P5 Learning Strategy Based on Local Wisdom to Develop Herbal Medicine Literacy and Character Profile of Pancasila Students

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Abstract
Projek Penguatan Profil Pelajar Pancasila (P5) has become mandatory in implementing the Kurikulum Merdeka. This study aims to describe the P5 learning strategy, focusing on local wisdom to promote literacy in herbal medicine and foster the character of the Pancasila Student Profile. Utilizing a qualitative approach, the research includes observations and documentation. The findings indicate that implementing the P5 strategy based on local wisdom enhances the character traits of the Pancasila Student Profile such as faith and purity, critical thinking, and creativity while also developing additional competencies related to literacy in herbal medicine. The competency of literacy medicine can serve as a provision for students to preserve local wisdom in society, specifically regarding the culture of consuming herbal medicine healthily and properly to maintain a sustainable healthy life. The success of the P5 strategy, which can develop student competencies, is achieved through each of its stages: planning, implementation, assessment processing, and evaluation and follow-up. Each strategy in these four steps is interconnected.

1. Introduction

Since 2023, education in Indonesia has begun implementing the Merdeka Curriculum as the national curriculum through the Minister of Education, Culture, Research, and Technology Regulation No. 12 of 2024, covering early childhood education (PAUD), primary, and secondary education levels. The curriculum structure for early childhood education or its equivalent includes both intracurricular and Pancasila Student Profile Strengthening Projects (P5). The problem, however, is that for schools that are newly adopting the Merdeka Curriculum, such as SMAN 2 Lambandia, many educators still lack a deep understanding of how to implement P5 in shaping students character and competencies.

The development of the Pancasila Student Profile is crucial in shaping the character and competencies of Indonesian students. This initiative aims to cultivate essential skills and values that align with the national education goals and character-building programs (Irawati et al., 2022). Its implementation strategy includes integrating activities into formal education through intracurricular, co-curricular, and extracurricular programs (Irawati et al., 2022; Setiawan et al., 2023). This project encourages students to observe their environment, seek solutions to problems, and develop cooperation and creativity (Mery et al., 2022). Furthermore, the initiative promotes the understanding and application of Pancasila principles and the values of diversity, which strengthen students' character in the learning process and school activities (Widiyani, 2023). By developing these qualities, the Pancasila Student Profile initiative seeks to prepare Indonesian students to face the challenges of the 21st century while maintaining their national identity and contributing to the nation's progress (Irawati et al., 2022; Setiawan et al., 2023)

In addition to the implementation of the Merdeka Curriculum, the primary reason for selecting this learning approach is to address the learning challenges encountered in Biology lessons. Specifically, in the Biology lesson on the Classification of Living Things, particularly in the Plant Kingdom subtopic, various issues requiring solutions were raised by students in the classroom. Questions such as: "What is the name of this plant?", "Can this plant be used as a remedy for certain

diseases?", "How can this plant be utilized?", "Can this plant be made into herbal medicine?", and other spontaneous questions arose during the lesson.

Research on herbal medicine literacy in Indonesia reveals several challenges and opportunities. Studies indicate an increasing use of herbal medicines or the tradition of consuming jamu (herbal drinks), but there remains a need for better documentation and preservation of traditional knowledge (Anwar et al., 2015). Although some communities use herbal therapy as an alternative to essential medications, there is often a lack of knowledge about proper usage, necessitating education on phytotherapy literacy (Nugraha et al., 2023). Efforts to improve herbal medicine literacy among the elderly have shown significant improvements in understanding aspects such as legal status, expiration dates, and potential interactions with synthetic drugs (Gondokesumo & Purnamayanti, 2021). However, research also shows that the general public's perception of herbal medicine remains low, highlighting the need for better literacy initiatives (Hayati & Athiroh, 2023). These studies collectively emphasize the importance of enhancing herbal medicine literacy to ensure safe and effective use within Indonesian communities.

