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Integrating Malay Local Wisdom into Pancasila Student Profile Strengthening Project: Development of '*Pekasam*' Theme Teaching Materials

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ABSTRACT

This study aimed to develop and validate a pekasam-themed module integrating Riau Malay local wisdom into the Pancasila Student Profile (P5) project. Using a Research and Development (R&D) design with the ADDIE model, the study involved 30 sixth-grade students and three teachers at SDN 012 Lalang Kabung, Riau. Data were collected through observation, questionnaires, expert validation, and documentation, analyzed with Aiken's V for validity and Cronbach's Alpha for reliability. Findings showed that independence (3.17; 73% high) and creativity (2.97) were strengthened, while collaboration (2.87) and critical reasoning (2.83) remained weaker; student enthusiasm for local culture was very high (4.0). Expert validation confirmed strong content and language quality (0.83) but indicated the need for refinement in visual aspects (0.67–0.75). In conclusion, culture-based project learning effectively nurtures autonomy and identity, though collaboration and critical reasoning require further pedagogical support. This study contributes a practical model of culturally responsive pedagogy aligned with national character education and global deep learning frameworks, with future research advised to test its adaptability across regions and long-term impacts.

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INTRODUCTION

One of the central challenges in contemporary primary education is ensuring that curriculum implementation effectively cultivates both 21st-century competencies and strong character values. To address this issue, the Government of Indonesia introduced the Merdeka Curriculum, which incorporates the Pancasila Student Profile Strengthening Project (Projek Penguatan Profil Pelajar Pancasila/P5) as a core element of character education. According to the Decree of the Minister of Education, Culture, Research, and Technology No. 56/M/2022, approximately 20–30% of the total annual instructional hours are allocated to the implementation of P5. This initiative is designed to nurture learners who embody six key dimensions

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of the Pancasila Student Profile: faith and piety to God Almighty, global diversity, mutual cooperation, independence, critical reasoning, and creativity. Despite its strong policy foundation, significant challenges remain in the implementation of P5. The most salient gap lies in the limited integration of local wisdom into existing teaching materials, which often results in generic modules that do not adequately reflect the cultural realities of learners. Teachers in regions such as SDN 012 Lalang Kabung, Pelalawan Regency, continue to rely on centrally developed resources that lack contextual relevance, leaving students with fewer opportunities to connect learning experiences to their own cultural environment. This undermines the transformative potential of P5 to shape authentic moral, social, and cultural competencies.

A growing body of literature underscores the importance of embedding local wisdom in character education (Hemafitria et al., 2018) argue that local cultural contexts significantly enhance student engagement and the relevance of learning. Similarly, (Mercer-Mapstone and Kuchel, 2017) highlight that communication grounded in cultural identity exerts strong social influence on character development. (Wijayanti et al., 2025) further contend that transforming cultural values into education is essential for building national identity. Collectively, these studies provide strong evidence that local wisdom is a powerful pedagogical resource; however, they largely focus on broad cultural themes such as rituals, folklore, or sports and rarely employ systematic instructional design models to integrate cultural content into structured curriculum frameworks. This constitutes a clear research gap.

In response, this study introduces pekasam, a traditional Riau Malay fermented fish, as a culturally grounded theme for P5 teaching materials. The choice of pekasam offers distinctive novelty. First, it is a living culinary practice that remains embedded in local communities, thereby providing an authentic and relatable learning context. Second, pekasam embodies values that correspond directly to the six dimensions of the Pancasila Student Profile: faith (gratitude for sustenance), global diversity (shared Malay heritage across regions), mutual cooperation (collective preparation and sharing), independence (self-sufficiency through food preservation), critical reasoning (understanding fermentation processes), and creativity (innovative adaptation of traditional techniques). Third, unlike prior studies that focus on abstract or ceremonial cultural expressions, this study adopts a tangible cultural product and embeds it into a rigorous instructional framework, thereby ensuring both cultural authenticity and pedagogical robustness. To operationalize this integration, the ADDIE model was selected as the instructional design framework. The model consisting of Analysis, Design, Development, Implementation, and Evaluation offers a systematic yet flexible approach to developing instructional content that aligns with specific educational objectives. Prior research demonstrates its effectiveness in enhancing learner motivation, engagement, and conceptual understanding across diverse contexts (Han and Shim, 2019; McRuer et al., 2024; Xue et al., 2024). The learner centered and adaptive nature of ADDIE makes it particularly compatible with project-based learning approaches such as P5.

