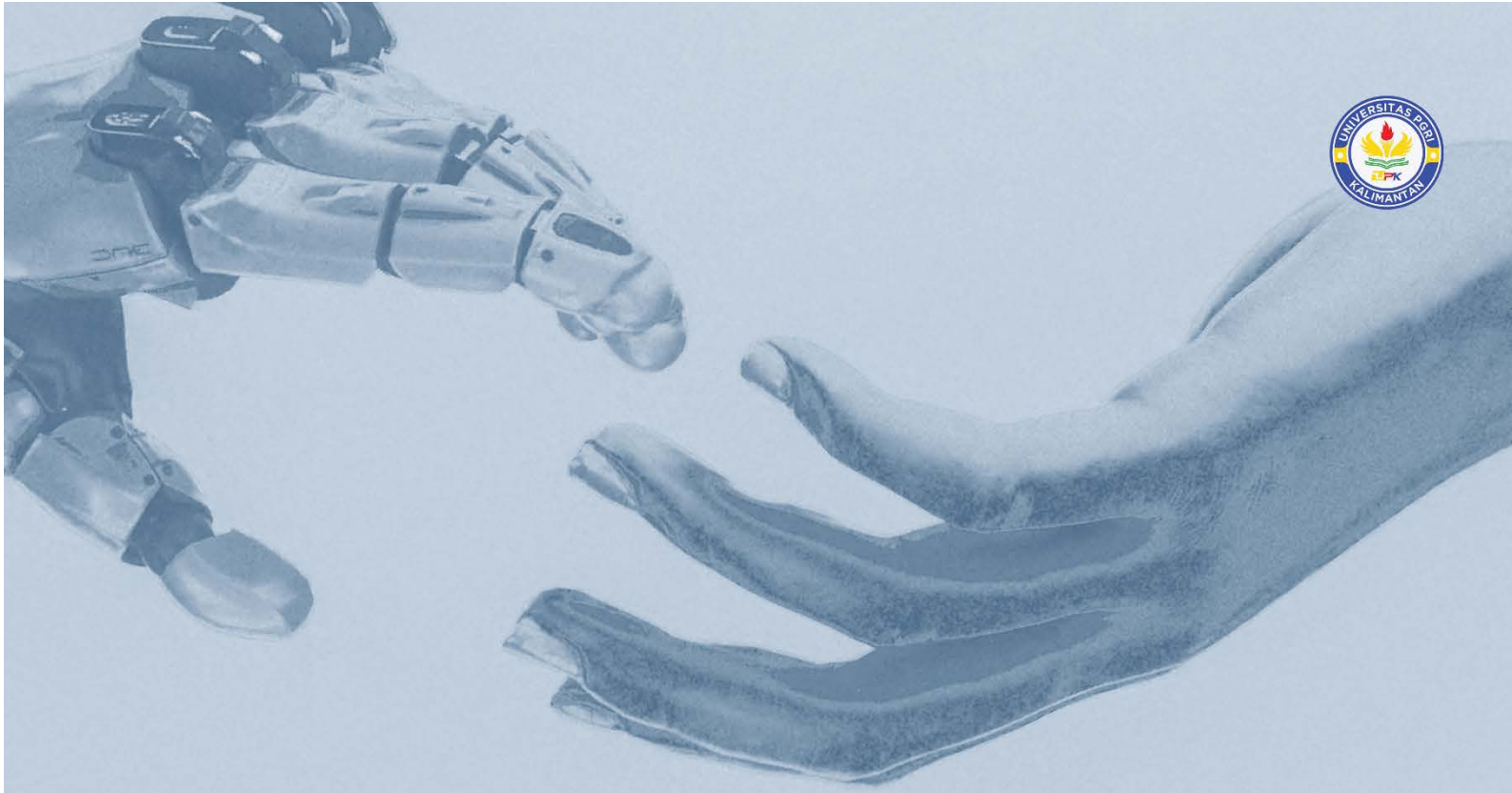


PROCEEDING
ISSN 2827-8828 Volume 19 No. 2

ISETA

International Seminar on Education, Technology and Art

Developing The Potential of Local Wisdom and Artificial Intelligence for Education, Art and Technology

Universitas PGRI Kalimantan
2024

ISETA 2024
INTERNASIONAL SEMINAR ON EDUCATION, TECHNOLOGY, AND ART

PROCEEDING

THEME:

"Developing the Potential of Local Wisdom and AI for Education, Art, and Technology"

BANJARMASIN, NOVEMBER 18, 2024

ISSN: 2827-8828

Volume 19 No.2, tahun 2024

PUBLISHED BY:
UNIVERSITY OF PGRI KALIMANTAN
BANJARMASIN 2024

EDITORIAL BOARD

Published: 28 Januari 2024

Published by:
University of PGRI Kalimantan
Banjarmasin – South Kalimantan
2024

Foreword,

Rector

Praise be to Allah SWT, because with His permission, a compilation of articles on the International Seminar on Education, Technology, And Art (ISETA 2024) can be published.

This International Seminar on Education, Technology, And Art is the 2nd International Seminar organized by Universitas PGRI Kalimantan in 2024. The organizers of the seminar are all the Study Programs in Universitas PGRI Kalimantan. This International Seminar theme is "Developing the Potential of Local Wisdom and AI for Education, Art, and Technology". The papers submitted in this seminar were published in the proceedings of the special edition of the Lentera Journal by the same title. The theme is in line with the vision of Universitas PGRI Kalimantan with international and local speakers who are experts in their respective fields and supporting papers making this proceeding can be one of the references for researchers and educators in developing knowledge, especially in the education field.

Gratitude to the PPLP-PT PGRI Banjarmasin chairman, the Dean, the Committee, Speakers, Presenters, as well as all lecturers, students and alumni for their support and participation, both during the implementation of the seminar until the publication of these proceedings. Hopefully these proceedings can be a medium of information, motivation, and inspiration for the Indonesian education sector. Aamiin.

Banjarmasin, Januari 2024
Rektor Universitas PGRI Kalimantan,

Dr. Hj. Dina Huriaty, M.Pd.

TABLE OF CONTENT

Integrating Local Wisdom with Artificial Intelligence: Education and Arts Innovation in the Technological Era

Kamariah
Universitas PGRI Kalimantan, Faculty of Sains and Teknologi,
Banjarmasin, Indonesia
kamariah@upk.ac.id

Abstract. In the era of sophisticated globalization, the role of artificial intelligence (AI) is becoming increasingly pervasive in various areas, including education and art. This paper explores how the integration between AI and local wisdom can create innovations that not only enhance the quality of learning, but also enrich artistic expressions with traditional cultural roots. In the education context, AI has the potential to present a learning approach that is more personalized and adaptive, based on the needs and cultural background of each individual. With the assistance of technology, traditional wisdom elements can be integrated into interactive and context-based learning materials, so students can understand their own cultural values more deeply. On the other hand, in the art realm, AI enables the artist to experimenting with a variety of new mediums while still preserving the local cultural essence. For example, AI algorithms can be used to remix traditional motifs, revitalize nearly extinct local art, or create digital artworks that incorporate cultural elements from different regions. However, the main challenging in this endeavor is to maintain a balance between technological adaptation and preservation of traditional values. When technology develops rapidly, there is a possibility that the essentiality of local wisdom may be eroded by the effects of globalization, thus making the ethics in the application of AI a crucial aspect. This paper also reviews some case studies and current literature on the application of AI that takes cultural values into consideration, and provides recommendations to ensure that technological developments can contribute to the sustainability of local cultures. This is expected to create an inclusive education and arts ecosystem, where cultural diversity is recognized and valued. Technology is thus not only a tool, but also a catalyst in strengthening cultural identity and encouraging innovation based on local values. This article presents a new perspective on how collaboration between AI and local wisdom can create meaningful opportunities for cultural sustainability, while building a strong foundation for future innovation in education and the arts.