In efforts to improve herbal medicine literacy, local plants in the students' surrounding environment can serve as the best medium for P5 learning. Local plants offer significant potential as learning resources in science education, particularly in biology and chemistry. Studies show that utilizing native plants can increase student engagement and provide learning experiences relevant to their context (Andarias et al., 2022; Mumpuni, 2014). For instance, local flora can serve as natural indicators for acid-base tests in chemistry lessons (Tangio et al., 2023). In biology, various plant species can be used to teach topics such as classification, plant systems, and biodiversity (Andarias et al., 2022). The application of local potential in science education has been proven to enhance learning outcomes, critical thinking skills, and environmental awareness (Nurjanah et al., 2024). Additionally, integrating local plants into the curriculum can help preserve traditional knowledge and promote conservation efforts (Mumpuni, 2014). Overall, incorporating local plant resources into science education creates more meaningful learning experiences and fosters a deeper connection between students and their environment (Nurjanah et al., 2024).

Given the limited allocation of Biology lessons in the Merdeka Curriculum, with only two hours of instruction per week, the teacher decided to address these issues through P5 learning under the theme of Sustainable Living. The topic for this P5 lesson is the Identification of Local Plants to enhance the Pancasila Student Profile character and herbal medicine literacy of students at SMAN 2 Lambandia. The aim of this research is to describe the local wisdom-based P5 learning strategy in developing herbal medicine literacy and the character of the Pancasila Student Profile.

2. Method

This research employs a qualitative approach. It explains the learning strategy of the Pancasila Student Profile Strengthening Project (P5) at SMAN 2 Lambandia, located in Dusun 1 Watalanu, Lere Jaya Village, Lambandia District, East Kolaka Regency, Southeast Sulawesi Province. The subjects of this study are the students of class X1 and X2 in the 2023-2024 academic year, with 20 and 17 students respectively. The research was conducted over 3 months in the odd semester and 3 months in the even semester of the 2023-2024 academic year, for a total duration of approximately 6 months.

The researcher's role in this study is that of an active participant, actively contributing to the data collection process, analysis, and reporting of the research results. The research methods used are observation and documentation. The instruments used in this study include field observation sheets, P5 modules, assessment sheets, and activity documentation. The three procedures will be explained as follows.

2.1. Observation

In this method, the researcher conducts direct observation from the beginning to the end of the activities, covering the planning, implementation, and evaluation stages of the P5 learning process. The researcher records and documents all P5 activities, including designing, implementing, assessing, evaluating, and following up. The data collected from the P5 implementation will then be processed and reported.

During the observation, data is collected through direct observation. The researcher notes what they see, hear, or feel during the observation. The data is typically in the form of field notes that describe detailed behaviors or interactions observed.

2.2. Documentation

The documentation used in this research includes field observation sheets, P5 modules, assessment sheets, and activity photos.

3. Results and Discussion

The data obtained in this research consists of descriptions of the management of the Penguatan Profil Pelajar Pancasila (P5) integrated with Local Wisdom to develop herbal medicine literacy and the Pancasila Student Profile character.

3.1. P5 Activity strategy

The implementation of P5 activities at SMAN 2 Lambandia follows the guidebook for developing the Pancasila Student Profile Strengthening Project, which was prepared by the Standards, Curriculum, and Assessment Agency of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia.

Table 1. Implementation of P5 Activities at SMAN 2 Lambandia

Stages	Activity	% Implementation
Planning	Forming a team, identifying school readiness, determining dimensions, themes, and time allocation, preparing modules.	100%
Implementation	Otimizing, and P5 activities end	100%
Assessment Process	Processing and compiling the P5 report.	100%
Evaluate and Follow up	Evaluating P5 activities and preparing follow-up actions for the P5 activities.	50%
Mean		85%

3.1.1. Planning of P5 Activity

The design activities were carried out by: (1) forming a P5 implementation team, (2) identifying the stages of school readiness, (3) determining dimensions, themes, and time allocation, (4) preparing modules, and (5) designing reporting strategies. All of these initial activities were successfully implemented, although the socialization to parents and the preparation of modules were not maximized. The module preparation was conducted collaboratively and is still in a ready phase, utilizing project modules provided by the Ministry of Education, Culture, Research, and Technology as references to develop contextual projects that meet the needs and interests of students. The theme is “Sustainable Living” with the topic “Identification of Local Plants to Enhance Herbal Medicine Literacy.”