Building upon these theoretical and empirical foundations, this study is anchored on three interrelated pillars: character education, local wisdom, and systematic instructional design. By synthesizing insights from character education theory (Kirschenbaum and Goldman, 1995), research on local culture integration (Syam et al., 2024), and instructional design scholarship (Hite et al., 2020) this study positions itself to fill the existing gap. The aim of this study is to develop pekasam themed P5 teaching materials through the ADDIE model in order to provide culturally responsive, pedagogically sound, and character-oriented learning experiences for elementary school students.

METHOD

This study employed a Research and Development (R&D) design using the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation) as the guiding framework. The primary objective was to produce and validate a thematic learning module based on pekasam, a traditional Riau Malay fermented fish dish, as a means of integrating local wisdom into the Pancasila Student Profile (P5) project. To capture contextual insights and responses during the development process, a descriptive qualitative approach was also utilized, as suggested by (Bogdan and Biklen, 1997)

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Research Site and Participants

The research was conducted at SDN 012 Lalang Kabung, Pelalawan Regency, Riau Province, purposively selected for its strong cultural heritage, which supports the integration of Riau Malay local wisdom into education. The participants comprised 30 sixth grade students (15 boys and 15 girls, aged 11–12 years) and three teachers (two female and one male, each with more than five years of teaching experience). This composition ensured both gender representation and adequate teaching experience to support the implementation of project-based learning.

Development Procedure with the ADDIE Model

1. Analysis
   Instructional needs were identified through interviews and preliminary observations. Teachers reported challenges in contextualizing project-based learning with cultural content, while students showed interest in learning through traditional food culture. These findings established the necessity of a culturally grounded thematic module.
2. Design
   A framework for the learning module was constructed by integrating pekasam as the central theme. The design emphasized alignment with P5 dimensions, namely cooperation, independence, creativity, and critical reasoning. Draft lesson plans and supporting media were developed to reflect these competencies.
3. Development
   A prototype learning module was developed consisting of structured lesson content, student activity sheets, and cultural illustrations. To ensure its quality and relevance, the module was validated by three experts in curriculum, language, and instructional media. The evaluation was conducted using a four-point Likert scale and analyzed with Aiken's V formula (Aiken, 1985), which is applied to measure the degree of agreement among experts regarding the content, language, and media aspects of an educational instrument or product. Furthermore, to test the reliability of the instrument, Cronbach's Alpha was employed, which functions to assess the internal consistency of questionnaire items and determine the extent to which the instrument can produce stable and dependable results (Nisa et al., 2024).
4. Implementation
   The validated module was applied in one cycle of sixth grade classroom learning. Teachers acted as facilitators in guiding student projects, while observers recorded engagement, collaboration, and cultural appreciation.
5. Evaluation
   Data from observations, questionnaires, and teacher feedback were analyzed to identify areas for improvement. Revisions included simplifying activity instructions and adding visual aids to support comprehension. The evaluation confirmed the product's feasibility and its potential to strengthen P5 competencies through culturally integrated learning.

Data Collection Techniques

Data for this study were collected through four complementary techniques. First, observation was conducted to capture teacher student interactions during the implementation of project based learning,

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following the guidelines of (Creswell, 2015), which emphasize the importance of contextualized observation in educational research. Second, questionnaires were administered to students, designed based on the official Pancasila Student Profile (P5) indicators issued by the Ministry of Education and Culture (2022), in order to measure the achievement of competencies such as cooperation, independence, creativity, and critical reasoning. Third, expert validation was carried out by three experts in curriculum, language, and instructional media, who assessed the teaching materials using a four-point Likert scale to ensure accuracy, clarity, and pedagogical relevance. Finally, documentation was collected in the form of photographs, lesson plans, and student work products, serving as supporting evidence to triangulate the findings and strengthen the credibility of the study.

Data Analysis

The validation of the developed teaching materials was carried out through a structured procedure involving three expert validators specializing in curriculum design, educational language, and instructional media. Each expert was asked to evaluate the materials using a four-point Likert scale (1 = not valid, 2 = less valid, 3 = valid, 4 = very valid). This instrument was designed to capture nuanced expert judgments while maintaining clarity and consistency.

