy
X1 + 0,6 x sbi < X ≤ X1 + 1,8 x sbi	>3.4 - 4.2	proper
X1 – 0,6 x sbi < X ≤ X1 + 0,6 x sbi	>2,6 – 3,4	quite decent
X1 – 1,8 x sbi < X ≤ X1 – 0,6 x sbi	>1.8 – 2.6	Less worthy
X ≤ X1 – 1.8 x sbi	≤ 1.8	and very unworthy

The quantitative data obtained from product trials will be subjected to descriptive statistical analysis. To evaluate the viability of project-based learning resources by applying the product moment formula.

Results and Discussion

Result

Project based teaching module to increase students' creativity in designing elementary school learning by using the ADDIE development model which consists of five stages of analysis*, design, development, implement,* and *evaluation*). In more detail and clarity, the stages of development will be described as follows.

Analysis Stage

Needs Analysis

According to the findings of the preliminary study on PGSD FIPP UNY students, instructional materials are necessary to enhance learning, particularly in the Indonesian Language and Literature Education Development Course for Elementary Schools. The findings of a survey completed by 62 respondents from various classes provide evidence of this, demonstrating their urgent need for instructional resources for the Educational Development course. The questionnaire's results demonstrate that all students—100% of them—said they require instructional resources for tool creation, particularly those based on the Independent Curriculum. To boost the creativity of PGSD S1 students in creating learning in autonomous

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curriculum-oriented elementary schools, a project-based teaching module will be created during this second year of research.

Material Analysis

One of the challenges identified in the material analysis was that the majority of students had trouble comprehending the course material and creating learning resources that were in line with the autonomous curriculum. Because they are unable to effectively synthesize the material they have acquired, they nonetheless have a tendency to memorize it. Furthermore, some students continue to make mistakes when attempting to connect the content to real-world situations. It is challenging for students to create learning resources because they struggle to grasp learning concepts. The first learning competency based on the autonomous curriculum was determined by analyzing the materials used to build the teaching modules. Students are capable of creating learning outcomes and converting them into learning objectives. Students also know how to create trigger questions, classify students into groups, plan activities using learning models, and administer tests (diagnostic, formative, and summative).

Analysis of Student Characteristics

Some of the causes of student learning difficulties include a lack of student involvement in the lesson, difficulty understanding the questions, lack of student reading materials, and a lack of student interest in the lesson due to the teacher-centered learning approach. Students can already sort and classify objects while they are in the concrete operation stage. Students will consider problems or events from the perspective of others.

However, field data shows that students still have a low level of education and have not reached completion. This is due to the fact that many students still have difficulty understanding the subject matter. Students concentrate only on the theory of the subject matter. Learning media is necessary because students are less actively involved in learning, which makes them bored, disinterested, and less creative. With this module, it is hoped that students will participate more actively in learning and gain a better understanding of the concepts contained in learning the development of Indonesian education in elementary schools. In addition, learning becomes more interesting and meaningful for students.

Planning Stage

Preparation of Assessment Parameters

In the design stage—the preparation of assessment parameters, this study uses test and non-test instruments so that the media feasibility assessment parameters are obtained based on the results of the questionnaire.

An evaluation questionnaire by experts consisting of a questionnaire of material experts, and a questionnaire of media experts. Media experts judge from the aspect of appearance and instruction. Meanwhile, material experts assess from the aspects of content/material and learning.

Student learning activity observation sheets, teacher response questionnaires, and student responses were used to determine whether there was an increase in student learning activity before and after using interactive media. The questionnaire from the responses of teachers and students is seen from the aspects of learning (content/material), instructional, and appearance.

Concept comprehension test questions, containing questions in the form of multiple choice related to the material presented in the product being developed.

Format Selection

In the preparation of this module, the canva application format was chosen. With the canva application, researchers design as attractive as possible, there are videos and infographics on each material, there is a

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narrator in the material menu section that contains audio.

In addition, the selection of teaching materials uses modules/teaching materials in accordance with the independent curriculum. In the module design, initial competencies, learning achievements, learning objectives, meaningful understanding, opening activities, core activities, closing activities, facilities and infrastructure, assessment, enrichment of resources, and reflection are listed. Interactive media developed for the development of Indonesian learning tools in elementary schools that are presented in detail according to learning outcomes and learning objectives.

Media Selection

In the selection of media/software used, the Canva application is designed based on the needs in creating media as attractive as possible which is combined with images, videos, animations and audio.

Development Stage

Media development, the first step is to create an initial display on interactive media before entering the main menu. On this page, there is a loading display to go to the login view.

Credentials Project Based Teaching Module

Qualification is a condition in which a matter or individual is considered to meet certain conditions or criteria required to perform or achieve something. In this module development concept, feasibility is defined as the extent to which the module developed meets certain criteria or standards that make it feasible or appropriate for use in the context of learning. To achieve the category of feasible or not, an assessment is carried out by media experts and material experts.