Based on the observation results, the implementation of the Project Penguatan Profil Pelajar Pancaslla (P5) at SMAN 2 Lambandia was 85%. All activities in the design, implementation, and assessment processing were fully completed. However, the evaluation and follow-up activities have only been carried out to 50%. This occurred because the follow-up actions planned have not yet been executed. The follow-up in the implementation of P5 is the creation of School Medicinal Plants (TOS), which will be carried out in the following year.

Although all activities were largely completed, the socialization efforts to parents and the preparation of modules still need improvement. To address the challenges faced by educators in schools regarding the development of appropriate modules, efforts such as conducting teacher training, developing integrated science modules, and disseminating best practices are needed (F. Permana & Yuni Pantiwati, 2020; M. Bani et al., 2024). The introduction of the Merdeka Curriculum has sparked initiatives to support teachers in understanding and implementing the new educational approach, including workshops on module development (M. Bani et al., 2024; A. Haq, 2023).

3.1.2. Implementation P5 Activity

The implementation of P5 activities is divided into several stages: initiating activities, which includes initial assessments, strategies for starting P5 activities, optimizing, and concluding P5

activities using the Project-Based Learning (PjBL) model, and finishing the project activities. The learning process regarding the identification of herbal plants to enhance medicine literacy was conducted in classes X1 and X2, with a total of 38 students. The learning process utilized the Project-Based Learning (PjBL) model. All activities followed the syntax of PjBL, starting from the opening, core, and closing activities. The sequence of the learning process will be explained as follows.

First, determine the essential question or project assignment. In this learning process, after the teacher formulates the triggering question based on the results of a joint reflection with the students, the teacher can select several questions from the various issues raised by the students, which will be addressed during the P5 learning activities. Examples of questions include: 1) Are there any plants around you that can be used as medicine or herbal remedies?; 2) Name some plants considered medicinal in your area?; 3) How can we determine whether the plants around us are medicinal or not?; 4) How do we identify the types of plants in our surroundings?; 5) What are the benefits of these plants?; and 6) How should these plants be consumed?

Second, create the project design and establish a schedule. In this case, the teacher and students determine the steps to solve the problem. The activities the students will undertake include: 1) Asking all students to write down one type of plant in their surroundings that they want to research. The type of plant chosen must be different for each student; 2) Setting the schedule for the project activities (this schedule is adjusted according to the students' abilities). Since this project is conducted in class X, the P5 activities will be completed over one year. The first semester will be used for identifying, grouping, and researching information about herbal medicine literacy, while the publication or production of work will take place in the second semester; 3) The teacher explains the steps to be taken in the next meeting, which include photographing the chosen plants, bringing them to school, drawing them to identify their morphological characteristics, grouping the plants, and writing their taxonomy. If students have difficulty identifying the types of plants, the teacher can ask them to use Google Lens. If students are unfamiliar with using it, the teacher can provide an example by identifying plants around the school; 4) After accurately identifying the types of plants, students are asked to gather as much information as possible about the contents, benefits, and correct methods of consuming those plants from various learning resources. In this case, students can discuss with their classmates; and 5) Creating posters using the Canva application (utilizing their belajar.id accounts).

Third, continuously monitor the progress of the project. The project monitoring can be conducted by the teacher every two weeks and utilize a WhatsApp group. Fourth, assess the results by asking students to submit the posters they have created. The teacher evaluates the posters and other learning outcomes. Lastly, fifth, evaluate the experiences where students are asked to share the experiences gained during the P5 activities and determine the follow-up actions for the learning conducted. For example, creating School Medicinal Plants (TOS), which will be implemented in the following year.

The implementation of the P5 activities began with an initial assessment, specifically a competency test on herbal medicine literacy. The next step was to initiate the P5 activities using the Project-Based Learning (PjBL) model. The PjBL syntax used included determining the essential question or project assignment, creating the project design and schedule, monitoring project progress, assessing results, and evaluating experiences. Overall, the activities proceeded well; however, the scheduling of the project activities for classes X1 and X2 did not occur simultaneously. This was due to the fact that P5 activities at SMAN 2 Lambandia were all allocated on Saturdays, which resulted in alternating with P5 activities on other topics. Time management is crucial for the successful implementation of P5.

The optimization of the P5 activities in this topic involved teacher guidance, utilizing Google Lens, and providing Canva training for the students. During the identification of wild plants, most students encountered difficulties as they did not have books for plant identification and classification. Consequently, the teacher took the initiative to utilize Google Lens.