The evaluation focused on six key aspects:

1. Illustration suitability – relevance and appropriateness of images in supporting content delivery.
2. Sentence readability – clarity and comprehensibility of the written text for the target grade level.
3. Language consistency – uniformity and accuracy of linguistic expressions across the material.
4. Visual aesthetics – attractiveness, harmony, and appeal of the overall design.
5. Layout – organization, proportion, and balance between text, visuals, and white space.
6. Format compatibility – feasibility of using the material in both printed and digital classroom formats.

The data obtained from the expert ratings were analyzed using Aiken's V formula (Aiken, 1985), which measures the degree of agreement among experts. The formula is expressed as:

$$V = \frac{\sum s}{n(c-1)}$$

where:

- $s = r - l_o$ (the score given by the rater minus the lowest possible score),
- n = number of experts,
- c = number of categories on the rating scale,
- l_o = the lowest score on the rating scale.

The value of *V* ranges between 0 and 1, with values closer to 1 indicating stronger agreement among experts. For interpretation, values **≥ 0.80** are considered *Valid*, while values between **0.60 and 0.79** are categorized as *Quite Valid* and thus require improvement (Aiken, 1985). By employing this procedure, the study ensured that expert judgments were quantified in a reliable manner, allowing for both a summative measure of the teaching material's validity and diagnostic feedback to guide iterative refinement.

Qualitative data obtained from observations and documentation were analyzed through the stages of data condensation, display, and conclusion drawing, following the framework of (Ergül & Çalış, 2021). Meanwhile, quantitative data derived from questionnaires and expert validation were analyzed descriptively by calculating the percentages of competency achievement and feasibility ratings. Throughout the research

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process, ethical standards were strictly observed. Informed consent was obtained from school authorities, participating teachers, and parents of the students, with assurances that all data would remain confidential and be used solely for research purposes.

RESULTS

The results of the questionnaire completed by 30 students revealed varied achievements across the four key dimensions of the Pancasila Student Profile. The "Mandiri" (Independence) dimension obtained the highest average score of 3.17. This indicates that 73% of students fell into the high category, demonstrating their ability to complete project tasks such as pekasam production and cultural campaign initiatives independently.

The "Creative" dimension followed with an average score of 2.97, where 60% of students were in the medium category and 27% in the high category. Several students succeeded in generating original visual ideas such as packaging labels and cultural storytelling, while others were still influenced by group consensus. The integration of pekasam as a cultural theme proved meaningful for stimulating creativity, though some students required stronger scaffolding to move beyond conventional ideas.

In contrast, "Gotong Royong" (Collaboration) and "Critical Reasoning" dimensions yielded lower average scores of 2.87 and 2.83, respectively. In both dimensions, over 50% of students were in the medium category, while fewer than 20% reached the high category. This suggests that teamwork and reflective thinking remain challenges, as observations revealed that several students were passive during discussions or tended to follow dominant peers.

To complement the quantitative findings, observation data from three classroom teachers provided converging evidence. Lesson planning that incorporated local cultural themes achieved an average score of 3.33 (classified as strong), while student participation was rated 3.0 (moderate). Notably, students' interest in local culture received the highest rating at 4.0, with 87% of students showing high enthusiasm, underscoring the contextual relevance of integrating local wisdom into learning (Table 1, Figure 1).

Table 1. Assessment Results of Culture Based P5 Project Learning

Dimension	Average Score	% High	% Medium	% Low	Interpretation
Independence	3.17	73%	20%	7%	Strong autonomy in project completion
Creativity	2.97	27%	60%	13%	Moderate creative expression, some originality evident
Collaboration	2.87	17%	57%	26%	Teamwork requires improvement
Critical Reasoning	2.83	13%	63%	24%	Reflective thinking remains limited

Figure 1 illustrates that the implementation of the culture based Pancasila Student Profile (P5) project yielded varied outcomes across dimensions: students demonstrated strong Independence, with 73% achieving high performance, reflecting their ability to complete project tasks autonomously; Creativity showed moderate results, with 60% in the medium category, indicating that while some students generated original ideas, many remained reliant on group consensus; meanwhile, both Collaboration and Critical Reasoning lagged behind, as more than half of the students were only at a medium level and around a quarter at a low level, revealing persistent challenges in fostering teamwork and reflective thinking. Overall, these results suggest that integrating pekasam as a cultural theme effectively nurtured student autonomy and engagement with local wisdom, but more structured pedagogical strategies are still required to elevate creativity and significantly strengthen collaborative and critical reasoning skills.

