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Sustainable Lifestyle Education: An Ecobrick Module for Enhancing Students' Creativity in *Pancasila* Student Profile Projects

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ABSTRAK

Penelitian ini dilatarbelakangi oleh minimnya modul proyek penguatan profil pelajar Pancasila (P5) yang mengusung pemanfaatan sampah plastik dalam pembelajaran. Penelitian ini bertujuan untuk mengembangkan modul ecobrick sebagai proyek penguatan profil pelajar Pancasila (P5) dengan memanfaatkan sampah plastik untuk meningkatkan dimensi kreatif siswa. Modul proyek yang dikembangkan diberi nama modul ecobrick. Penelitian ini menggunakan metode penelitian dan pengembangan dengan model pengembangan ADDIE. Instrumen pengumpulan data menggunakan angket dan lembar observasi dimensi kreatif siswa. Analisis data dilakukan menggunakan analisis deskriptif kualitatif dan kuantitatif. Populasi dalam penelitian ini berjumlah 26 siswa, dengan sampel sebanyak 26 siswa yang dipilih menggunakan teknik sampling jenuh. Hasil uji kelayakan oleh ahli media memperoleh nilai sebesar 78,3 dengan kategori baik, sedangkan hasil uji ahli materi memperoleh nilai sebesar 94,66 dengan kategori sangat baik. Hasil tersebut menunjukkan bahwa modul yang dikembangkan sangat layak digunakan. Hasil uji kepraktisan menunjukkan respons siswa (86,725) sangat baik dan guru (95,53) dalam kategori sangat baik. Hasil ini menunjukkan bahwa modul yang dikembangkan termasuk dalam kategori sangat praktis. Selanjutnya, uji keefektifan modul terhadap dimensi kreatif siswa dianalisis menggunakan uji-t. Hasil analisis menunjukkan nilai signifikansi sebesar 0,000 < 0,05, sehingga menerima hipotesis H_a dan menolak hipotesis H_0. Artinya, modul P5 (modul ecobrick*) efektif digunakan untuk meningkatkan dimensi kreatif siswa. Dapat disimpulkan bahwa, inovasi modul P5 (modul* ecobrick*) yang dikembangkan pada tema gaya hidup berkelanjutan memenuhi kriteria valid, praktis, dan efektif untuk meningkatkan dimensi kreatif siswa. Selain meningkatkan kreativitas siswa, penelitian ini berimplikasi pada penumbuhan kesadaran lingkungan melalui pemanfaatan sampah plastik yang dapat terus dilanjutkan.*

ABSTRACT

This research is motivated by the lack of project modules to strengthen the *Pancasila* student profile (P5) that promote the use of plastic waste in learning. This study aims to develop an ecobrick module as a project to strengthen the *Pancasila* student profile (P5) by utilizing plastic waste to improve students' creative dimensions. The project module developed is named the ecobrick module. This study uses a research and development method with the ADDIE development model. Data were collected using questionnaires and creative dimension observation sheets, then analyzed descriptively using qualitative and quantitative methods. The study involved 26 students, selected through a saturated sampling technique. The feasibility test scored 78.3 (good) from media experts and 94.66 (very good) from material experts, confirming the module's high feasibility. The practicality test showed very good responses from students (86.725) and teachers (95.53), confirming the module's high practicality. Furthermore, the effectiveness test of the module on the creative dimension of students was analyzed using the t-test. The results of the analysis showed a significance value of 0.000 <0.05, thus accepting the Ha hypothesis and rejecting the H0 hypothesis. This means that the P5 module (ecobrick module) is effective in improving students' creative dimensions. It can be concluded that the innovation of the P5 module (ecobrick) on sustainable lifestyle is valid, practical, and effective in enhancing students' creativity. In addition to improving students' creativity, this study has implications for the growth of environmental awareness through the utilization of plastic waste that can be continued.

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1. INTRODUCTION

The implementation of education is closely related to the curriculum, so that the learning process is carried out in accordance with the goals to be achieved without ignoring current developments and the resources available. The curriculum is a plan prepared to achieve success in the educational process (Hikmah, 2020; Syarifah, 2019; Fujiawati, 2016). In the history of Indonesian education, the government has used several curricula. Like now, the government has implemented an independent curriculum in educational units. The Independent Curriculum is a new curriculum idea that prioritizes freedom to think creatively and independently, innovation in the use of technology, and the ability of students to adapt so that they can deepen their respective abilitie (Aryanti & Saputra, 2023; Gumilar et al., 2023; Neliwati et al., 2023). According to the Ministry of Education and Culture, the independent curriculum offers 3 characteristics, including project-based learning for developing soft skills and character in accordance with the profile of *Pancasila* students, learning on essential materials and a more flexible curriculum structure (Aryanti & Saputra, 2023; Gumilar et al., 2023; Yana et al., 2022). According to the Ministry of Education and Culture, the *Pancasila* student profile is the expected graduate profile with the aim of showing the character and competencies that are expected to be achieved by students. In addition, the *Pancasila* student profile is also to strengthen students with the noble values of *Pancasila* (Wulandari et al., 2022; Yana et al., 2022).