Media Expert Validation

Media validation in the development of *Project Based Teaching Module* is an evaluation process that aims to ensure that the media used in the module is effective, interesting, and in accordance with the learning objectives. In this validation, several aspects and indicators that form the basis of the assessment are reflected in the following table 2.

Table 2. Media Rating Indicators

No.	Aspects	Indicator
1	Visual design quality	Neat layout Consistency in the use of fonts, colors, and graphic elements Layer display quality
2	Presentation of Materials	Narrative quality Video fit with material The information presented is easy to understand
3	Implementation	Ease of Use Usage Support Flexibility of Use
4	Language	Text Readability Grammar Ambiguity

The media expert who became a validator in this study was a lecturer at the Faculty of Education and Psychology, Yogyakarta State University who had a gap in terms of learning media. The number of media validators used in this study is two media experts. The results of the assessment from the media expert validators are as follows.

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Table 3. Results of Media Expert Assessment

Aspects	Media Expert 1	Media Expert 2
Visual design quality	90	88
Presentation of Materials	87	90
Implementation	90	90
Language	92	95
Average score	89.75	90.75
Category	very good	very good

Table 3 indicates that media expert 1's score yielded outcomes with a very good category average. The visual design achieved a score of 90 in the very good category for quality. Then, it received an 87 in the very good category for the material presentation component. It obtained a score of 90 in the very good category for implementation. The language component, meanwhile, received a score of 92, falling into the very good range. Media Expert 1 received an average score of 89.75 on the module assessment, placing them in the very good category.

The findings of media expert 2's score have a very good category average. The visual design achieved a score of 88 in the very good category for quality. The presentation of the content then obtained a score of 90, falling into the "very good" category. It obtained a score of 90 in the very good category for implementation. In the meantime, the language component received a very good category score of 95. Media Expert 2's module assessment average score is 90.75, falling into the "very good" category.

Material Expert Assessment Data from Every Aspect

Subject matter expert validation is an evaluation process carried out by one or a group of experts in a certain field to assess the suitability, accuracy, and quality of learning materials developed in a module, textbook, or other learning resource. This process aims to ensure that the material presented in the module or learning resource meets academic standards and is relevant to the learning objectives that have been set. The following is a table of 4 aspects and indicators of assessment of module material.

Table 4. Module Material Assessment Indicators

No.	Aspects	Indicator
1	Suitability of purpose	Suitability of modules to learning objectives. The suitability of the module with the characteristics of the students. Suitability of modules with learning resources.
2	Learning	Module learning ability in increasing students' creativity. The ability to learn modules to create a sense of joy for students in learning. The ability of the module as a tool to understand the material presented.
3	Content of the material	The clarity of the module design makes it easier for students to understand the material. The module's learning ability to generate feedback. The ability of the module to convey learning materials.
4	Feedback and/or ratings	Assessment based on tangible results from projects that reflect students' abilities. Assessment is based on an understanding of the material that reflects the student's ability.

Table 5. Results of the Assessment of Material Experts

Aspects	Material Expert
Suitability of purpose	90
Learning	88

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Content of the material	90
Feedback and/or ratings	86
Average score	88.5
Category	Very worthy

From Table 5 is the score obtained on validation by material experts. It can be seen that in the aspect of goal suitability, a score of 90 was obtained, while the learning aspect was obtained a score of 88. The content of the material score obtained is 90 and the feedback and/or assessment aspect gets a score of 86. Overall the average score is 88.5, so it can be converted, the average has a classification at very feasible.

Discussion

Based on the results of the research and the findings of the research as a whole, it can be interpreted that the Project based teaching module developed has been very feasible to increase students' creativity in developing learning plans in elementary schools. The findings are proven through validity analysis—both from media experts, and material experts.

The suitability of the module to the learning objectives and the scope of the material, which includes the development of teaching modules along with other components of learning tools, supports a very high validity of the material. Not only must the material be in accordance with the demands of the curriculum, but it must also be in accordance with the learning outcomes (CP) and learning objectives (TP). The conciseness of the material discussed also helps to present the Module in an easy-to-understand way. Aspects of the curriculum, materials, and evaluations can be used to determine the validity (feasibility) of teaching materials such as teaching modules. In addition, the material in the electronic module is equipped with various interesting images and videos that help students understand the lessons.

As a second result, the percentage of validity of media experts and linguists was declared Very Valid. This is aided by the informative – communicative language used in the Module. The material is arranged according to the characteristics of student development, so it is easier for students to use it. In addition, this designed module is supported by various interesting image and video elements, which makes it very useful for both educators and students. This is due to supporting factors, such as the features, attractiveness, and benefits offered by this project-based teaching module. A good module can be seen if it is systematically arranged with complete supporting features, such as evaluations, reference lists, and material features.