To ensure the feasibility, accuracy, and pedagogical quality of the developed teaching materials, a systematic expert validation process was carried out. This step is considered essential in research and development studies, as it provides external judgment from professionals who possess domain-specific expertise and can evaluate the product beyond the perspective of its developers. In this study, validation was conducted by three experts, each selected purposively according to their specialization: one expert in curriculum and instructional design, one in educational language and linguistics, and one in instructional

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media and visual communication. This combination of expertise was intended to guarantee that the evaluation covered three interrelated dimensions substantive content, linguistic clarity, and visual design so that the resulting product would be comprehensive, contextually relevant, and pedagogically effective.

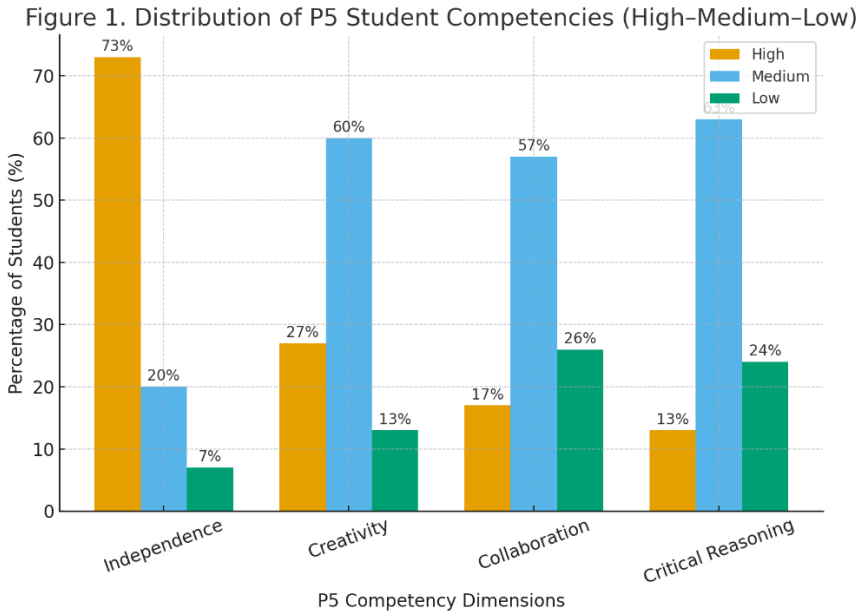

Figure 1. Distribution of P5 Student Competencies

By applying this validation procedure, the study ensured that the developed learning module was rigorously assessed not only for its content accuracy and cultural appropriateness but also for its linguistic accessibility and visual presentation quality. The comprehensive nature of this evaluation allowed for identifying both the strengths of the product, particularly in the content and linguistic domains, and its areas for further refinement, particularly in visual and formatting aspects. The detailed results of this validation are summarized in Table 2.

Table 2. Aiken's V Results of Teaching Material Validation

Aspect	Aiken's V	Category
Illustration Suitability	0.83	Valid
Sentence Readability	0.83	Valid
Language Consistency	0.83	Valid
Visual Aesthetics	0.67	Quite Valid
Layout	0.75	Quite Valid
Format Compatibility	0.67	Quite Valid

The validation results show a clear distinction between linguistic and visual aspects. Illustration suitability, sentence readability, and language consistency each reached a score of 0.83, falling into the *Valid* category. This indicates that the teaching materials are linguistically appropriate, clear, and consistent for use in the classroom, and that the cultural content was judged relevant and well represented through illustrations. In contrast, the visual aesthetics (0.67), layout (0.75), and format compatibility (0.67) were rated only as *Quite Valid*. These scores suggest that while the materials are usable, they require refinement in terms of design quality and presentation. Experts noted that visual elements such as layout organization, balance of text and images, and overall aesthetic appeal were not yet optimal to maximize student

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engagement. The relatively lower score in format compatibility also indicates that adjustments are needed to align the materials with printing standards and classroom usability. Taken together, these findings affirm the strength of the content and linguistic quality of the teaching materials, making them substantively valid for supporting the Pancasila Student Profile (P5) project. However, the visual and formatting aspects demand further improvement**,** particularly in enhancing aesthetic appeal and technical compatibility, to ensure that the materials are not only pedagogically sound but also attractive and practical for classroom implementation.