Strengthening the profile of *Pancasila* students has been widely implemented, especially in driving schools or public schools at elementary, junior high, and high school levels, which are implemented through intracurricular and extracurricular learning, school culture, and work culture. The *Pancasila* Student Profile is a graduate profile that aims to foster character and competence according to SKL achievements and strengthen the noble values of *Pancasila* for students and all stakeholders in schools (Sari et al., 2023; Sukaryati & Siminto, 2022; Rahayuningsih, 2021). The *Pancasila* Student Profile consists of six components, including: 1) Faithful, Devoted to God Almighty, and Noble Morals 2) Global Diversity, 3) Independent, 4) Mutual Cooperation, 5) Critical Thinking and 6) Creative (Najati et al., 2023; Andari, 2022; Nur'Inayah, 2021). The creative dimension is explained as Creative students are able to modify and produce something original, meaningful, useful, and impactful. The key elements of creativity consist of producing original ideas and producing original works and actions and having flexibility of thinking in finding alternative solutions to problems (Yana et al., 2022; Nur'Inayah, 2021). One of the means of implementing the creative dimension of the *Pancasila* Student Profile is the *Pancasila* Student Profile Strengthening Project or P5. The *Pancasila* Student Profile Strengthening Project (P5) is an activity in learning based on a co-curricular project designed with the aim of increasing efforts to achieve competencies and attitudes that are balanced with the student profile (Nisak et al., 2023; Rahmadayanti & Hartoyo, 2022). The independent curriculum will be more meaningful, relevant and interactive with project-based learning offering many opportunities for students to actively explore topics and explore factual issues (Rahayu et al., 2022; Zakso, 2022).

Previous research mentioned that P5 is an implementation of differentiated learning in the Independent Curriculum, other research also mentioned that the projects carried out in P5 are a sequence of activities that have a specific direction by analyzing themes that are considered a challenge for students (Sulistiyaningrum & Fathurrahman, 2023; Maulida & Tampati, 2023). The main themes that can be selected for the implementation of the *Pancasila* student profile strengthening project and are arranged in the *Pancasila* student profile strengthening project teaching module for elementary schools include sustainable lifestyle, local wisdom, Bhinneka Tunggal Ika, build your soul and body, technology engineering and entrepreneurship (Budiono et al., 2023; Rahmadayanti & Hartoyo, 2022). The theme of sustainable lifestyle will be a real practice in the lives of students that aims to make students understand the impact of what humans do, both in the long term and short term on the sustainability of life in the world. Students will build self-awareness to act and behave in an environmentally friendly manner, understand the power of the sustainability crisis that will occur in their environment so that students are ready to face and try to reduce the risks and change consumption behavior and environmentally friendly mindsets (Maulida & Tampati, 2023; Sunandar & Mahmuda, 2023). Previous research has stated that there are many descriptions of themes that can be used as activities for a sustainable lifestyle, such as introducing plastic and organic waste, or utilizing plastic waste. This is relevant to other research that takes the topic of turning waste into useful things (Fauziah et al., 2024; Maulida & Tampati, 2023). Environmental problems will certainly affect the sustainability of human life. Because environmental problems will interfere with daily human activities and are feared to cause bigger problems in the future. Environmental problems do not only occur in the community environment, but can also occur in educational environments such as schools. Previous research stated that one of the environmental problems that often occurs is about cleanliness, other research shows that the problem of waste is an important issue (Utami et al., 2023; Jumarsa et al., 2020). Especially if the habit of protecting the environment has not been implemented optimally, and schools have not implemented appropriate handling efforts for existing problems.

One real example of environmental problems in schools is plastic waste. If schools have not implemented waste sorting and processing of existing plastic waste, it is feared that it will affect students' sustainable lifestyles. This is real evidence that efforts are needed to overcome this problem. Inorganic waste processing can be done through 3R (Reduce, Reuse, and Recycle) which is a sustainable lifestyle activity, in accordance with one of the themes in class IV, namely sustainable lifestyle (Juniartini, 2020; Maharja et al., 2022). Sustainable lifestyle is an effort that bases behavior on sustainable living, not only personal health and lifestyle but also lifestyle and lifestyle related to the process of preserving nature. One of the efforts in preserving nature against plastic waste in the school environment is making ecobricks (Karim et al., 2023; Nurhayati et al., 2016). Ecobrick comes from the word eco and brick which means environmentally friendly bricks that are an alternative to conventional bricks in building buildings. Therefore, ecobrick is a plastic bottle that is densely filled with non-biological waste, namely plastic. Ecobrick is one of the creative efforts to manage plastic waste into useful objects, reduce pollution, and toxins caused by plastic waste (Ikhsan & Tonra, 2021; Sunandar et al., 2020). Making ecobricks in schools as a solution to the problem of plastic waste certainly requires teaching materials, one of the teaching materials that can be used is a module. A module is a teaching material that is systematically designed based on the curriculum and packaged in the form of the smallest learning unit and allows students to be studied independently in a certain time unit so that students master the competencies taught (Surahman et al., 2020; Sirate & Ramadhana, 2017). Modules are teaching materials that are systematically arranged and function to improve students' knowledge in an active learning process that prioritizes students. Through this module, they can learn by themselves (independently) with minimal help or guidance from teachers (Handoko et al., 2021; Azizah et al., 2020).

