

Local Wisdom as a Pedagogical Foundation: Developing Information Literacy Materials for 21st Century Skills in South Sumatra

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Abstract: This study aims to develop information literacy teaching materials based on South Sumatra's local wisdom that are valid, practical, and effective in enhancing junior high school students' 21st century skills specifically critical thinking, creativity, communication, and collaboration. A Research and Development (R&D) approach was employed using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The subjects were eighth-grade students at SMP Negeri 1 Tanjung Lubuk. Data were collected through expert validation sheets, teacher and student response questionnaires, observation sheets, and learning outcome tests. Expert validation by material, media, and language specialists confirmed the teaching materials as highly valid. Practicality testing yielded very positive responses from both teachers and students. Effectiveness evaluation, based on improved learning outcomes and 21st century skills assessment, demonstrated effective to highly effective categories. The research innovatively integrates indigenous South Sumatra local wisdom into information literacy instruction, creating culturally responsive pedagogy that simultaneously develops essential 21st century competencies. The validated teaching materials provide educators with ready-to-use, contextually relevant resources for cultivating information literacy while preserving and transmitting regional cultural heritage. This study contributes a replicable development model demonstrating how local wisdom can be systematically embedded within modern competency-based curricula, bridging cultural preservation with future-ready skill development.

Keywords: Information Literacy, South Sumatra Local Wisdom, Teaching Materials, 21st Century Skills

A. Introduction

High-quality human resources have become even more important during the era of globalization of the 21st century. Not only is academic knowledge required, but everyone must also have essential skills that can help them adapt to the changing times and face the increasingly complex challenges of life. 21st Century skills consist of four main aspects, namely, *critical thinking*, *creativity*, *collaboration*, and

communication. If students can master these four abilities, they will be better equipped to solve problems, develop new ideas, and face global competition.

Mastery of 21st century skills has become very important in education, especially in junior high school. This is because junior high school is a transition phase from concrete thinking to abstract thinking. At this stage, students are trained to think critically, solve problems, work together in groups, and dare to share ideas (Rosadi et al., 2025; Hadi, 2024; Marethi, et. al., 2024). According to (Dewi & Saputra, 2025) 21st century skills are very relevant for many things, including the Indonesian language. By learning Indonesian, students not only gain an understanding of language structures, but they are also taught to communicate well orally and in writing, collaborate on discussions or projects, and think critically to analyze texts. Therefore, the current approach to education in Indonesia is no longer centered on the ability of students to memorize, but on the formation of a young generation that understands, appreciates, and is able to apply knowledge in real life. Education must build character, improve high-level thinking skills, and equip students with skills that they can use to face various challenges that arise in the era of globalization (Darwin Effendi & Achmad Wahidy, 2019)

21st century skills are essential. Students will learn to collaborate, communicate, solve complex problems, and innovate with these skills. However, this skill cannot be applied in Indonesian junior high schools. According to (Saputra et al., 2024) as a result of several observations and research, it has been shown that the application of 21st century competencies has not been evenly distributed in every educational unit. One of the factors that contribute to this is the learning method used, especially in Indonesian subjects, which is still dominated by traditional approaches. This method may limit the student's active interaction and high-level thinking abilities.

Indonesian is an important part of developing 21st Century skills, as it emphasizes the ability to communicate both orally and in writing. Indonesian is the main means for students to learn to speak and work together (Tarigan et al., 2023) Critical thinking skills are essential when students analyze texts and interpret their meaning. They can also practice citing reliable sources, distinguishing facts from their opinions, and making sure that the information is correct. Utilizing the richness of local wisdom in a region, such as South Sumatra, is a way to develop information literacy contextually. The region is rich in traditions, customs, traditional knowledge, art, and special cultural values.

Local wisdom can be incorporated into learning Bahasa Indonesia, making the context relevant, interesting, and meaningful for students. To develop 21st Century Skills, it is important to integrate information literacy with local sources (Wismanto & Ulumuddin, 2024) Thus, students not only strengthen their cultural identity, but they also gain a deeper understanding of information through real and related learning experiences.

Traditional approaches and irrelevant materials are still a problem in learning today (Nuryana et al., 2021) By adopting information literacy based on local wisdom, as seen in South Sumatra, learning will become more contextual and meaningful while fostering cultural identity and 21st century skills.

As the need for information literacy skills in the digital era increases, research on the development of information literacy teaching materials continues to develop and shows significant progress (Hendrawan & Putra, 2022) This development encourages educators to create teaching materials that are relevant to the socio-cultural and technological context of students. Information literacy based on local wisdom is increasingly important because it can combine the need for digital skills with the preservation of cultural values.