Keywords: Artificial intelligence, local wisdom, Education, arts, cultural preservation

1. Introduction

During the digital era and the Industrial Revolution 4.0, technology plays an increasingly large role in various aspects of human life, including education and the arts. Artificial intelligence (AI) is one of the main technologies that has changed the way we learn, teach and create. It offers innovative solutions that can improve educational effectiveness, enrich learning experiences, and support artistic exploration in ways never thought possible (Lee et al., 2022). However, while these technologies present many opportunities, AI also poses challenges related to the preservation of cultural values and local wisdom that are critical to a community's identity.

Local wisdom, which includes knowledge and traditions that have been inherited from generation to generation, plays an important role in character building, identity and cultural awareness in society. In many countries, especially in Indonesia, local wisdom reflects a diverse and unique cultural heritage that is reflected in various aspects, such as customs, languages, arts, and education patterns. As education and the arts evolve with the support of sophisticated technologies such as AI, there are concerns that traditional values may be marginalized or even endangered. Therefore, there is an urgent need to develop approaches that can integrate modern technology with local wisdom, so that technology

is not only a practical tool but also useful in preserving culture and traditional values (Hidayat & Susilo, 2020).

The use of AI in culture-based education has also shown positive results in several studies. A study by Santoso et al. (2021) showed that teaching that takes into account students' cultural backgrounds, supported by AI technology, can improve their understanding and motivation to learn. This culture-based approach allows students to relate more closely to the material they are learning because of the connection to their cultural identity. In this context, AI serves as a catalyst that can accelerate the learning process while preserving cultural elements. However, this technology needs to be developed carefully, so that AI is not only seen as an educational tool but also as a means to preserve and respect local culture.

In addition to education, art is also one of the fields that can utilize AI to revitalize local art traditions. In some countries, AI technology has been used to create variations of traditional patterns, such as batik cloth motifs or wood carvings, that retain traditional aesthetic elements while creating artistic innovations. Kim et al. (2019) note that the AI technology allows artists to explore new forms of expression that combine traditional elements with modern aesthetics. By utilizing visual data from local art, AI can produce works that are in line with cultural values, yet still have a contemporary appeal. This innovation allows younger generations to still feel connected to their cultural heritage, even with more modern forms and interpretations.

However, ethical challenges arise along with AI's potential to cultivate and develop local wisdom. Some experts are concerned that AI may lead to cultural commoditization, where elements of traditional culture are adapted without regard to their original meaning and value. This can contribute to the simplification of cultural values into mere objects of consumption that lose their original context (Rahmawati & Aditya, 2020). In the context of education, there is a concern that reliance on AI may reduce the role of humans in the teaching-learning process, especially in transmitting moral and ethical values that are usually taught through direct interaction between teachers and students. Therefore, it is important for technology developers and educators to design AI that is not only technically effective, but also sensitive to cultural and ethical values.

In order to overcome this challenge, various approaches have been proposed by experts to integrate AI with local wisdom without breaking these values. One approach is to involve local communities in the AI development process, so that they can play an active role in maintaining and preserving their own culture. This participatory approach can give local communities a voice in determining how technology can be used to represent and preserve local wisdom (Sanchez et al., 2022). By involving the community in the development of AI, this technology can be more easily accepted and used sustainably in the long term.

Finally, it is important to emphasize that collaboration between technology providers, academics, artists, educators, and local communities is essential in implementing ethical and culturally-based AI. This collaboration not only aims to preserve local culture, but also to create innovations that are relevant to the local social and cultural context. In this collaboration, technology developers can understand local values that are important to preserve, while communities and artists can utilize AI as a medium for expression and educate the next generation about the importance of local wisdom. Thus, AI will not only be a technological tool, but also a means of cultural preservation that is in line with the needs of the times.

2. Methods

This paper uses a qualitative approach to examine the integration of local wisdom with artificial intelligence (AI) in the context of education and art. The method applied consists of the following steps:

Literature Study: This research began by collecting and analyzing various relevant literature sources that address the integration of AI in education and the arts, as well as the role of local wisdom in that context. The sources used included journal articles, books and current research reports indexed in reputable academic databases. According to Creswell (2014), literature review is an important first step in qualitative research to understand the context and answer the research questions.

Case Analysis: In addition to the literature study, several case studies from various countries, especially those focusing on the application of AI in education and local wisdom-based arts, were analyzed. These cases were selected based on their relevance to the theme, as well as the outcomes achieved from the application of AI technologies in cultural contexts. This analysis aimed to explore the best practices and challenges faced during the implementation process. As stated by Stake (1995), case analysis allows researchers to explore phenomena in real context, providing deeper insights into the interactions between variables.

Interviews and Discussions with experts: To obtain deeper insights, interviews were conducted with experts in the fields of education, art, and technology. The respondents were selected based on their experience and expertise in using AI in the context of local wisdom. The discussions aimed to identify challenges, opportunities, and possible solutions related to the integration of AI and local wisdom. Interviews as a data collection method allow researchers to obtain rich and diverse information, and provide space for respondents to explain their views in depth (Patton, 2002).

Qualitative Data Analysis: The data obtained from the literature study, case analysis, and interviews were analyzed using a qualitative data analysis approach. Key codes and themes were identified to understand how AI can be applied in education and arts by considering local wisdom. According to Braun and Clarke (2006), theme analysis is an effective method to understand the experiences and perspectives of individuals in a particular context, thus helping researchers to construct a comprehensive narrative.

Synthesis of Findings: The results of all methods used were then synthesized to produce recommendations that can be applied in the development of policies and practices related to the use of AI in education and local wisdom-based arts. These recommendations are expected to provide guidance for stakeholders, including governments, educators, artists, and communities, in utilizing AI technologies in an ethical and effective manner. As mentioned by Merriam (2009), synthesizing findings in qualitative research is important to explore the meaning of the data collected and provide practical implications for the field under study.

3. Findings and Discussion

Local Wisdom and its Potential in Education and Art

Local wisdom is the result of accumulated knowledge, norms, values and ethics inherited from generation to generation, playing an important role in the formation of cultural identity and social character of society. In the context of education, local wisdom serves as a link between modern science and traditional values that are important for learners. When the educational process is delivered by utilizing local wisdom, students can understand their cultural context deeply, which not only fosters a love for local culture but also strengthens their emotional bond and understanding of the surrounding environment. The research shows that a culture-based education approach, such as the one conducted by Hidayat and Susilo (2020), is able to improve students' understanding, participation and motivation to learn, as students feel more relevant to the material being taught.

On the other hand, art that is rooted in local wisdom is an important medium in preserving and expressing cultural identity. In an era of fast-paced technology, local culture-based arts play a big role in maintaining traditional values from being lost. With the help of technologies such as artificial intelligence (AI), traditional art can be revitalized in a more modern form without losing its basic values. This technology allows practitioners to experiment with various new mediums, presenting works that are able to respond to changing times while still paying attention to the authenticity of cultural values (Nugroho, et al., 2021).

The Role of AI in the Development of Local Wisdom-Based Education and Arts

The role of AI in education has introduced various innovations in learning, including the development of a more adaptive and contextualized curriculum. AI is able to develop a learning system that is tailored to the needs and cultural background of students. Through data analysis, AI can understand students' needs and learning patterns, and recommend appropriate content and teaching methods. By applying this approach, students are more interested in learning, and learning outcomes

are improved. Some studies, such as the one conducted by Lee et al. (2022), show that AI can have a positive influence on students' academic performance in various countries, especially by making learning materials more personalized and relevant to students' cultural backgrounds.