Based on the existing background, the researcher tried to conduct initial research observations at the Bumi Sagu Elementary School, class IV, related to the existing waste management. After going through the observation and interview stages with one of the teachers, an environmental problem was found, namely the problem of abundant plastic waste that is not properly processed, causing pollution to the school environment and is dangerous for the sustainability of students' lives. In the Bumi Sagu Elementary School environment, plastic waste is the dominant waste besides leaf waste, because many student snack packaging uses plastic. The existing plastic waste is then thrown in the trash and ends up in the final waste disposal site. If organic waste such as leaves will be easily decomposed by the soil, it is different from plastic waste which is very difficult to decompose by the soil. According to experts in previous research, plastic waste takes 500-1000 years to decompose (Faqih & Fatiatun, 2022; Farin, 2021).

Related to this problem, a solution is needed that can overcome the problem of plastic waste in the school environment. The right solution is to process plastic waste into ecobricks. Ecobricks are not to destroy plastic waste, but to extend the life of the plastic and process it into something useful, which can be used for the benefit of humans in general. Making ecobricks can also increase student creativity, previous research states that works produced from ecobricks can be used as a learning medium to stimulate the development of children's fine motor skills, socio-emotional, creativity, art, and can be used to stimulate children's cognitive development (Palupi, Wahyuningsih, Widiyastuti, Nurjanah, & Pudyaningtyas, 2020). This is also in line with previous research which states that ecobrick making training can increase students' creativity (Pertiwi, 2023; Darnetti et al., 2021). Based on the description of the background of the problem, the author is motivated to develop an ecobrick module on the theme of sustainable lifestyle to improve students' creative dimensions. The urgency of this research is the lack of project modules for strengthening the *Pancasila* student profile (P5) that promote the use of plastic waste in learning. Therefore, this research aims to develop an ecobrick module as a project for strengthening the *Pancasila* student profile (P5) by utilizing plastic waste to improve students' creative dimensions. The innovation of the P5 module (ecobrick module) developed on the theme of sustainable lifestyle is expected to meet the criteria of valid, practical, and effective and can be used to improve students' creative dimensions.

2. METHOD

This research is a type of research and development or Research and Development (RnD). This research uses the ADDIE model which has five stages, namely, Analyze, Design, Development, Implement, Evaluation. The development carried out in this study is the creation of an ecobrick module on the theme of a sustainable lifestyle to improve students' creative dimensions. The RnD research design with the ADDIE model can be presented in Figure 1.

Figure 1. The Research Design Research and Development (RnD) ADDIE Model

Based on the image above, there are 5 stages in the development of the ADDIE model. The first stage is analysis, which is the initial stage.formulate problems from real conditions in the field by conducting initial observations at SD Inpres Bumi Sagu, SD Inpres Perumnas Balaroa, SDN 22 Palu, and SDN Biro. Information collection was carried out through direct observation and interviews with the homeroom teachers of grade IV of SD Inpres Bumi Sagu, SD Inpres Perumnas Balaroa, SDN 22 Palu, and SDN Biro. In this study, an analysis of the basic competencies of the subject of IPAS (Natural and Social Sciences) was carried outnamely the theme of sustainable lifestyle. This analysis was conducted with a literature study of the independent curriculum, especially regarding P5 (*Pancasila* Student Profile Strengthening Project) whichhas 6 dimensions of character, namely faith, devotion to God Almighty and noble character, mutual cooperation, global diversity, critical thinking, creativity and independence.

Next, an analysis of the implementation process of P5 in schools was carried out. It was found that the implementation of P5 in schools focused on processing plastic waste in the form of flower products from used plastic bottles. So that plastic waste from food packaging is not processed in the school environment. The school has provided special P5 time on Tuesday, Wednesday, and Thursday at 13.00 to 14.00. Furthermore, an analysis was carried out on the learning process in the classroom. It was found that in the learning process in the classroom, students tend to be less creative in seeing problems from various perspectives, are afraid to express their own ideas and opinions, and are less brave in creating their own work. After analyzing the Basic Competencies of P5, the implementation process of P5 in schools, and the learning process in the classroom, the next step was to analyze product needs, namelyregarding what is needed in the P5 module material, module development needs, design formulation and product work steps.

The second stage is designis the stage of making the module design. The design is made by adjusting and considering the needs of students and teachers in the subject of sustainable lifestyle science. This stage produces a sketch of the interactive module design and product work steps. This stage is carried out by collecting product needs in the form of images for cover design and source materials. Then continued by making a sketch of the product display and module work steps that refer to the product design formulation produced previously. Furthermore, determine the deadline so that product production runs according to plan.The third stage is developmentis the stage of compiling the needs obtained in the previous stage and starting the module development process so that it becomes an initial product. Therefore, there are several things that are done at this stage, namely the development of interactive modules, making instruments, and testing initial products.