In the midst of the flow of globalization and accelerating technological advancements, education must be more than just learning mathematics. They must also teach students 21st century skills such as critical thinking, collaboration, creativity, and communication (Judijanto et al., 2025) The modern curriculum emphasizes the importance of mastering 21st Century skills, but the teaching materials do not match the needs of the curriculum. For example, the teaching materials used at SMP Negeri 1 Tanjung Lubuk are often general and do not integrate the local context relevant to students' lives. As a result, learning materials often appear abstract, far from everyday life, and less engaging to students. This disconnect causes students to be less motivated to learn and have difficulty understanding the relationship between the material and the real world. Therefore, the development of teaching materials requires innovation that can connect the demands of the curriculum with the reality of students. One way to do this is to develop information literacy teaching materials that raise elements of local wisdom. Local wisdom has an important role in strengthening students' cultural identities and making the learning process more relevant and meaningful (Atmaja, 2024) However, local wisdom is still not used in the development of teaching materials, so students do not understand the local culture and the learning materials are not related to real life.

In Komering traditional weddings, the tradition of declaring titles or *jajuluk* is a symbol of local wisdom that contains social, moral, and cultural identity principles. Because it involves elements of interpretation, analysis, and understanding of cultural contexts, its tradition has great potential to be developed as information literacy teaching materials. By incorporating these traditions into the teaching materials, students not only gain a theoretical understanding of the material, but are also encouraged to appreciate the values contained in the tradition, and build their critical thinking abilities towards cultural information.

This study is relevant because it requires students to learn critical thinking and information literacy first-hand by analyzing the symbols, meanings, and stages of

the ceremony. In addition, projects based on local wisdom encourage students to work together, such as conducting interviews with traditional leaders or making reports in groups. Therefore, applying this tradition in education not only strengthens the 4C skills, but also strengthens the cultural identity of students in the midst of global cultural currents (Anengsih et al., 2025)

Taking into account the above background, development research needs to be carried out to produce information literacy teaching materials based on local wisdom in South Sumatra. Especially by improving the 21st Century skills of SMP Negeri 1 Tanjung Lubuk students significantly and sustainably by raising the tradition of declaring titles/jajuluk in Komering traditional marriages.

Based on the limitations of the above problem, the formulation of the research problem is 1) how is the process of developing information literacy teaching materials based on South Sumatra local wisdom with the traditional material of declaring titles or jajuluk in Komering traditional marriages? 2) what is the level of feasibility of information literacy teaching materials based on local wisdom of South Sumatra on the traditional material of declaring titles/nicknames in Komering traditional weddings based on the results of expert validation and trials for students? 3) how effective is the teaching material of information literacy teaching materials based on local wisdom of South Sumatra on the traditional material of the declaration of titles/nicknames in Komering traditional marriage in improving the 21st century skills of SMP Negeri 1 Tanjung Lubuk students?

B. Methods

According to (Okpatrioka, 2023) educational research and development is a process that focuses on designing, developing, and validating educational products. In this process, not only innovations or improvements to existing products are created, but also new knowledge and solutions to real problems in education are produced. In line with (Torang Siregar, 2023) research and development (*R&D*) is a scientific method used to create something new or improve existing quality and performance. The purpose of this research is to create information literacy teaching materials that bring together the local wisdom of South Sumatra and find out how effectively this approach helps improve 21st century skills in junior high school students.

Based on the opinion of experts, it can be concluded that research and development (*R&D*) in the field of education is a structured and scientific method used to design, compile, and test the quality of education. These activities not only result in new products or improvements, but also help to discover new knowledge and solve real educational problems. Here, research and development (*R&D*) is used to create information literacy teaching materials that raise local wisdom in South Sumatra, including traditional materials for the declaration of titles or jajuluk in traditional komering weddings. In addition, an evaluation was also carried out on how effective

this method is in improving the modern skills of SMP Negeri 1 Tanjung Lubuk students.

According to (Andi Rustandi & Rismayanti, 2021) the type of research used is *Research and Development (R&D) with the ADDIE development model*. In this study, the development procedure used includes eight stages, namely:

- 1) Preliminary Studies
Conducting needs analysis and literature review to determine problems, student needs, and characteristics of the teaching materials to be used. This will help learners understand the material and improve their learning outcomes.
- 2) Initial Draft Development
Based on the findings of previous studies, an initial prototype of teaching materials was made. Content structure, display, learning approach, and integration of local wisdom values are all included in this draft.
- 3) Expert Validation
Engage subject matter experts, media experts, and/or learning experts to evaluate the feasibility of the content, design, and language of the initial draft of the teaching materials.
- 4) Revision
Improve teaching materials based on input from experts to improve their quality and suitability.
- 5) Limited Trial
Implement teaching materials to small groups of students to see the initial response, ease of use, and early effectiveness of the teaching materials.
- 6) Extensive Trials
To obtain stronger empirical data on the effectiveness and acceptability of teaching materials, trials should be conducted on larger groups.
- 7) Final Revision
Improve teaching materials based on the results of extensive trials, including aspects of content, appearance, and presentation strategies.
- 8) Dissemination
Disseminate research findings to the people involved, such as educators, schools, and educational institutions, either through publications, seminars, or training.