In terms of art, AI enables innovation by maintaining and expanding traditional artistic expressions. Through the use of machine learning, AI is able to analyze traditional art patterns, such as batik or weaving motifs, and then produce new variations that still respect and refer to local cultural values. Research conducted by Kim et al. (2019) showed that AI algorithms designed to recognize traditional art motifs can open up opportunities for artists to explore a wider range of artistic expressions. For example, AI can generate new motifs based on existing patterns, allowing artists to create contemporary works that still carry local cultural identity.

Table 1 The Types of AI Technologies and Their Usage in Local Wisdom-Based Education

Types of AI Technology	Utility	Aplication Examples
Mechanical learning	Analyze student learning pattern	Culturally appropriate materials recommendations
Processing natural language	Developing text-based interactive content	Local language content in the learning process
Computer Vision	Pattern recognition in art and batik	Generation of digital batik motifs
Augmented Reality (AR)	Simulation of culture and art in virtual form	Virtual cultural tourism in schools
The Big Data	Analysis of culture-based education data	Learning progress report

Artificial Intelligence (AI) technologies are increasingly being used in education to enhance the learning experience while preserving and promoting local wisdom. Among these technologies, Machine Learning (ML) is also becoming a significant AI tool, which can customize educational content to suit the individual needs and cultural background of students. By analyzing students' learning patterns, ML helps personalize learning so that it becomes more engaging and relevant to students' cultural context, ultimately improving motivation and academic outcomes.

Natural Language Processing (NLP) plays an important role in culture-based education by analyzing and interpreting local languages and dialects. This helps create educational content in local languages, which promotes a deeper understanding of cultural heritage and supports language preservation.

In addition, Computer Vision offers the potential to analyze visual cultural artifacts such as traditional artworks, textiles and architecture. This AI technology can make learning more interactive by explaining the meaning of these cultural elements, thus enhancing students' understanding of their heritage. *Intelligent Tutoring Systems* (ITS) provide personalized feedback, simulating a one-on-one learning experience with a tutor. These systems can adapt to students' learning styles and cultural backgrounds, providing culturally relevant content that respects local customs and traditions.

Similarly, Speech Recognition technology allows students to interact with learning systems using their native language, creating an inclusive environment, especially in communities that use minority or indigenous languages.

Finally, Cognitive Computing allows AI systems to simulate human thought processes and offer culturally-based educational tools. These systems can provide students with exercises that incorporate local customs, history, and ethical considerations, thus encouraging critical thinking while remaining culturally relevant.

Overall, the integration of AI technologies in culture-based education offers an innovative approach to personalized learning, which not only improves academic performance but also ensures that local wisdom and traditions are preserved and celebrated. By using AI in a culturally sensitive manner, educators can provide students with a more meaningful and inclusive educational experience.

Challenges and Ethics in Integrating Local Wisdom with AI

The integration of AI in education and art based on local wisdom also presents various challenges, especially in terms of ethics and cultural sustainability. One of the main challenges is the potential for cultural commodification, where elements of local culture are taken and marketed as commodities without regard to their original meaning and value. This can result in the loss of authentic local wisdom, especially if AI technologies are applied without a deep understanding of the local cultural context. In addition, reliance on AI risks reducing direct human interaction and involvement in the process of learning and creating art, potentially reducing understanding and appreciation of the culture (Rahmawati & Aditya, 2020).

The researcher suggests an ethical and cultural value-based approach to AI development. AI technologies should be designed with cultural sensitivity in mind and involve local communities to maintain traditional values. By taking an ethical approach, technology can become a tool that supports the sustainability of local cultures rather than undermining them (Sanchez et al., 2022). It is important that AI is not only an innovation tool but also a catalyst that enriches culture while respecting local wisdom.

Table 2 AI Integration Challenges and Strategies

Challenge	Description	Handling Strategy
Commodification of culture	Risk of making culture a commercial commodity	Involving local communities in every AI process
High technology dependency	Reduces the direct interaction in art and learning	Encourages balance between technology and manual
Losing authentic value	Utilization of culture without deep understanding	AI training based on local values and norms
Ethical issues	The risk of breaching cultural sensitivities	Development of a culture-based ethical framework
Limited community participation	AI developed without input from local communities	Strengthening active community involvement

The integration of Artificial Intelligence (AI) into both education and the arts, especially based on local wisdom, presents various challenges that require strategic solutions to ensure both cultural preservation and effective application of technology. One of the main challenges is the commodification of culture, where elements of local culture can be taken and sold as commodities without regard to their original meaning or significance. In order to address this, it is important to involve local communities in the development of AI technologies, ensuring that cultural elements are treated with respect and their original values are preserved.

Another challenge is the loss of authentic meaning and value of local wisdom. If AI is applied without a deep understanding of the local cultural context, there is a risk of eroding the essence of the cultural practices. To overcome this, it is important to involve cultural experts and educators in AI development so that the cultural context can be properly integrated into AI-based arts and education content. Reliance on technology is also a concern, as it can reduce direct interaction between teachers and students, which could potentially affect the development of interpersonal and cultural understanding. The strategy to overcome this is to design curricula that integrate AI while still encouraging human interaction, ensuring that AI complements, not replaces, face-to-face learning and creativity. Furthermore, limited access to technology in less developed regions may exacerbate inequalities in access to AI-based education and cultural innovation. Ensuring wider access to AI technologies is essential to promote equity, especially in resource-limited areas, and to facilitate culture-based learning in all communities. The trend towards unethical use of AI is also a concern, as misuse of AI can bring negative impacts, including exploitation of local cultures for commercial gain. To prevent this, ethical guidelines should be strictly applied in the development and application of AI, with an emphasis on transparency, fairness, and responsibility.

Finally, there is the challenge of reducing human involvement in the learning process. While AI can improve education and arts processes, it should be used as a supporting tool, not a substitute for

human educators and creators. This can be achieved by ensuring that AI reinforces the human role in education and the arts, so that the human touch essential for cultural transmission is maintained.

By overcoming these challenges through thoughtful strategies, AI can be integrated into education and the arts in a way that respects and preserves local wisdom while encouraging innovation.

The Case Study: Implementation of AI in Local Wisdom-Based Education and Arts

Some examples of AI implementation in local wisdom-based education can be found in several schools in Indonesia that use adaptive learning systems. With the help of AI, these schools are able to customize the curriculum to make it more relevant to the students' culture. A study by Santoso et al. (2021) observed the positive impact of using AI in local culture-based education. In this study, the subject matter was adapted to the students' cultural context, thereby increasing students' engagement in the learning process. AI played a role in assessing students' needs and preferences, allowing the materials to be customized and easier to understand.

On the art side, the use of AI in making variations of batik motifs is one of the interesting innovations. AI technology that is able to recognize and develop certain batik motif patterns opens up new space for artists to experiment and innovate. The algorithm used in this development learns typical batik patterns, such as parang or kawung, and creates new variations that retain the cultural essence of batik. In this way, AI becomes a tool that preserves and develops traditional art to remain relevant in the present. This innovation has successfully introduced batik to a wider audience with more modern forms that are still rooted in traditional values (Nugroho, et al., 2021).

4. Conclusion and Future Implications

The integration of AI with local wisdom in education and arts offers a great opportunity to create an ecosystem that is inclusive, sustainable and relevant. Although there are many challenges, especially in terms of ethics and cultural preservation, technology can be optimized to strengthen cultural identity and support the development of more meaningful education. In the future, collaboration between technology and culture can form a strong foundation for local values-based innovations that benefit future generations.