The fourth stage is implementationis a stage to obtain feedback testing is carried out to obtain a module that meets expectations and ensures the feasibility of the learning media developed to be tested on research subjects. The trial stage is the stage of testing the feasibility of the module that has been developed. This stage includes validation of the module by expert judgment, and user trials. This module is a printed module provided at school and can be studied independently by students. However, to make it easier for students to access online, a barcode is provided on the physical module, so that students can download the module. The use of barcodes will also save the cost of distributing the module.

The product trial stage includes 2 stages, namely the feasibility or validity test of the product and the practicality test. The product developed, namely the P5 module (Bricket Module) must meet the criteria of validity and practicality. Therefore, after the P5 module (Bricket Module) has been developed, the next step is to test the validity of the module. The validity test of the P5 module (Bricket Module) is carried out by expert judgment. The validity test of the module consists of 2 aspects, namely the media aspect and the material aspect. The validity test of the P5 module (Bricket Module) media aspect is carried out by the lecturer of the PGSD study program. Meanwhile, the validity test of the P5 module (Bricket Module) material aspect is carried out by the lecturer of the PGSD study program. Limited trials were conducted by users. The users of the P5 module (Bricket Module) are teachers and grade IV elementary school students. The number

of students involved in the limited trial was 9 people. The students were from grade IV of SD Inpres Bumi Sagu.

The last stage is the evaluation stage. The evaluation is carried out as the development progresses, so that deficiencies during the development process can be identified and resolved. Module P5 (Bricket Module) which has been declared valid and practical is then tested in a large scope or extensive field trial. The subjects of this study were 20 sixth grade students of SD Inpres Bumisagu.

The data collection technique in this study uses data collection methods in the form of interviews, observations, and questionnaires. Data collection is carried out in order to collect all data and information needed for analysis. Interviews and observations are used to obtain data at the analysis stage in development, while questionnaires are used to collect data on the validity assessment by experts and practically by module users. There are several aspects that are assessed in the media expert instrument to determine the level of feasibility from the media side. The media expert instrument grid is the module size aspect with the module size indicator according to ISO standards and the suitability of the margin and paper sizes on the module.

The design aspect of the module cover (Cover) with the module cover illustration indicator depicts the contents/teaching materials and reveals the character of the object, does not use too many combinations of fonts, the color of the module title contrasts with the background color, and the proportion of the size of the title letters, subtitles, and supporting text of the module is more dominant and professional compared to the size of the module and the author's name. The design aspect of the module content with the indicator of the suitability of the module material with the learning objectives, the use of font variations is not excessive, the adjustment of images with text messages (materials), the suitability of the ecobrick making flow with the ecobrick results, the suitability of the spacing between rows of the arrangement in normal text, the spacing between normal letters, the attractiveness of the appearance of the ecobrick making module on the theme of sustainable lifestyles in Elementary Schools.

The instrument for material experts is used to examine the quality of the material and the usefulness of the P5 module (Bricket Module) as a learning medium for introducing sustainable lifestyles. Material experts are used to determine the level of feasibility in terms of media. The assessment of media feasibility is seen from several aspects, namely: Self Instruction, Self Contained, Self Alone, Adaptive, and User Friendly. The Self Instruction aspect with indicators of the formulation of learning objectives, presentation of learning materials, use of examples and illustrations, contextual learning materials, language, and summary of the material. The Self Contained aspect with indicators of material in accordance with the module title, material in accordance with learning objectives, material packaged from easy to difficult levels. The Self Alone aspect with indicators of dependence on other teaching materials/media. The Adaptive aspect with indicators of module adjustment to the development of the independent curriculum and module flexibility in use in various learning situations and conditions. The User Friendly aspect with indicators of ease of use of the module, instructions and information are easy to understand, language is easy to understand, and there is a list of terms.

The instruments used in this study were observation sheets and questionnaires that had been declared valid through validity and reliability tests. The data obtained through the research instruments were then analyzed qualitatively and quantitatively. Quantitative data analysis used a 4-scale formula to measure the validity and practicality of the product based on the validation assessment criteria. The assessment criteria for the validity and practicality of the product can be presented in Table 1.

Table 1. The Table of Validity and Practicality Score Assessment Criteria

Assessment Level	Valid Criteria
3.34 – 4	Very Valid (no revision needed)
2.34 – 3.33	Valid (no revision required)
1.34 – 2.33	Less Valid (revision)
0 – 1.33	Invalid (revision)

Source: (Kunandar, 2021)

Descriptive analysis is used as a guideline in revising development products to make them more perfectto describe the average (mean) minimum, maximum, and standard deviation. Descriptive analysis is also used to present the results of the achievement criteria for indicators from the student's creative dimension observation sheet with the formulated criteria calculation standards. The achievement criteria for the student's creative dimension indicators can be presented in Table 2.