DISCUSSION

The study demonstrated that integrating Riau Malay local wisdom through the theme of pekasam into the Pancasila Student Profile (P5) project had a significant impact on student engagement and competence development. Independence emerged as the strongest dimension, indicating that students were able to carry out project tasks autonomously, while creativity showed moderate achievement. However, collaboration and critical reasoning were relatively weaker, suggesting that further pedagogical support is required in these areas. Expert validation confirmed that the content and language aspects of the teaching materials were robust, while visual and layout elements required refinement. These findings resonate with recent Indonesian studies. (Martawijaya et al., 2025) found that physics co curricular activities grounded in local wisdom significantly enhanced Pancasila Student Profile dimensions and improved learning satisfaction. Similarly, (Daya et al., 2025) emphasized that integrating sports and small games within the Independent Curriculum improved independence, critical thinking, and creativity among elementary students.

Local cultural values embedded in language and literature, as highlighted by (Youpika et al., 2024), were also shown to internalize character values effectively (Ali et al., 2021), preventing cultural erosion while enhancing educational outcomes. In the field of science, (Minsih et al., 2025) demonstrated that cultural literacy can be successfully integrated into science learning to strengthen cultural identity and support the holistic development of P5 competencies. At the global level, these results align with (Fullan et al., 2017) concept of “deep learning,” which emphasizes the 6Cs of global competencies: character, citizenship, collaboration, communication, creativity, and critical thinking. (Carney, 2022) has also stressed that local cultural integration is not only a means of preserving heritage but also a powerful way to foster global citizenship and sustainable development. Moreover, systematic reviews of STEM education reforms (Konstantinidou and Evagorou, 2025) highlight that authentic, interdisciplinary, and context-based approaches are critical for developing transferable 21st-century skills

This study contributes to the discourse on culturally responsive pedagogy by demonstrating that authentic cultural contexts can enhance student independence and creativity. However, the limited gains in collaboration and critical reasoning highlight the tension between cultural authenticity and the need for structured scaffolding. This finding echoes the constructivist perspective of (Vygotsky, 1978), emphasizing the importance of guided interaction in the development of higher-order thinking. It also supports international calls, including those by (OECD, 2023) to integrate global competence into curricula through structured tasks that balance autonomy with collaboration. Furthermore, by employing validation techniques such as Aiken’s V and reliability testing, this study contributes methodologically to educational product development research, underscoring the importance of both linguistic quality and visual appeal in determining instructional effectiveness.

Practically, the integration of local wisdom such as pekasam demonstrates that culturally grounded projects can increase student enthusiasm and identity formation, consistent with UNESCO’s recommendations on Education for Sustainable Development. Teachers should therefore continue to draw on local culture as a contextual anchor in implementing P5. However, given the weaker outcomes in collaboration and critical reasoning, teachers are advised to incorporate structured cooperative learning strategies, guided inquiry, and reflective dialogues to strengthen these dimensions. From a design perspective, the validation results call for improvements in visual aesthetics and layout to ensure that teaching materials are not only valid in content but also engaging in presentation. Finally, the study suggests

that policymakers consider scaling culturally responsive P5 projects across diverse regions, adapting them to local traditions while aligning with national character education goals.

CONCLUSION

This study demonstrates that integrating Riau Malay local wisdom through a pekasam-themed module in the Pancasila Student Profile (P5) project effectively enhanced students' independence and cultural engagement, with moderate gains in creativity but weaker outcomes in collaboration and critical reasoning. The expert validation confirmed strong content and linguistic quality, while identifying the need for refinement in visual and formatting aspects to improve usability and appeal. These findings highlight that culture-based project learning is a promising approach to strengthening P5 competencies, yet requires structured scaffolding and improved instructional design to balance autonomy, creativity, collaboration, and critical thinking. The main contribution of this research lies in providing a concrete model of culturally responsive pedagogy that bridges local wisdom with national character education, demonstrating its potential not only to preserve heritage but also to cultivate essential 21st-century competencies. Future studies could expand this work by (1) applying the module in diverse regional contexts to examine cultural adaptability, and (2) employing longitudinal designs to measure the sustained impact of culture-based learning on students' collaboration and critical reasoning skills.

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