Since development research typically requires descriptive data and statistically testable data, the blended method also known as the blended method is one of the approaches that is often used in research research and development. The advantage of the mixed method is that the researcher does not need to process the data twice and the results of the study are better because it combines two research designs (Greene, 1997) in (Justan & Aziz, 2024) Therefore, this study uses a mixed approach also known as a mixed approach that combines qualitative and quantitative approaches. To improve the 21st Century Skills of Junior High School students, this method was chosen to gain a broad understanding of how to make information literacy teaching materials based on the local wisdom of South Sumatra.

Qualitatively, this study aims to collect in-depth information about the needs, local contexts, and characteristics of students as well as the contributions of teachers and experts through observation and interviews. Meanwhile, the quantitative approach uses questionnaires and tests to measure how effective the subject matter is ((Judijanto et al., 2024) The researcher uses quantitative and qualitative methods to obtain comprehensive research data, namely through questionnaires, interviews, expert validation, and tests to students (Sari et al., 2025)

C. Results and Discussion

Analysis Stage

Analysis is the first step in *the ADDIE* model. The purpose of this step is to identify factors such as learning needs, student characteristics, school conditions, and the possibility of local wisdom. This information will be used as the basis for creating learning materials. To conduct this analysis, direct observations in the field, interviews, and curriculum studies were carried out at SMP Negeri 1 Tanjung Lubuk. The analysis stage is carried out with the aim of gaining an understanding of the needs and problems to be solved. Currently, the main tasks carried out include:

1. Needs Analysis: To use the curriculum in learning, a curriculum analysis is performed. At SMP Negeri 1 Tanjung Lubuk, the independent curriculum is used, especially in grade VIII. The curriculum emphasizes the importance of meaningful learning and demands students to participate more actively in the learning process. The teacher stated that students face difficulties in understanding cultural texts because the subject matter is only general and does not relate to the context of local life. Therefore, the subject matter must have a relationship with the local cultural life.
2. Curriculum Analysis: The independent curriculum of Indonesian subjects in junior high schools (SMP), especially related to the text of the cultural observation report (LHO) in grade VIII, was thoroughly examined. It was found that there is a strong relationship between curriculum needs and the desire to provide subject matter based on local wisdom. According to the Learning Outcomes Document (CP), educational objectives should be centered on students' ability to understand, analyze, and present LHO texts in a cultural context. The curriculum also emphasizes that critical thinking, talking to others, and information literacy are important elements. In the 21st century (4C), this component directly supports skills development. The Pancasila student profile, which contains principles such as faith, mutual cooperation, and global diversity, helps students incorporate local values into their education. This is directly in accordance with the main components of the Pancasila Student Profile, which include: Global Diversity, Critical Reasoning, Communicating/Working Together, and Creative.
3. Analysis of Student Characteristics: To analyze the initial characteristics of students in grade VIII.1 of SMP Negeri 1 Tanjung Lubuk, surveys and

observations were used. The results of this study serve as an important foundation for the creation of relevant and effective subject matter.

4. **Local Wisdom Analysis:** To find out more about the tradition of declaring titles or nicknames, the researcher conducted an analysis of local wisdom by interviewing a traditional figure Mr. Ahmad Yani with the title Kapalo Patih, Chairman of the Customary Institution of Kota Bumi Village, Tanjung Lubuk District, Ogan Komering Ilir Regency, South Sumatra.
5. **Learning Resource Analysis:** The learning resource analysis shows that: There are no Indonesian textbooks that use materials related to the local culture of South Sumatra. Educators can only use digital references from common sources such as educational blogs and YouTube. There is no special educational material that discusses the tradition of declaring a degree or the nickname Komering in schools. New teaching materials must be created because they are original, contextual, and aligned with the curriculum outcomes.
6. **21st Century Skills Analysis (4C Mapping):** To succeed in today's increasingly global, high-tech, and complex society, students must have 21st century abilities and skills.