Table 2. The Criteria for Achieving Student Creative Dimension Indicators

Interval Distance	Category
1.00 – 1.80	Very Bad
1.81 – 2.60	Not good
2.61 – 3.40	Not good
3.41 – 4.20	Good
4.21 – 5.00	Very good

The prerequisite analysis test in this study uses a normality test, which aims to test the normality or abnormality of a data distribution. The calculation used in the normality test uses the Lilliefors test (Kolmogrov-Smirnov) using the IBM SPSS Statistics 22 computer program. This study uses the t-test as a hypothesis testing stage to test the truth of the existing hypothesis. If the significance value obtained ≥ α (0.05) then accept the null hypothesis (Ho) that the ecobrick module is not effective in increasing students' creative dimensions and reject the alternative hypothesis (Ha) that the P5 module (Bricket Module) about ecobricks is effective in increasing students' creative dimensions. Conversely, if the significance value <α (0.05) then reject (Ho) that the P5 module (Bricket Module) about ecobricks is not effective in increasing students' creative dimensions and accept (Ha) that the ecobrick module is effective in increasing students' creative dimensions. In this study, the researcher used the Paired Sample t-test average difference test, with calculations assisted by the IBM SPSS Statistics version 22 computer program.

3. RESULT AND DISCUSSION

Result

The development of the ecobrick module was carried out using the ADDIE development model. Based on the development procedure that has been carried out using the ADDIE model, the results obtained will be presented according to the stages. The first stage is the analysis carried out to identify problems and find the right solution to the problems that have been found. After conducting initial observations at SD Inpres Bumi Sagu, it was found that this school uses the 2013 curriculum, but has adopted the values of P3 and P5 in the learning process.

The theme of sustainable lifestyle is one of the selected themes for elementary school level. The purpose of the theme of sustainable lifestyle is to understand the impact of human activities. One of them is to raise the issue of waste that can be processed by making ecobricks. In the initial observation, an interview was also conducted with the homeroom teacher of Class V. The results obtained were that according to the teacher we interviewed, to teach P5, teachers were told to make their own modules that were in accordance with what would be taught. Meanwhile, from the results of the observation, there was no module used to teach P5. Based on these data, because there was no module, the researcher was interested in conducting research on the development of the ecobrick module

After the data is obtained, it is continued to the second stage, namely design. The product is designed according to user needs. The ecobrick module is designed by selecting components starting from determining components starting from fonts, font sizes, covers and backgrounds, selecting image illustrations, materials and compiling validation instruments and student response instruments. Learning activities include project descriptions, project targets and objectives, project stages, descriptions of materials regarding ecobricks, assessments, summaries, glossaries and bibliographies. The results of the ecobrick module framework design that was developed can be presented at Figure 2.

The development stage consists of three steps, namely ecobrick module development, instrument creation, and initial product testing. This stage is carried out in order to obtain a product that is suitable for use. The ecobrick module that has been tested on users and the results show that the ecobrick module can improve student learning outcomes. The development of an ecobrick module with a sustainable lifestyle theme, ecobrick making material can facilitate users because it is easy to use and attractive. The ecobrick module is a printed module developed for the sustainable lifestyle theme in Phase B of grade IV of elementary school. In the development stage, the ecobrick module is made based on the design results that have been made in the previous stage. The ecobrick module is developed by considering the content of the material, project stages, assessments, and image illustrations included in it.

The instrument was created to obtain valid and practical values for the use of the ecobrick module. The ecobrick module can be distributed to users if it has been considered valid and practical by material experts, media experts, and users. The instrument is compiled based on the features contained in the ecobrick module. The assessment instrument in the form of a questionnaire that has been created is then submitted to material experts, media experts, and users to be assessed based on the contents of the ecobrick module. Validation is carried out by material experts and media experts to assess the feasibility of the

ecobrick module. The validation results obtained from media experts and material experts are that the ecobrick module is feasible to use so that it can be tested at the implementation stage to determine the responses of teachers and students.

Figure 2. The Example of Cover Design Display Moduleecobrick

The ecobrick module product that has been declared valid by material experts and media experts was then tested on teachers and students as users. The ecobrick module with the theme of sustainable lifestyle on ecobrick making material was tested on the homeroom teacher of grade IV at SD Inpres Bumi Sagu totaling one person and to a small group of grade IV students of SD Inpres Bumi Sagu totaling nine people. The teacher and student response trials were conducted directly on the same day. After conducting the ecobrick module product trial, teachers and students as users filled out a user response questionnaire to determine the practicality value of the ecobrick module. Products that may be tested are products that have been declared feasible by material experts and media experts. The validation of the ecobrick module involved two validators, namely the media expert validator and the material expert validator. The results of the validation data presentation from the validators are as follows.

The development of the ecobrick module on the theme of sustainable lifestyle, the material for making ecobricks that has been developed, is then validated by a material expert validator. This validation process aims to assess the feasibility of the ecobrick module on the theme of sustainable lifestyle, the material for making ecobricks in terms of material, language and presentation. The validation process was carried out twice and the results obtained were suitable for use in the ecobrick module on the theme of sustainable lifestyle, the material for making ecobricks. The results obtained from the material expert can be presented in Table 3.

Table 3. The Results of the material validation assessment

No	Assessment Aspects	Mark	Category
1	Self-instruction	90	Very good
2	Self continued	100	Very good
3	Stand alone	93.3	Very good
4	Adaptive	90	Very good
5	User friendly	100	Very good
Average		**94.66**	**Very good**

Table 3 shows the overall material validation value of 94.66 or very good. After being declared valid and suitable for use in terms of material, the next step is to validate the ecobrick module product media. This validation is carried out by expert media validators. This validation process aims to assess the feasibility of the ecobrick module media from the aspect of module size, module skin design (Cover) and module content design. Media validation is carried out three times in order to obtain a valid and suitable product for use.