There is a need for supportive policies so that technology development is not just about innovation but also contributes to the sustainability of local culture. Through strong collaboration between technology, culture, and education, AI can become a tool that enriches learning and artistic experiences, while strengthening the cultural bonds of communities. By engaging communities and taking an ethical approach, AI has great potential to become a tool that supports the sustainability and development of cultures rooted in local values.

Reference

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Sage Publications.

Hidayat, R., & Susilo, M. (2020). *Pendekatan Berbasis Budaya dalam Pendidikan: Dampak Terhadap Pemahaman dan Partisipasi Siswa*. Journal of Cultural Education, 8(2), 135-148.

Hidayat, R., & Susilo, T. (2020). "Pendekatan Pendidikan Berbasis Budaya Lokal untuk Meningkatkan Pemahaman Siswa". Jurnal Pendidikan dan Budaya, 15(3), 123-130.

Kim, J., Lee, S., & Choi, Y. (2019). *Cultural Patterns and AI: Case Study of Traditional Art Forms in Machine Learning Models*. Journal of Digital Art and Culture, 12(4), 45-59.

Kim, M., Chang, E., & Lee, Y. (2019). "Machine Learning in Traditional Art: Preserving Heritage through AI-Generated Patterns". Asian Art Journal, 18(2), 54-67.

Lee, H., Park, J., & Kim, S. (2022). "The Role of AI in Enhancing Culturally Contextualized Education: Case Studies from Korea and Japan". International Journal of Educational Technology, 34(1), 45-58.

Lee, J., Park, D., & Kim, K. (2022). *AI-Driven Education Systems: Integrating Cultural Context for Enhanced Learning*. Journal of Artificial Intelligence in Education, 30(3), 210-230.

Merriam, S. B. (2009). *Qualitative Research: A Guide to Design and Implementation*. Jossey-Bass.

Nugroho, B., Santoso, A., & Rahmawati, L. (2021). *Exploring the Potential of AI in Traditional Art Development*. Art and Culture Journal, 9(1), 32-40.

Nugroho, D., Kusuma, A., & Riyadi, A. (2021). "Integrasi Teknologi AI dalam Pengembangan Seni Berbasis Kearifan Lokal di Indonesia". Jurnal Seni dan Teknologi, 22(4), 98-106.

Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods*. Sage Publications

Rahmawati, L., & Aditya, B. (2020). "Etika dalam Penggunaan Kecerdasan Buatan untuk Pelestarian Kearifan Lokal". Jurnal Etika dan Teknologi, 7(1), 11-19.

Rahmawati, L., & Aditya, S. (2020). *Ethics of AI in Preserving Cultural Heritage*. Journal of Ethics in Technology, 5(3), 200-215.

Sanchez, G., Yang, H., & Wang, L. (2022). "Ethical and Cultural Implications of AI in Indigenous Knowledge Systems". Journal of AI Ethics and Society, 11(2), 67-79.

Sanchez, M., Hwang, J., & Yamamoto, K. (2022). *The Role of Ethics in AI: Preserving Cultural Identities in the Digital Age*. Journal of Ethical AI, 7(2), 140-155.

Smith, J., & Roberts, A. (2019). "Artificial Intelligence and Cultural Heritage: Opportunities and Challenges". Journal of Digital Heritage, 25(3), 143-151.

Santoso, B., Wiryawan, F., & Mulyadi, T. (2021). "Pembelajaran Adaptif Berbasis AI untuk Pendidikan Multikultural di Indonesia". Jurnal Pendidikan Multikultural, 12(2), 77-88.

Santoso, A., Nugroho, B., & Surya, F. (2021). *Adaptive Learning Systems for Culturally Diverse Students: Case Study in Indonesia*. Journal of Applied Education Technology, 11(1), 88-95.

Stake, R. E. (1995). *The Art of Case Study Research*. Sage Publications.

Yulianti, S., & Pramono, A. (2020). "Pemanfaatan AI untuk Memperkaya Seni dan Budaya Lokal: Studi Kasus pada Motif Batik di Indonesia". Jurnal Budaya dan Inovasi Teknologi, 10(1), 33-45.

Zhou, F., & Chen, L. (2020). "Utilizing AI for Personalized Education Based on Cultural Backgrounds". Educational AI Journal, 15(3), 203-215.

High School Students' Proficiency in Solving Higher-Order Mathematics Problems

Aminah Ekawati, Benny Nawa Trisna, Muhammad Royani
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Mathematic Education Study Program
Banjarmasin, Indonesia
aminahekawati@upk.ac.id
benny@upk.ac.id
hmroyani@upk.ac.id

Abstract. Higher-order thinking (HOT) skills, such as analysis (C4) and evaluation (C5), are important elements in mathematics learning. This study aims to assess the proficiency of high school students in solving mathematics problems at the C4 and C5 levels, analyse differences in proficiency based on gender, and identify differences in proficiency between students from SMAN A and SMAN B in Banjarmasin. With a quantitative descriptive approach, 129 grade XI students became the study subjects. The HOT essay test was used as an instrument and analysed using descriptive statistics and the Mann-Whitney test. The results showed that the average proficiency of students was in the moderate category (Mean = 60.04), with the average score of female students (60.16) slightly higher than male students (59.87) and a smaller variation in proficiency in females. Based on school, SMAN A students had a higher average score (62.68) than SMAN B (57.73), although this difference was not statistically significant ($p > 0.05$). These findings indicate the importance of developing more structured learning to improve students' high-level thinking skills. These results indicate that high school students' mathematical analysis and evaluation skills still need to be improved through a more targeted and varied educational approach.
Keywords: C4 (analysis), C5 (evaluation), gender, mathematics problems

1. Introduction

The enhancement of Higher-Order Thinking Skills (HOTS) among high school students has become a central focus in educational research. HOTS refers to the proficiency to think critically, creatively, analytically, and evaluatively—skills that are not only valuable in formal education but also in everyday life (N. , Erdiana & Panjaitan, 2023; N.; Tanudjaya & Doorman, 2020; C. P. These skills enable individuals to analyze and evaluate information deeply, going beyond mere memorization and understanding of basic facts, and can be applied to solve more complex problems (Anderson & Krathwohl, 2001). Higher-order thinking skills are important to prepare students for the challenges of the 21st century (Ahmadi, 2021 ; Minarti et al., 2023)but they can also support lifelong learning that allows individuals to continue to acquire and apply knowledge in a variety of evolving contexts.

In the revised Bloom's taxonomy, higher-order thinking consists of three levels, namely C4 (analysis), C5 (evaluation), and C6 (creative) (Anderson & Krathwohl, 2001).This study specifically focuses on analytical (C4) and evaluative (C5) proficiencies, which are critical in mathematics education. Analytical proficiency (C4) requires students to break down complex problems or information into simpler components and understand the relationships among those components. In contrast, evaluative proficiency (C5) demands that students make judgments based on specific criteria and provide clear reasons for their choices (Lewy et al., 2009). These proficiencies are essential for equipping students with the ability to think critically and make sound judgments based on available information, especially when solving more advanced mathematical problems.

Mathematics, as a discipline, inherently supports the development of HOTS. In mathematics, students are trained not only to understand procedures or formulas but also to analyze, evaluate, and solve more complex problems *(Ilyas et al., 2022)*. Through problem-solving in mathematics, students can sharpen their analytical and evaluative proficiencies, which are crucial for enhancing logical and

structured thinking. These proficiencies are not only relevant to mathematics itself but also to mastering other fields such as STEM (Science, Technology, Engineering, and Mathematics), which is increasingly important in addressing global challenges in the digital and globalized era.