Design Stage

The design stage is the process of developing a concept for a teaching material product. Currently, the structure of the material, the lesson plan of activities, the design of the visual display, and the assessment tools used have been decided. The results of the analysis of the needs, curriculum, and characteristics of grade VIII.1 students at SMP Negeri 1 Tanjung Lubuk determined the design. This design serves as the main guide before the material becomes the final product. Both Project-Based Learning (PjBL) learning models focus on active, collaborative, and real-life experience-based learning that is relevant to students' lives. This is the reason why this model was chosen for use.

Development Stage

Development is the third stage of *ADDIE's development model*. The main purpose of this stage is to produce information literacy teaching materials based on South Sumatra's local wisdom that can be used in learning Indonesian language at SMP Negeri 1 Tanjung Lubuk. This stage focuses on the process of creating, refining, and validating teaching materials based on the results of previous designs. This product can be seen at URL: <https://acesse.one/3iQN3> and it was consisted of report material resulting from the observation of the tradition of declaring titles or jajuluk in traditional komering weddings. The development process is carried out through three main steps, namely: (1) initial product creation, (2) expert validation, and (3) product revision based on validation results.

The initial three components of the teaching module are Module Identity, CP & TP, and Achievement Matrix. Identity Modules provide basic context about who, where, and when learning is being conducted; CP&TP sets the end goals and specific steps that students must take, and the Achievement Matrix ensures that all learning objectives and activities are connected to each other.

1. Material Concept Map: Pages, material concept maps serve as visual roadmaps that simplify the understanding of a topic. Its main function is to help students see how each piece is connected systematically, which makes it very easy to remember and understand the overall structure of the material.
2. Core Material Section: The core part of the material is divided into four main activities, namely: Activity 1: Getting to know the tradition of declaring degrees; Activity 2: Searching for information from the source; Activity 3: Write a report on the results of observations; and Activity 4: Presentation and reflection of cultural values.
3. Student Worksheet (LKS): Contains guidelines for observation data collection, interview questions, and information analysis tables.
4. Evaluation and Reflection: An important end of the learning process is evaluation and reflection. These sections serve as a mirror to see how effective the learning process has been. Evaluations measure whether students have achieved learning objectives (TP) and collect data on their achievements. While reflection helps teachers and students rethink the strengths and weaknesses of the methods and materials used, both ensure that there is a continuous encounter in the next mode.

Implementation Stage

The field test (*pretest*) was carried out as the first step in the implementation stage to measure the initial ability and knowledge of students. The researcher conducted a *posttest* on October 20, 2025. This is useful to determine how effective the use of the product is. This trial was carried out in one class with 30 students. The goal is to find out whether students better understand the report material before and after using the information literacy learning module based on South Sumatra's local wisdom, namely the tradition of declaring titles or *jajuluk* in traditional *komering* weddings. In this study, the test consisted of 5 Multiple Choice (PG) questions to measure knowledge and understanding of concepts and 5 description questions (Essai) to measure critical thinking, analyst and communication skills. The results of the *pretest* field test conducted by 30 students on ten questions consisted of 5 multiple-choice questions and 5 description questions (essay), obtained an overall score of 1524 out of a total of 3000, with an average of 50.8 and a percentage of 51%. These results show that the *pretest field test* is in the category of being quite effective before the treatment (intervention) of information literacy teaching materials based on local wisdom. Thus, the researcher conducted a final test (*posttest*) to determine the effectiveness after the use of the product, namely modules or teaching materials for

observation report materials with the topic of the tradition of declaring titles/jajuluk in traditional komering weddings.

The Posttest *Field Test* was carried out by the researcher on October 27, 2025 after the entire product development and use process was completed. This test is an important evaluation step at the implementation stage and compares the final results with the initial conditions. The results of the *posttest field test* conducted by 30 students on ten questions consisted of 5 multiple-choice questions and 5 description questions (essay), obtained an overall score of 2464 out of a total of 3000, with an average of 82 and a percentage of 82%. Pretest scores get a score of 51% with the "less valid" category, and *posttest scores* get a score of 82% with the "valid" category. Thus, the learning process of students using modules or teaching materials with the topic of the tradition of declaring titles/jajuluk in komering traditional weddings has increased by 31 points equivalent to 60.7% of the initial pretest score.