Based on the results of media expert validation for the module size indicator, module cover design, and module content design, a score of 78.3 was obtained with a good category. Although a very good

category has been obtained, which means the product is worthy of being tested, there are suggestions from the validator, namely to improve the cover, then improve the writing in the module, include original images for materials and tools and steps when making ecobricks, eliminate the development of sub-elements per phase, and improve the sentences in the steps for making ecobricks. The appearance of the ecobrick module before and after material validation can be presented at Figure 4, Figure 5, Figure 6, Figure 7, Figure 8, Figure 9, Figure 10, Figure 11, Figure 12, Figure 13, Figure 14, Figure 15, Figure 16, and Figure 17.

View Before Revision	View After Revision

Figure 4. The Ecobrick Module Cover View before Validation

Information: The roman script on Phase B Class IV, should be Phase B Class IV.

Figure 5. The Ecobrick Module Cover View after Validation

Information: After validation becomes Phase B Class IV

Figure 6. The View of Materials and Tools in the Ecobrick Module Before Validation

Information: Use original photos and your own portraits for the materials and tools used to make ecobricks.

Figure 7. The View of Ecobrick Module Materials and Tools after Validation

Information: original photos taken by myself for materials and tools for making ecobricks.

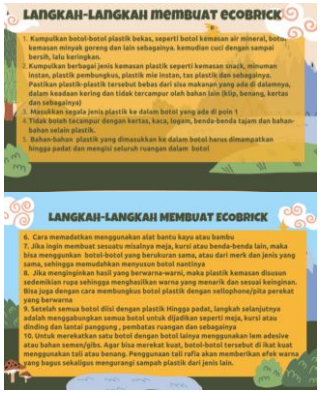

Figure 8. The Display of Ecobrick Making Steps in Ecobrick Module before Validation

Information: Improve the sentences in points 3-6 and shorten the steps for making ecobricks, and add a YouTube link that can be accessed if there are students who do not understand how to make ecobricks.

Figure 9. The Display of Ecobrick Making Steps in Ecobrick Module after Validation

Information: After validation, the process of making ecobricks becomes 6 steps and a YouTube link address that can be accessed by students who do not understand how to make ecobricks.

View Before Revision	View After Revision

Figure 10. The View of Ecobrick Work Results in the Ecobrick Module before Validation

Information: Remove the ecobrick work, so that students can make it according to their creativity.

Information: For the ecobrick work results after validation is removed so that students can make ecobricks according to their creativity.

Figure 11. The View of the Development of Sub-Elements per Phase in the Ecobrick Module before Validation

Information:eliminate the development of sub-elements per phase because the modules are made for students.

Information:After validation, the development of sub-elements per phase is removed.

Figure 12. The Project Stages View in Ecobrick Module before Validation

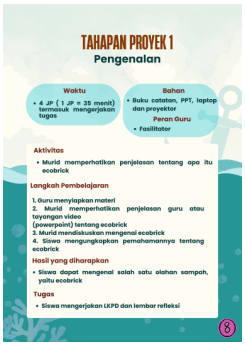

Figure 13. The Project Stages View in Ecobrick Module after Validation

Information: Improve the display of project stages to make it more attractive.

Information: View project stages after validation.

Figure 14. The Formative Assessment Table View

Information: remove the format assessment table because the module is made for students.

Information: after validation the formative assessment table is removed.

View Before Revision	View After Revision
	

Figure 15. The Module View after Validation

Information: Before validation, there are no tasks in the ecobrick module

Information: After validation, each stage of the project has tasks that students must complete.

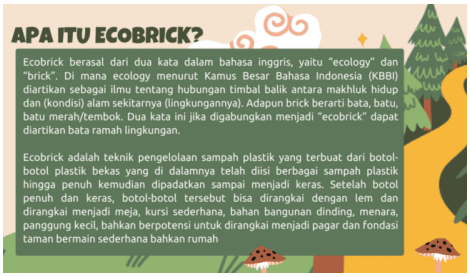

Figure 16. The View before Revision

Figure 17. The View after Revision

Information: It is recommended to add waste material before discussing ecobricks, so that students understand what waste is and its relationship to ecobricks.

Information: View of trash material after revision

Ecobrick modules that have been declared valid in terms of material and media can be tested on users. User trials start from small trials and then continue with large field trials. Small trials are conducted on a small scale involving teachers and students. The test subjects involved in this small trial are homeroom teachers and fourth grade students of SD Inpres Bumi Sagu. The results of the Ecobrick Module trial can be presented at Table 4.

Table 4. The Practicality assessment results from users

Users	Aspect	Mark	Category
Student	Eligibility	89.89	Very good
	user	83.56	Good
Teacher	Module view	93.3	Very good
	Module	100	Very good
	content/material	93.3	Very good
	Implementation of module learning		
	Average	**92.01**	**Very good**

The results of the practicality assessment shown in Table 4 show that the average practicality value of students and teachers is 92.01 with a very good category. This value indicates that the ecobrick module developed has entered the very practical category. Thus, the ecobrick module can be used in field trials or large-scale users. The results of field trials or large-scale users are shown in Table 5.