It is important to note that East Kolaka, which was formed from the expansion of Kolaka Regency since December 14, 2012, has various types of plants that can be used as teaching media for

educators, particularly in biology education. However, there is still no valid data regarding the types of plants, especially those that can be used as medicine. It is not surprising that during the lessons on taxonomy and the Kingdom Plantae, many students were confused about the names of the plants around them. According to Zulyetti (2019), Indonesia's plant wealth includes 30,000 plant species out of a total of 40,000 plant species worldwide, with 940 of those being medicinal plants. The author believes that several plants living around the students at SMAN 2 Lambandia belong to these 960 species.

After confirming the names and types of plants correctly, the next step was to research their contents, benefits, and consumption methods using relevant learning resources. Students could look for information in books, health magazines, or articles available online. In this case, the teacher would guide the students in finding the appropriate learning resources. During the project implementation, students were expected to be literate. They should be able to access, find, utilize, evaluate, and communicate the information they obtained, particularly regarding the identified herbal plants. Once they had acquired the necessary information, they would then create their projects.

Another optimization activity involved using students' belajar.id accounts to create posters using the Canva application. Canva was used to produce works. In this P5 learning context, the output was a medium for students to express their literacy activities regarding medicinal plants in the form of posters. To facilitate the poster-making process, the teacher introduced the Canva application and utilized the belajar.id accounts of each student. The Canva training for students during the poster creation activity has proven effective in supporting learning. The use of Canva in education can enhance students' learning effectiveness and provide comprehensive additional insights (Monika Astherina Puspitasari et al., 2023).

3.1.3. Assessment Process

The next activity was to conclude the P5 activities by conducting a summative assessment and reflection for follow-up. The summative assessment for P5 was carried out with a post-test on herbal medicine literacy and also involved creating a poster. This is in line with the P5 implementation guidelines, which state that the summative assessment is conducted to measure students' abilities in achieving learning objectives and is carried out through authentic assessment or performance assessment (Badan Standar, Kurikulum, dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2024:92-93).

In this activity, the assessment of herbal medicine literacy was conducted using a written test with the following items: identifying a type of herbal plant, identifying the plant, being able to find information about its characteristics, contents, and benefits, as well as the correct way to consume it, all presented in a poster.

The results of the herbal medicine literacy assessment from both classes (X1 and X2) showed the following outcomes.

Table 2. Results of the Herbal Medicine Literacy Assessment

Research Subjects	Pretest Score	Postest Score
Class X_1	77,74	89,25
Class X_2	77,24	88,35
Mean	**77,49**	**88,8**

The results of the herbal medicine literacy assessment are actually additional competencies measured during the P5 activities. The implementation of the P5 activities began with an initial assessment, which included a competency test on herbal medicine literacy. The two classes (X1 and X2) received an average score of 77.49. The indicators assessed included naming plants, writing taxonomy, describing characteristics, explaining content and benefits, and detailing consumption methods. This score indicates that the students possess some prior knowledge. A survey-based study found that the majority of high school students are already familiar with various medicinal plants and their uses (Aisyah Pane et al., 2024).

The results of the post-test on herbal medicine literacy showed an increase, with an average score of 88.8. Compared to the pre-test scores, this indicates an improvement. This is not a concern, as the learning activities had not yet been conducted. Students were only tasked with finding answers about herbal plants from the learning sources they were aware of. This aligns with research conducted by Mustika & Febrianty (2022), which found that the knowledge levels of respondents were lower before the activities were carried out. Hayati & Athiroh (2023), in their analysis of perceptions about herbal medicine among respondents at the community service partner Griya Jamu Siti Ara in Batu City, also reported low levels of awareness, which may be attributed to several influencing factors, including a lack of literacy support through habits of reading or writing about herbal medicine.

The primary outcome of the P5 learning activities is to develop the dimensions of the Pancasila Student Profile related to faith and piety, independence, and creativity. Below are the results of the assessments conducted over nearly two semesters.