Some studies have suggested that gender differences may influence students' proficiency in solving higher-order mathematical problems. For example, (He & Wong, 2021) found that male students tended to perform better on tasks requiring divergent thinking and creative problem-solving. However, Reinhold et al., (2020) showed that gender did not significantly impact students' proficiency in solving complex mathematical problems. On the other hand, research by (W. , Kusumaningsih et al., 2018)indicated that male students tended to have higher logical reasoning skills than female students. This suggests that gender may influence how students approach cognitive challenges and solve problems requiring analytical and evaluative thinking.

However, despite the emphasis on HOTS in mathematics education, few studies have specifically examined students' proficiency levels in analysis and evaluation when facing advanced mathematical problems. Therefore, this study aims to identify and evaluate the proficiency levels in analysis (C4) and evaluation (C5) of high school students in solving higher-order mathematical problems. The findings of this study are expected to provide valuable insights for the development of curricula and more effective teaching strategies, as well as assist mathematics teachers in designing lessons that can enhance students' HOTS, particularly when facing advanced mathematics exams or problems.

The school environment is also one-factor influencing students' proficiency. SMAN A and SMAN B are two favourite schools in Banjarmasin, with national UTBK rankings of 760 and 624, respectively. Although both schools use the same curriculum and have the same accreditation, the differences in UTBK rankings indicate variations in learning outcomes that are worth exploring. Thus, this study aims to: (i) assess the level of high school students' proficiency in solving mathematical problems at the C4 and C5 levels, (ii) analyze the differences in proficiency between male and female students, and (iii) identify differences in proficiency between students from SMAN A and SMAN B.

2. Method

Research Design

This study adopts a quantitative descriptive approach to evaluate high school students' high-level thinking skills in solving mathematical problems at levels C4 (analysis) and C5 (evaluation). It also compares students' proficiency based on gender and school. The study involved two senior high schools: SMAN A and SMAN B.

Research Subjects

The study subjects were grade XI students from two schools, namely SMAN A and SMAN B. The following are the details of the research subjects.

Table 1 Distribustion of Subject Research

No.	School	Class	Number of Students		Total
			Male	Female	
1	SMAN A	X1.1	11	16	27
2		X1.10	13	20	33
3	SMAN B	X1.2	11	21	32
4		X1.3	22	15	37
		Total			129

The consideration of selecting a sample in class X1 is because the topic used to measure students' mathematical proficiency has been studied in class X, and students in that class are willing to participate fully in all stages of the study.

Instrument and Collect Data

The main instrument in this study is a high-level thinking proficiency test comprising five essay questions categorized at levels C4 and C5 based on Bloom's Taxonomy. The instrument was validated by three experts and deemed feasible. Empirical testing confirmed that all questions are valid and meet reliability standards.

To prevent question leakage, the test was administered on the same day for all classes within each school, with only timing variations. Students were given 80 minutes to complete the test. Afterward, their answer sheets were collected, graded according to a predefined rubric, and analyzed to produce a descriptive profile of students' proficiency.

Data Analysis

The data obtained were analyzed using descriptive statistics to determine the average scores of students' proficiency in solving C4 and C5 level questions at both schools. Additionally, an inferential statistical analysis was conducted to compare the means and examine whether there were significant differences in high-level thinking skills between students at SMAN A and SMAN B, considering both school and gender factors, with the aid of SPSS 25.

3. Result and Discussion

The following presents the descriptive results of high school students' mathematical proficiency.

Table 2 Descriptive results of high school students' mathematical proficiency

	N	Minimum	Maximum	Mean	Std. Deviation
Male	57	24,41	100,00	59,87	19,78
Female	72	30,29	95,82	60,16	16,39
SMAN B	69	24,41	100,00	57,73	19,60
SMAN A	60	28,18	95,82	62,68	15,45
All Students	129	24,41	100,00	60,04	17,90

Based on table 2. it is obtained that the average mathematics proficiency at the C4 and C5 levels of female students (60.16) is slightly higher than male students (59.87). In addition, the variation in proficiency in the male group is greater (Standard Deviation: 19.78) than female (Standard Deviation: 16.39), this shows that the proficiency of female students is more uniform. In terms of school, SMAN A students have a higher average proficiency (62.68) than SMAN B students (57.74), meaning that in general, SMAN A students have better performance in mathematics analysis and evaluation proficiency than SMAN B students. The proficiency of SMAN A students tend to be more uniform than those of SMAN B, this is indicated by the value of the variation in proficiency at SMAN B being greater (Standard Deviation: 19.60) than SMAN A (Standard Deviation: 15.45). Overall, female students and students from SMAN A showed higher and more uniform academic performance compared to male students and students from SMAN B. The higher variation in proficiency in the male group and SMAN B students reflects a more diverse distribution of proficiency.

Next, a test was conducted to see the significance of the differences based on school and gender. However, a prerequisite test was conducted first. The prerequisite tests carried out were the normality test and the homogeneity test. The normality test used the Kolmogorov-Smirnov test, here are the results of the normality test.

Table 3. Kolmogorov-Smirnov normality test results

		SMAN B	SMAN A	Male	Female
N		69	60	57	72
Normal Parameters[a,b]	Mean	57,7380	62,6800	59,8746	60,1649
	Std. Deviation	19,60	15,45	19,78	16,39
Most Extreme Differences	Absolute	0,127	0,168	0,110	0,111
	Positive	0,127	0,125	0,106	0,111
	Negative	-0,093	-0,168	-0,110	-0,103
Test Statistic		0,127	0,168	0,110	0,111
Asymp. Sig. (2-tailed)		.007[c]	.000[c]	.082[c]	.027[c]

Based on Table 3. it was found that the data from the SMAN B, SMAN A, and female student groups were not normally distributed, with p values of 0.007, 0.000, and 0.027 ($p < 0.05$), respectively. In contrast, the data from the male student group showed a normal distribution, with a p-value of 0.082 ($p > 0.05$). This indicates that the null hypothesis, namely that the data comes from a normal distribution, is rejected for the SMAN B, SMAN A, and female groups but accepted for the male group. Because only 1 group meets the normality test, the homogeneity test was not carried out. Further testing uses a non-parametric statistical test, the Mann-Whitney test. The following are the results of the Mann-Whitney test to see the differences in the proficiency of male and female students.

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Nilai is the same across categories of Sex.	Independent-Samples Mann-Whitney U Test	.783	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Figure 1. Hypothesis test Summary for sex categories

Based on Figure 1, the significance value (Sig.) is 0.783, which is more than 0.05. Therefore, the null hypothesis (H_0) is accepted or there is no significant difference in the proficiency of male and female students. Furthermore, based on the school, the following is obtained.

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Nilai is the same across categories of Sekolah.	Independent-Samples Mann-Whitney U Test	.072	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Figure 2. Hypothesis test Summary for school categories

Based on Figure 2, a significance value (Sig.) of 0.072 was obtained, which is more than 0.05. Therefore, the null hypothesis (H_0) is accepted, or there is no significant difference in students' proficiency at SMAN A and SMAN B. The school environment can influence students' proficiency in higher-order thinking skills. SMAN A, despite having a UTBK ranking of 760, shows better performance variability in the proficiency of analytical and evaluative skills (C4 and C5) compared to SMAN B, which has a UTBK ranking of 624. Although the average proficiency of students at SMAN A is higher, this difference is not strong enough to be statistically significant at the 95% confidence level. Thus, while there is a difference in the average mathematics proficiency at C4 and C5 levels between students at SMAN A and SMAN B, statistically, both schools exhibit relatively comparable performance in these proficiencies. The observed differences may be attributed to random factors or variations within the sample.