Table 5. The Student learning outcomes in the experimental and control classes

Class	Treatment	Average value
Experiment	Pretest	50.67
	Posttest	78.62

Large-scale field or user trials were conducted in class IV of SD Inpres Bumi Sagu Palu. The trial subjects involved 26 students consisting of 9 males and 17 females. Student learning outcomes showed that the acquisition in the experimental class in the pretest was 50.67 and in the posttest was 78.62. This value shows that the acquisition of learning outcomes in the pretest and posttest is very different. The pretest and posttest values were obtained before the ecobrick module treatment. After the treatment, namely the use of the ecobrick module in the experimental class, the pretest and posttest were continued by measuring their learning outcomes. The posttest value in the experimental class was 78.62. These results show a significant difference in the experimental class. The results of the significant test can be displayed on Table 6.

Table 6. The Paired Sample T-Test Results Test Discussion

		Mean	Std. Deviation	Std. Error Mean	5% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					lower	upper			
Pair 1	Pre-test of experimental class Post-test of experimental class	-27.948	7.143	1.400	-30.833	-25.063	-19.950	25	0.000

Table 6 shows that the significance value of the paired sample t-test is 0.000 (0.000 < 0.05). This indicates that Ha is accepted and Ho is rejected. This means that the P5 module (Bricket Module) is effectively used in ecobrick material on the theme of sustainable lifestyle for grade IV elementary school students.

After going through the process of making and developing the product, a learning media in the form of a printed module called the ecobrick module was produced. The ecobrick module is a learning media developed according to the preparation of the *Pancasila* student profile strengthening project module (P5). The ecobrick module was created for the theme of a sustainable lifestyle with ecobrick making material. The ecobrick module is equipped with project stage steps, LKPD, assessments and reading materials. Based on the results of the development of the ecobrick module, the following results were found:

The ecobrick module is a learning media in the form of a printed module. The ecobrick module is A4 in size. In the ecobrick module, there are competencies that must be achieved by students, such as knowledge competencies and skill competencies that are measured through evaluations and practicums carried out by students. The ecobrick module that was developed contains project activities that reflect the *Pancasila* student profile (P3). The initial part of the ecobrick module contains the cover, table of contents, project description, objectives, project targets, dimensions and elements of the *Pancasila* student profile, how to use the module, things to consider before starting the project, and the project flow. In the content section, there are project activities, summative assessments, student reflection sheets and observation sheets for teachers. While the final section contains learning materials, summaries, glossaries and bibliographies.

The ecobrick module produced also helps students in learning activities, especially in the material on the *Pancasila* student profile on the theme of sustainable lifestyle. This is because in the ecobrick module there are project activities that are able to build the character attitudes of the *Pancasila* student profile (P3) in students such as Faith, devotion to God Almighty and noble character, mutual cooperation, creativity and independence.

The ecobrick module has components that are interrelated with each other. The components in this module include several important parts. The cover is the initial display that is designed attractively and adjusted to the theme of a sustainable lifestyle, namely ecobrick material. The table of contents contains details of the things contained in the module. The project description provides an overview of ecobrick. The project objectives and targets state the reasons for creating the module and the targets to be achieved. The dimensions and elements of the *Pancasila* student profile detail the dimensions, elements, sub-elements, and achievement targets in the module.

Next, how to use the module explains the project module, ecobrick materials, and methods used. Things to consider before starting a project include aspects that must be considered by teachers, schools, and parents in the ecobrick making project. The project flow contains activities and tasks that must be done in the module. Learning materials in the module include information about waste, its types, the definition of ecobrick, history, and how to make it, complete with YouTube links as additional references for students.

The glossary contains definitions of foreign terms used in the module. The summary presents a summary of the core material in the ecobrick module. There are four types of teacher observation sheets used to observe student behavior

The ecobrick module has advantages and disadvantages in its use. The advantages of the ecobrick module are that it can increase students' learning motivation because of its attractive appearance and is equipped with illustrations and YouTube links that can be accessed if students still do not understand how to make ecobricks. Students become active and independent in the learning process with the practicum. Learning also becomes more meaningful because students can find their own knowledge from the experiments that have been carried out. In addition, the ecobrick module is equipped with a barcode so that students can download files in PDF format for further study. Meanwhile, the disadvantage of the developed module is that it only contains ecobrick material with the theme of sustainable lifestyle phase B, so it cannot be used for other themes.

Discussions

This study aims to develop a module on the *Pancasila* student profile strengthening project (P5). The module developed is named the ecobrick module, which is developed on the theme of sustainable lifestyle phase b of grade IV elementary school. The project module was developed using the ADDIE model. The selection of the ADDIE model is because this development model is very simple but systematic. This is in line with previous research which states that the development of the ADDIE model is very simple in its procedure but systematic in its implementation (Utami & Trisnani, 2021; Hasdi & Agustina, 2016). The results of the needs analysis show that there is no module used to teach P5 on ecobrick making material. Based on the results of observations, the school environment is one of the places that produces plastic waste. Therefore, it is necessary to develop a module for strengthening the profile of *Pancasila* students to improve creative thinking skills in overcoming waste problems.