Table 3. Dimensions of the Project Penguatan Profil Pelajar Pancaslla (P5)

P5 Dimention	Element	Sub element
Faith and purity	Morality to nature	Preserving the natural environment by recognizing the types of medicinal plants present in the students' surroundings.
Critical Thinking	Obtaining and processing information and ideas.	Asking questions with the aim of seeking information to solve the posed problems.
Creativity	Menghasilkan karya dan tindakan yang orisinal	Producing original works and actions (which can include using Google Lens and Canva or other video editing applications to create posters).

The competencies assessed in the Project to Strengthen the Profile of Pancasila Students (P5) are categorized into four levels: Emerging (MB), Developing (SB), Developing as Expected (BSH), and Highly Developed (SAB). The following are the results of the character assessment of Pancasila Student Profile for the students of class X1 and X2 at SMAN 2 Lambandia, with a total of 20 students in class X1 and 17 students in class X2.

Table 4. Student Scores for Class X1 and X2 in Each Dimension

Dimensi P5	X1				X2			
	MB	SB	BSH	SAB	MB	SB	BSH	SAB
Faith and purity	0		3	17	0		6	11
Critical Thinking	0	1	9	10	0	1	9	7
Creativity	0	3	7	10	0		10	7

The next activity involves processing and compiling the P5 report. The P5 report is presented in a descriptive format categorized as Starting to Develop (MB), Developing (SB), Developing as Expected (BSH), and Developing Very Well (SAB). The results of the score processing indicate that in the dimension of Faith and Piety, with the sub-element of preserving the natural environment by recognizing the types of medicinal plants present in the students' surroundings, students are at the stage of BSH (24%) and SAB (76%). In the critical thinking dimension, with the sub-element of asking questions with the aim of seeking information to solve the posed problems, students fall into the categories of SB (5%), BSH (49%), and SAB (46%). For the creative dimension, with the sub-element of producing original works and actions (which can include using Google Lens and Canva or other video editing applications to create posters), students are at the SB stage (8%), BSH (46%), and SAB (46%).

These results indicate that the P5 activities can enhance students' creativity in poster creation using Canva. Canva is a digital product. Recent studies highlight the positive impact of digital technology on students' skills and learning outcomes. Digital mind mapping has been shown to improve writing skills, critical thinking, and creativity among high school students (Sairo, 2023). These findings emphasize the importance of integrating digital tools and literacy into education to prepare students for the demands of the 21st century.

3.1.4. Evaluate and Follow up

From the P5 activity strategies that have been implemented, the most impactful activity on student learning outcomes is the execution of P5, as it directly involves the students. In this activity, students can categorize local plants and enhance their knowledge of herbal medicine (medicine literate). They become more sensitive and caring towards the living plants around them, are able to identify wild plants using scientific methods, and utilize technology to report on the activities they have conducted. Additionally, they exhibit the desired characteristics in the dimensions of the Pancasila Student Profile regarding faith and piety, critical thinking, and creativity.

The advantages of this P5 learning approach include providing an understanding of contextual herbal medicine literacy that aligns with the curriculum and is easy to implement. Students gain an understanding of the benefits of local medicinal plants, which is expected to preserve the culture of consuming traditional herbal remedies as part of their heritage. Moreover, students are trained to use technology such as Google Lens and Canva for school assignments, enhancing their digital skills. This P5 learning experience distinguishes itself from traditional classroom biology, where students typically only categorize plants, by focusing on identifying the benefits of medicinal plants in their vicinity. This encourages students' curiosity to explore more types of local plants and reinforces the dimensions of the Pancasila Student Profile, including interaction with the environment and the preservation of local wisdom. The local wisdom in question is the culture of consuming herbal remedies to promote a healthy society through the regular intake of beneficial traditional medicines (Dwinata et al., 2023).

3.2. Conclusion

Effective management of the Project Penguatan Profil Pelajar Pancasial (P5) learning can develop the characteristics of the Pancasila Student Profile (faith and piety, critical thinking, and creativity), as well as enhance other desired competencies, including herbal medicine literacy. This literacy competence can equip students to preserve local wisdom in society, particularly regarding the healthy and proper culture of consuming herbal remedies to maintain sustainable healthy living. The success of the P5 strategy in developing student competencies is achieved through each stage: planning, implementation, assessment processing, and evaluation and follow-up. Each strategy in these four steps is interconnected and mutually supportive.

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