In general, the average mathematics proficiency of high school students at the C4 and C5 levels is 60.036, which falls within the moderate category. This indicates that, overall, students' abilities in mathematical analysis and evaluation require further enhancement. Despite some variation between individual students and schools, the results suggest that high school students' proficiency in these higher-order thinking skills is still developing and needs improvement to reach higher levels of mastery. According to study by Widana (2018) higher-order thinking skills are key to developing a deep understanding of mathematics subjects and helping students to be more critical in solving complex problems. A study by Azid et al., (2022) also found that developing these higher-order cognitive skills can increase students' engagement in learning and contribute to better academic achievement. Therefore, more structured efforts are needed in mathematics learning to improve high school students'

analytical and evaluative skills and better prepare them to face academic and real-life challenges that require deep understanding and problem-solving.

From an educational perspective, these results indicate that the learning methods used in both schools are likely to produce balanced cognitive achievements among students, especially in mathematical, analytical, and evaluation skills. In the context of educational development, these results emphasize the importance of maintaining consistent teaching quality and standards to ensure that the achievement of higher-order thinking skills is evenly distributed across institutions. However, further research may be needed to identify other factors that contribute to students' achievement in this cognitive aspect, for example, differences in assessment methods, intensity of problem exercises, and access to additional learning resources. The similarity of results in both groups can also be a basis for educators to explore more varied methods in improving students' critical thinking skills, especially in more complex questions at the C5 level.

4. Conclusion

The results showed that the average mathematics proficiency of high school students at levels C4 and C5 was 60.04, and they were included in the moderate category. Descriptively, female students had a slightly higher average proficiency (60.16) than male students (59.87), with smaller variations in proficiency in females. Based on school, the average proficiency of students at SMAN A (62.68) was higher than that of SMAN B (57.73), and the variation in the proficiency of students at SMAN A was smaller than that of SMAN B. However, the Mann-Whitney statistical test showed that differences in proficiency based on gender and school were not statistically significant ($p>0.05$). So, the differences seen descriptively cannot be concluded as real differences.

Based on the results obtained, the mathematics proficiency of high school students at levels C4 and C5 needs to be improved because this proficiency is important to face global challenges. This improvement can be done through student-centred learning, innovative learning methods, models, or strategies, and evaluations designed to develop analytical and evaluative thinking skills.

Reference

Ahmadi, A. (2021). Teachers as Ethnographers: Narrative Study of Inquiry of Indonesian Teachers Assigned to Teach in Remote Areas. . *European Journal of Educational Research*, *10*(1), 115–126.

Anderson, L. W. , & Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching, and Assessing. A Revision of Bloom's Taxonomy of Educational Objectives (Complete Edition*. Addison Wesley Longman, Inc.

Azid, N., Ali, R. M., El Khuluqo, I., Purwanto, S. E., & Susanti, E. N. (2022). Higher order thinking skills, school-based assessment and students' mathematics achievement: Understanding teachers' thoughts. *International Journal of Evaluation and Research in Education*, *11*(1), 290–302. https://doi.org/10.11591/ijere.v11i1.22030

Erdiana, N. , & Panjaitan, S. (2023). How is HOTS Integrated into the Indonesian High School English Textbook? *Studies in English Language and Education*, *10*(1), 60–77.

Erdiana, N., & Panjaitan, S. (2023). How is HOTS Integrated into the Indonesian High School English Textbook? *Studies in English Language and Education*, *10*(1), 60–77. https://doi.org/10.24815/siele.v10i1.26052

He, W. J. , & Wong, W. C. (2021). Gender Differences in the Distribution of Creativity Scores: Domain-Specific Patterns in Divergent Thinking and Creative Problem Solving. *Frontiers in Psychology*.

Ilyas, M. , Meiyani, E. , Ma'rufi, M. , & Kaewhanam, P. (2022). Improving students' ability in learning mathematics by using the science, technology, engineering, and mathematics (STEM) approach. *Frontiers in Education*.

Kusumaningsih, W. , Darhim, Herman, T. , & Turmudi. (2018). Gender differences in algebraic thinking ability to solve mathematics problems. *Journal of Physics*, 1013.

Kusumaningsih, W., Darhim, Herman, T., & Turmudi. (2018). Gender differences in algebraic thinking ability to solve mathematics problems. *Journal of Physics: Conference Series*, *1013*, 012143. https://doi.org/10.1088/1742-6596/1013/1/012143

Lewy, L. , Zulkardi, & Aisyah, N. (2009). Pengembangan soal untuk mengukur kemampuan berpikir tingkat tinggi pokok bahasan barisan dan deret bilangan di kelas IX akselerasi SMP Xaverius Maria Palembang. *Jurnal Pendidikan Matematika*, *3*(2), 15–28.

Minarti, I. B. , Dzakiy, M. A. , & Nilautama, D. (2023). The Effect of STEM (Science, Technology, Engineering, and Mathematics) Based Learning Approach on Critical Thinking Skills and Cognitive Learning Outcomes of Class X SMA Negeri 1. *At-Tasyrih: Jurnal Pendidikan Dan Hukum Islam*, *8*(2), 126–136.

Reinhold, F., Hofer, S., Berkowitz, M., Strohmaier, A., Scheuerer, S., Loch, F., Vogel-Heuser, B., & Reiss, K. (2020). The role of spatial, verbal, numerical, and general reasoning abilities in complex word problem solving for young female and male adults. *Mathematics Education Research Journal*, *32*(2), 189–211. https://doi.org/10.1007/s13394-020-00331-0

Tanudjaya, C. P. , & Doorman, M. (2020). Examining higher order thinking in Indonesian lower secondary mathematics classrooms. *Journal on Mathematics Education*, *11*(2), 277–300.

Tanudjaya, C. P., & Doorman, M. (2020). Examining higher order thinking in Indonesian lower secondary mathematics classrooms. In *Journal on Mathematics Education* (Vol. 11, Issue 2, pp. 277–300). Sriwijaya University. https://doi.org/10.22342/jme.11.2.11000.277-300

Widana, I. W. (2018). Higher Order Thinking Skills Assessment towards Critical Thinking on Mathematics Lesson. *International Journal of Social Sciences and Humanities (IJSSH)*. https://doi.org/10.29332/ijssh.v2n1.74

Bapidara: Between Myth, Medical, and Mathematics

Abdul Jabar, Rolina Amriyanti Ferita, Arifin Riadi
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Mathematics Education Study Program
Banjarmasin, Indonesia
abduljabar@upk.ac.id,
rolina.amriyanti@unukase.ac.id
arifinriadi@upk.ac.id

Abstract. This study aims to examine the bapidara treatment activities and their relationship with myth, medical, and mathematics. The research method used is exploration with an ethnographic approach. The results showed that there were at least three mathematical concepts obtained from bapidara activities, namely symbols, algorithms, and symmetry. The symbol obtained is a symbol of addition, subtraction, and dot that is applied to certain parts of the patient's skin. The algorithm that emerges from this traditional medicine is very systematic in following the rules of the right-left and front-back, so it helps traditional doctors to avoid mistakes in the procession. The results of this smear are a type of folding symmetry, with the imaginary vertical line is from the patient's head to between his legs. From the medical side, turmeric used in the procession does have efficacy as an antipyretic, but it must be orally and not topically. The main content of lime betel has nothing to do with fever.
Keywords**:** *Bapidara*, Ethnomathematics, Local Wisdom, Traditional Medicine, Fever

1. Introduction

Ethnomathematics is a study firstly introduced in 1970. It was a new perspective in mathematics education that considered the relationship between mathematics education and the cultural, political, social and economic forces that could change the world (D'Ambrósio & Knijnik, 2020). People Education, which was developed in Latin America in the early 1960s, was one of the sources of the field of study. An expert named Paulo Freire who introduced the idea in Brazil and the "inland" country explained that the politics of education, justice, and equality also needed to be applied in mathematics education (Powell & Frankenstein, 1997). An educator from Brazil, Urbiratan D' Ambrosio, greatly influenced Freire's idea about education (Higginson, 1997). D'Ambrosio had been known across the countries as an expert who brought the idea of Ethnomathematics and developed the very conceptual foundation of ethnomathematics itself.