The design stage is carried out by compiling the module. The module developed is named the ecobrick module. The selection of this title is adjusted to the chosen theme, namely the theme of sustainable lifestyle. Previous research shows that projects with the theme of sustainable lifestyle can introduce environmental conditions around the school to students, other research states that sustainable lifestyle projects are very important to form individuals who have awareness and commitment to environmental protection (Mujahidin et al., 2023; Suriani et al., 2023). The dimensions chosen in the ecobrick module are faith, devotion to God Almighty and noble character, mutual cooperation, creativity and independence. This is in accordance with the guidelines in several other studies which state that we can choose 2-4 or 3-4 dimensions of the *Pancasila* student profile in the implementation of the project (Ulandari & Rapita, 2023; Pravitasari et al., 2023).

The next stage is development, namely the manufacture of ecobrick module products. The product is designed using the Canva application and then printed into a module book with A4 paper size. After the module is finished, it is validated by media experts and material experts. Based on the results of the media expert validation, the score was 78.3 with a good category and the results of the material expert validation were 94.44 with a very good category. Based on this, the results of the media and material expert validation are classified as very feasible.

Implementation stage, at this stage the ecobrick module was tested on a small group of students and teachers in grade IV at SD Inpres Bumi Sagu. At the implementation stage there are four stages of the project. The first step is introduction, at this stage students pay attention to the explanation about ecobricks and what materials and tools are needed to make ecobricks, then continue with working on LKPD and reflection sheets. The second step is contextual, teachers and students collect garbage in the school environment after that students separate the garbage used to make ecobricks and write it on the LKPD sheet and work on the reflection sheet and at this stage the teacher checks the materials and tools that will be used to make ecobricks.

The third step is action, namely at this stage is the stage of making ecobricks. Students are given the freedom to create ecobricks, then continued by writing on the work planning sheet, on this sheet students tell what they will make, what materials and tools they need and how to make it, then continued by working on the reflection sheet. The fourth step is follow-up and reflection, where at this stage students make a simple P5 report by selecting documentation of project activities, then students communicate their reports in front of friends then the teacher and students provide feedback.

The results of the student user trial were categorized as very good. The results of the teacher user trial were categorized as very good. These results indicate that the development of the ecobrick module is categorized as valid and practical. Valid means that the contents of the ecobrick module are in accordance with the curriculum, while practical means that the module is easy to use by users.

After the ecobrick module was declared valid and practical, an effectiveness test was conducted. The effectiveness test involved a large group of fourth grade students of SD Inpres Bumi Sagu. The results of the effectiveness test were that the ecobrick module was effective for students' creativity scores. The ecobrick module can develop students' creative dimensions because there is no pressure on students to produce certain products, so that in the process students are accustomed to exchanging ideas with each other, expressing various opinions, and being able to find solutions to problems from various perspectives.

Several previous studies have mentioned creativity or creative thinking as a process of generating or producing new ideas or creating something new (Karim, 2016; Siswono, 2016). Creative thinking is also the ability to see various possible solutions to a problem. This is in line with other studies that state that the *Pancasila* student profile strengthening project is designed so that students can conduct investigations, solve problems, and make decisions (Zuhro et al., 2023; Mery et al., 2022). Through the P5 project, the cultivation and development of creative characters in students can be implemented. The creative dimension is one of the dimensions in the *Pancasila* student profile which aims to produce original works and actions in the form of images, designs, appearances, digital outputs and others (Widhamiyani et al., 2024; Wiratna, et al., 2024).

The results of this study are relevant to previous research which states that the *Pancasila* student profile strengthening project module (P5) is valid, feasible, and effective to be used as a *Pancasila* student profile strengthening project module (P5) in class III at SD Muhammadiyah 9 Malang City (Fadhil, 2023; Susilawati et al., 2023). The results of this study indicate that the innovation of the P5 module (ecobrick module) developed on the theme of sustainable lifestyle meets the criteria of valid, practical, and effective in increasing students' creative dimensions. This study has implications for the growth of environmental awareness through the utilization of plastic waste that can be continued. The limitation of this study is that it only contains ecobrick material with the theme of sustainable lifestyle phase B, so it cannot be used for other themes. Further research can develop similar modules with different materials.

4. CONCLUSION

This research and development resulted in module innovations.ecobrickabout ecobrick on the theme of sustainable lifestyle valid, practical and effective criteria. This is proven by the average results of expert validation of materials and media validation entering the very good criteria.The ecobrick module has also met practical criteria as evidenced by the ease of use of the ecobrick module.Moduleecobrickon the theme of sustainable lifestyle is stated to be effective for students' creative dimensions. The results of the Paired Sample T Test showed a significant difference in the average creative dimensions of students before and after using the ecobrick module on ecobricks on the theme of sustainable lifestyles.ModuleecobrickIt is also easy to use without being limited by space and time, because the module file can be downloaded easily. With various steps taken, students can be more creative in learning in the school environment.

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