The statement relates to instructional design theory, specifically the concept popularized by figures such as Robert Gagné in the framework of the Nine Events of Instruction and also by Dick and Carey in the Instructional Design System Model. This theory states that a good learning module must be designed systematically and include essential elements to ensure effective learning. Some of these elements include the gradual preparation of the material, the inclusion of evaluations (such as questions or tests to measure understanding), and providing a list of references as additional reference sources (Branch, R. M. (2014); Molenda, M. (2015); Leppisaari, I., & Lee, O. (2017) Gagne, et al, 2020; Martin & Bolliger, 2018). Because the language used in the material can also have an impact on how well students understand and master the material being taught (Logan et al., 2021; Ningsih & Mahyuddin, 2021). The feasibility of the developed module is also assisted by the orderly sentence structure, spacing, and flow of the material. Consistency, formatting, attractiveness, organization, font shape, and use of white space are the six standard components that a course material should have, such as modules.

The results show that using project-based teaching modules improves the learning outcomes of the development of teaching modules and other learning tool components of students. This is due to the syntax of project-based teaching that teaches students to work together and use their own knowledge. In addition, the module is equipped with engaging images and videos that give students the opportunity to test their abilities in evaluation questions. By integrating project-based learning syntax into the module activity component, this project-based teaching electronic module is developed.

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Learning outcomes are influenced by this project-based teaching module (Dewi Anggelia et al., 2022); (Levina et al., 2022). This project-based learning module has been proven to increase students' creativity, improve attitude learning outcomes, improve students' knowledge and skills, help them become more independent, improve their physical abilities, and help them become more independent (Ntelioglou et al., 2014); (Tuyen et al., 2022); (Kim et al., 2021). Project-based teaching can increase students' creativity, improve students' cooperative and collaborative abilities, and increase their motivation to learn. These are some of the advantages of the project-based teaching learning model (Mohamed, 2023); (Szplit & Stawiak-Ososińska, 2015). Project-based teaching modules for the development of teaching modules along with other components of learning tools have proven to be useful in learning and help students increase their creativity. Valid, practical, and effective project-based teaching materials state that they are valid and effective for improving cognitive learning outcomes and skills with excellent categories (Wróblewska & Okraszewska, 2020)

Previous findings show that the modules created have been valid and have succeeded in improving student learning outcomes. This finding strengthens this finding (Yusuf, 2020). Valid, practical, and effective project-based teaching material products show that the product is valid and effective in improving learning outcomes. Project-based teaching electronic modules for waste recycling materials can also be used in learning (Jingyi & Rebrova, 2022). The study found findings comparable to other empirical studies. The project-based teaching module product developed is slightly different from other module development research, but student learning outcomes increase as a result of the implementation of the module. This is due to the fact that the creation of this module emphasizes more on the development of teaching modules along with other components of student learning tools, which are used to fulfill the independent curriculum in elementary schools.

Based on the findings and discussions above, it can be concluded that the electronic modules developed have produced project-based module products that are very valid and feasible to improve the learning outcomes of the development of teaching modules and other components of learning tools for students. This module has various advantages that can support learning. These advantages include training students' ability to work together, independently, disciplined, and communicatively through project-based learning conceptualized in the Module. It also provides a great opportunity for students to dare to participate in learning through eye-catching designs with the support of relevant images and videos. The product is also easy to use for beginners because it is easy to use, and the language selected on the Module is a user-friendly language. Digital-based media makes it easy to access media anytime and anywhere. They can also give students a new atmosphere, increasing their interest and desire to learn. This has an impact on lecturers who are in charge of teaching, to make learning more innovative, especially by using digital or electronic modules.

This study shows that the product of project-based teaching module development in learning the development of teaching modules along with other learning tool components to improve learning outcomes. It helps provide and enhance different types of innovative digital media that are accessible to millennial students and today's generation. This module not only makes lessons fun, but also helps students become more proficient in technology, which makes their learning experience more rewarding. This learning module is well-developed, systematic, and includes essential elements to ensure effective learning. Some of these elements include the gradual preparation of the material, the inclusion of evaluations (such as questions or tests to measure comprehension), and providing a list of references as additional reference sources. This is in line with the opinion of Gagne, et al (2004) who emphasized the importance of systematic stages in learning, such as material delivery, exercises, and evaluations. The development of learning modules must include a comprehensive analysis of needs, learning objectives, and evaluations to ensure the achievement of learning outcomes.

Conclusion

This study seeks to assess the feasibility of developing a Project-Based Teaching Module designed to increase students' creativity in compiling Indonesian learning in elementary schools (SD). Through in-depth

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evaluation, this study examines the quality of the module from the feasibility aspect. The results of the study show that the modules developed are suitable for use in learning. This module meets high validity criteria based on the assessment of material experts and media experts. The use of this module will have a positive impact on improving students' ability to think creatively, solve problems, and innovate in teaching and learning activities.

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Journal of Ecohumanism
2024
Volume: 3, No: 7, pp. 5249 – 5259
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i7.4632

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