D'Ambrosio (2006) considered ethnomathematics to be a research program. This means that the focus of ethno-mathematics is broader than simply recognizing mathematical ideas and practices from various cultural groups. Although ethnomathematics from various cultural groups is the main source of this research program, still the main purpose of the ethnomathematics is to offer a broader view of human knowledge and habits through the overview of how groups, communities, and citizens struggle in environmental contexts, cultural, economic and social.

The ethnomathematics is inspired by such ideas and ways of doing mathematics that remind us of western mathematics as the mathematics that we have known so far is a form of the west. Although the discussion in mathematics is basically related to space, time, grouping, and comparison in accordance to human nature, the ways and techniques to convey and communicate the results of reflection is still very contextual and not necessarily suitable for other countries (D'Ambrósio & Knijnik, 2020).

Ethnomathematics introduces itself as opposed to ethnocentric theory and opposes the assessment of society and culture based on certain cultural standards and accepts many adjustments based on the perspective of cultural relativity. After that, to reduce ethnocentric biases and to emphasize cultural descriptions based on the perspective of internal compatibility, ethnomathematics cut itself off from the

position. So, the term ethnomathematics means that the study of mathematics from cultural groups, which emphasizes on internal compatibility. It tries to describe the culture from the perspective of the culture in which it was formed so that values and codes will give specific meaning and then give meaning to mathematics itself and are described according to cultural logic. This activity is one of the focuses of ethnomathematics (D'Ambrósio & Knijnik, 2020).

In South Kalimantan, there is a traditional medical practice that is still believed by the community to be effective in treating fever problems, namely bapidara. This treatment is one of the local wisdoms of the community and is related to ethnomathematics because there are certain signs or patterns that must be applied to the patient's body to get healed.

Bapidara is often done by the mother or family if her child has a fever. The practice is not only carried out by the mother or family from a low level of education but also a high level of education. It is done by those from poor families to rich families, maybe even done by mothers or family with a health education background.

South Kalimantan is one of the provinces comprises of several ethnics or ethnic groups and customs. Ethnic groups in the province include the Banjar tribe as much as 76.34%, Madura tribe as much as 1.22%, Dayak Meratus as much as 1.20% and other tribes as much as 21.24%. The knowledge on traditional medicine is part of culture that has been passed on from one generation to another.

Traditional medicine is medicine that comes from knowledge, skills, and practices based on theories, beliefs, and experiences of different cultural customs and is used to maintain health and prevent, diagnose, treat illness or mental illness (WHO, 2013). Traditional medicine based on local wisdom can improve the standard of living, both economically and health of the local community. If the community could utilize the traditional medicine appropriately and properly, then people's access to treatment when experiencing health problems will be easier because it is adjusted to the ability of the region or local to deal with health problems (Anggeriyane, 2019).

Local wisdom is a form of environmental wisdom that exists in community life in a place or region (Situmorang & Harianja, 2014). Meanwhile, the local wisdom related to health serves a good purpose for Indonesian people, each ethnic has different characteristics of their own local wisdoms (Lesmana et al., 2018).

Local wisdom in the health sector by people of South Kalimantan is called *batatamba* which can be interpreted as a "healing process" (Jamalie, 2011). Those who perform *batatamba* are called *panamba*, and one of the healing practices of *panamba* is *bapidara*, a ritual done to heal any illness and to help a patient to return to health. Being healthy is a condition where someone can do any daily activities (Astutik et al., 2016). Bapidara is originated from the word *pidara* which means that the ritual is performed to expel the spirits that cause pain to the patient, so that *bapidara* is *pidara* with additional prefix of *ba* which means to do the exorcism through rituals (Megawati, 2014).

2. Method

Judging from its relation to Cultural Anthropology, the main difficulty faced by ethnomathematics is the difficulty of understanding and interpreting other cultures through categories and analysis of instruments that do not originate from that culture. In addition, most ethnomathematics research also uses ethnographic techniques such as using participant observation, sound recordings, field notes, and interviews. Although ethnographic mathematics research is not exactly the same as ethnography, at least it has similarities on how data is collected (D'Ambrósio & Knijnik, 2020).

The method used in this study is exploration with an ethnographic approach. Exploration method is a method used to search for, explore, and find symptoms or phenomena by directly observing the phenomenon(Gulo, 2000; Prahmana, 2017). By applying the ethnographic approach, researchers injecting themselves into the community and experience the daily life themselves (Spradley, 2006). The research is conducted in Desa Pakan Dalam, Daha Utara sub-district, Hulu Sungai Selatan district, Kalimantan Selatan, Indonesia.

Historically, Daha Utara sub-district, which is also called Negara, was once the home of a Hindu kingdom called the Kingdom of the Negara Daha and was the forerunner to the Banjar sultanate. The Negara Daha Kingdom was a continuation of the Negara Dipa Kingdom which was in Amuntai. The

relocation of this capital city is to avoid disaster because the Amuntai was considered to have lost its fortune.

The focus of this study is the ethnomathematics of the traditional medication of *bapidara* which has been practiced for many generations and believed to heal fever. In addition, this study also analyzes the effect of treatment in relation to the myth and medic. To obtain a comprehensive and valid data, data collection was divided into two, interviews and observations.

Interviews were conducted with one of the traditional doctors in Pakan Dalam village, and observations were conducted to observe the healing activities of *bapidara* by the traditional doctor. Once the data were obtained, the researchers would analyze if there were any mathematics systems implied in the practice, be it intentionally or not.

3. Result and Discussion

Result

The focus of this study is the traditional practice of *bapidara*. This traditional medicine is believed to cure specific fever caused by ancestral spirits. These ancestral spirits are parents, grandparents, or *datu* (parents of grandparents) who have died. According to the traditional doctor's explanation, the ancestors tried to communicate to the patients by calling them, but the patient could not hear the call so the spirits of the ancestors became angry and the prospective patient finally got a fever.

Patients suffering from this specific fever show some symptoms such as rising body temperature and cold ears, palms, and soles of feet. In addition, the patients experience pain in their stomach and their eyes go deeper inside. The traditional doctor interviewed stated that he could only help patients that display those symptoms above. Usually, the parents of patients who come to traditional doctors have previously tried to treat their children to general practitioners but there has been no progress, so this traditional medicine is their alternative. From this finding, the community in general still retains trust in traditional doctors because they can successfully cure their child's fever. Although most of the cases happen to children and babies, there are also some adults who experience this illness and traditional doctors are still believed by people to help them.

Figure 1: Curcumin Mixed with Lime Above Parang

Before performing the ritual of *bapidara*, the traditional doctor needs to prepare some tools and ingredient, such as *parapin* (a type of incense), turmeric, lime and *parang* (a type of knife that has a large cross section and is made of iron). After the *parapin* has been ignited and a pinch of turmeric is shredded, *parang* is placed on the *parapin* (as in roasting) horizontally and the broad cross-section of *parang* is used for mixing lime with turmeric. The mixing process cannot be done recklessly. A pinch of lime must be applied to *parang* by forming a plus sign (+) and then the shredded turmeric is placed carefully on top of the lime. Then, the lime and the turmeric are mixed manually by using hands while the traditional doctor starts reciting some prayer. The doctor said that the prayer recited during the ritual are not some mantras or alike but a prayer in Arabic, *basmallah* (*bismillaa hirrohmaa nirrohiim*). During the ritual, the doctor will try to reach the ancestral spirits to apologize on behalf of the patient. The unique part here is that the traditional doctor knows the family names of patients who have died.