Evaluation Stage

The results of the study showed that students' responses to the modules or teaching materials developed were very positive. The module is considered practical, interesting, and easy to use in learning activities because it has gone through a validation process by linguists, material experts, and media experts. To ensure that the developed product is truly viable for use in the industry, an evaluation is carried out. The results of the trial show that this lesson helps students understand the material of the observation report, especially related to the tradition of declaring titles or jajuluk in Komering traditional weddings. In addition, teachers provide positive responses to the clarity of content, accuracy of the material, and suitability of learning activities with the aim of improving critical, creative, collaborative, and communicative thinking skills in the 21st century. Overall, the results of the evaluation show that the information literacy teaching materials based on South Sumatra's local wisdom are feasible and effective to improve students' skills in the modern era. Evaluation also became the basis for the final revision of the module, so that the products made were better and more in line with the needs of students in the field.

The results of the research conducted by researchers who conducted research and development (*R&D*) using the ADDIE model showed that the products created were modules or subject matter of observation report material related to the tradition of declaring titles or jajuluk in traditional komering marriages.

The results of this study confirm that the development of information literacy teaching materials based on local wisdom in South Sumatra with the traditional material of declaring titles/jejuluk in Komering traditional weddings has proven to be effective in improving the 21st century (4C) skills of SMP Negeri 1 Tanjung Lubuk students. This teaching material not only improves critical, creative, collaborative,

and communicative thinking skills, but also strengthens cultural awareness and pride in students' local identity.

Several previous research results show a direction that is in line with this research, especially in terms of the importance of information literacy and the integration of local cultural values in learning. Wu, et. al., (2022), "Factors associated with teachers' competence to develop students' information literacy: A multilevel approach" shows that it is able to improve students' critical thinking and problem-solving skills. This result is in line with the findings of this study that the integration of information literacy trains students to select, evaluate, and process information systematically. Izzah, et. al., (2025), "Integration of Local Wisdom in Social Studies Learning to Strengthen Student Character" and Astuti et. al., (2026) "Integration of Local Wisdom Values in Social Studies Learning to Strengthen the Character of Junior High School Students". This research also emphasizes cultural values as a medium for character education, but the context is in Indonesian language lessons. Predina, et. al., (2025) "Development of Information Literacy E-Modules for High School Students" emphasized that it can help students learn independently and increase learning motivation. This study shows similar results where digital and print modules based on the Komering tradition are able to foster the spirit of learning because the context is close to students' lives.

This research is a synthesis between information literacy, 21st century skills, and local wisdom in one model of developing Indonesian teaching materials. This approach has not been widely applied simultaneously at the junior high school level. By raising the tradition of declaring titles/jejuluks in Komering traditional marriages, this research enriches the treasures of educational literacy based on local wisdom in South Sumatra. This is a new contribution to the preservation of regional culture as well as a contextual and meaningful learning innovation. This study applies a Project-Based Learning (PjBL) model that combines field observation practices, interviews with traditional leaders, and the preparation of observation reports. This model has been proven to be effective in improving 4C skills while training students to become active and independent learners. This research not only contributes to the development of information literacy theory and skills in the 21st century, but also becomes an implementive model of Indonesian language learning based on local wisdom that can be replicated in other regions in Indonesia.

D. Conclusions

This research and development study successfully produced information literacy teaching materials grounded in the local wisdom of South Sumatra, specifically the Komering community's tradition of title declaration, following the systematic ADDIE model. The key finding is that the developed materials significantly enhanced students' learning outcomes and 21st century skills. Field trials demonstrated a substantial increase in average scores from 51 (pretest) to 82

(posttest), representing a 31-point or 52.7% improvement. This validates that locally contextualized teaching materials not only meet curriculum requirements but also effectively foster critical thinking, creativity, collaboration, and communication – the core competencies of information literacy in the modern era. The positive responses from both teachers and students further confirm the materials' relevance and engagement value. The practical implications are significant for curriculum developers, educators, and policymakers. The study provides a validated model for creating culturally responsive pedagogy that bridges local heritage with contemporary skill demands. Teachers can adopt this framework to design similar materials drawing from their own regional wisdom traditions, making learning more meaningful and contextually grounded. For educational authorities, the findings support policies encouraging integration of local content into national curricula as a strategy for improving both cultural preservation and essential skill development. The ADDIE framework employed offers a replicable blueprint for systematic instructional design. For future research, several recommendations emerge. First, longitudinal studies could investigate whether the observed learning gains translate into sustained information literacy competencies over time. Second, comparative research across different regions of Indonesia could explore how diverse local wisdom traditions can be similarly leveraged, identifying common design principles and context-specific adaptations. Third, mixed-methods approaches combining quantitative learning data with qualitative exploration of student engagement and cultural identity formation would deepen understanding of the mechanisms behind the materials' effectiveness. Fourth, investigating the scalability of this approach to other grade levels and subject areas would broaden its educational impact. Finally, research could explore digital adaptations of these locally-grounded materials to enhance accessibility and relevance in technology-mediated learning environments.

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