That is why the traditional doctor must come from the same village as the patient and is usually the traditional doctor already around 50s.

This *bapidara* ritual has a lot to do with mathematics. The traditional doctor will apply the mixture of lime and turmeric earlier on the patient's skin. Starting from the face, on the forehead and ears, the doctor will slowly put to the patient's forehead two (-) marks on the right and the left side. They are placed right above each eyebrow. Then, the doctor applies the mixture on the patient's ear, specifically behind the lower ear (where women usually put earrings), right and left. It is only a dot (like a dot or dot multiplication). After that, the mixture of lime with turmeric will be applied to the shoulders, elbows, and folds, up to the palms, starting from the right side of the body. All parts were smeared to form a plus sign called *cacak burung* (bird trail / footprint) by following the segment of the arm.

Figure 2: Applying Mixture on Hand

On the patient's legs, the mixture is applied on the knee, knee folds, and soles of the feet in a sequence from the right then the left with the plus sign pattern (+) according to the leg segment. For body parts, the plus sign (+) is shaped from the bottom of the neck to the lower abdomen for vertical lines, then from the right abdomen to the left for horizontal lines. Before moving to the back of the body, each dot is given above the right and left chests. The back of the body is the last part. The pattern of plus (+) is also shaped by applying the mixture of lime and turmeric, start from the bottom of the neck to the waist according to the vertebrae for the vertical line, while the horizontal line from the top of the waist right to the left. The back is also given a dot under the right and left shoulder.

Discussion

There are at least three things of *bapidara* ritual that are related to formal mathematics. The first is the plus sign (+), minus (-), and dot (.) that traditional doctors use when applying the mixture of turmeric and lime onto the patient's body. Scribbles are always in balanced, for example the right and the left lines of the plus sign (+) are on the same length, as well as the top and bottom lines. There are exactly 16 plus signs (+) formed by traditional doctors, two minus signs (-), and six dots (.). There is no specific reason behind this numbers, but the traditional doctor explained that it is important to pay attention to every part of the body and make sure it is well marked so that the patient could be cured.

The second link between traditional ritual of *bapidara* and mathematics is the algorithm. The arrangement of this algorithm is in a very systematic sequence with the rules of the front back and left and right. The treatment should follow specific rules; the mixture of turmeric and lime is applied on the right side first before the left side and it starts on the forehead, ears, chest, hands (shoulders and palms), soles of the feet, and back shoulders. Some parts such as elbow, knees and torso should be in sequence of front and back. This algorithm is useful for traditional doctors to remember which parts must be applied because they follow a certain arrangement. The knowledge about this treatment is passed on

from one generation to the next generation. The traditional doctors learn the technique by watching their predecessors performing the same treatment.

Third, this treatment is related to the mathematics rules of the right and left algorithms which is the algorithms of symmetry, specifically the folding symmetry. If you imagine that the patient's body has an imaginary line that divides it vertically in half from the middle of the forehead to between his legs, then it means that the traditional doctor draws a folding symmetry of the imaginary line. This shows that even though traditional doctors do not specifically make symmetry patterns, but, in practice, they have drawn very symmetrical patterns. In fact, the traditional doctor emphasized on the importance of drawing the patterns symmetrically otherwise the treatment will not work.

Further, the prayer recited by the traditional doctor during *bapidara* treatment has to do with fetishes. The term fetish comes from the Portuguese *fetico* which means artificial. The Portuguese term is also derived from Latin, *fasticius*, which means artificial, or made up, which initially used to imitate through signs, ornaments, and cosmetics. In its use, fetishism is defined as supernatural traits, magical powers and charms contained in objects. Fetishism can be divided into three types; anthropological fetishism, sexual fetishism, and commodity fetishism (Megawati, 2014). Anthropological fetishism is a belief that every object is inhabited by certain powers, such as a belief that statues, amulets, and rajahs should be worshiped as they have magical powers. Meanwhile, sexual fetishism is the phenomenon of the use of certain body objects such as underwear, hair, and handkerchiefs to obtain sexual satisfaction. While commodity fetishism can be interpreted as something that not only has a use value but also contains the power of a certain charm and gives a certain status to the people who use it.

The phenomenon of fetishism in Islamic culture, in one context, is related to objects worshipped because it is inhabited by a spirit. In other contexts, the holy book (Al-Qur'an), along with the power of its words, is also used as an object of worship, overlooking its spiritual contents and messages. The book is ripped off its spiritual messages and believed to have a mystical power of its own. The words spoken or written (in the form of sheets, spells, miniatures and tattoo) can emit such a magical power, which can be realized into various influences, both good and bad influences, to cure illness or kill people. In this case, the function of words as communication medium has been shifted to a realization function, from the representation function to the presentation function.

In Indonesian society, the use of these fetish objects has become a historical part of Indonesian Islamic culture which appears in various mediums and power, and is used in various contexts of rituals, ceremonies and even in everyday life. There are many examples of fetishism practice in South Kalimantan. In *bapidara*, for example, the word *basmallah* is recited as part of the ritual to cure a fever because it is believed that the cause of one's illness is a supernatural being. It is in contrary to the real meaning of *Basmallah*, which is as a reminder for Muslims that every time they start something, they must remember God who has a loving and compassionate nature.

From the medical side, turmeric has indeed been used by Indonesians for generations because in addition to being a spice in the kitchen, turmeric (curcuma) also has medicinal properties which are antiseptic, disinfectant, anti-inflammatory, and natural analgesics, even often used to treat digestive, intestinal problems and irritable wounds (Verma et al., 2018). However, turmeric is useful as a medicine if it is taken orally and not just smeared, especially if it is mixed with lime which is the result of limestone or limestone deposition and is not recommended for use on the face area because the substance in lime is quite hot (Ermadayanti, 2018). The use of turmeric as an antipyretic (heat-reducing) is widely prescribed orally by mixing it with plants or other ingredients but there has been no explanation on the use of turmeric with lime used topically (Anggeriyane, 2019). Lime has the chemical formula CaCO3 so that the main content of lime is calcium. Calcium is an important mineral for humans, especially bone formation. Lime is used as a medicine along with other ingredients as the remedy for coughs and colds, swollen gums, boils, menstrual problems, and insect bites (Nurnabila, 2011).

Antipyretic effect on turmeric comes from the curcumin which is anti-inflammatory (Khalandar et al., 2018; Matthew, 2013). Curcumin can be used as an anti-inflammatory agent and specifically as an antipyretic because it inhibits the production of PGE2 induced by Lipopolysaccharides (LPS) on macrophage cells by inhibiting the change of arachidonic acid into PGE2. This is done by Siklooksigenase-2 (COX-2). A decrease in PGE2 will cause a decrease in the hypothalamus set point

so that the body will carry out the mechanism of reducing body temperature so that it returns to normal (Ashraf & Sultan, 2017).

4. Conclusion and Suggestion

Bapidara is a traditional treatment that has been part of the culture in South Kalimantan. The practice can still be found today. People still believe that this ritual can cure the fever. This ritual is carried out by mixing lime with turmeric and roasting it on *parapin* using a *parang* as the medium. The mixture is then applied to the patient's body, from head to toe by writing minus (-), plus (+), and dot (.) with certain algorithms so that the mixture becomes symmetrical on the patient's body. Medically, turmeric can be used as a heat-lowering drug (antipyretic), but its use is only orally, and lime used in *bapidara* treatment rituals is widely used as medicine but has nothing to do with fever.

Studies related to its healing effect from the medical point of view are needed to examine if the mixture of ingredients used and the procedures for this treatment could really cure fever or it is just a placebo effect. In addition, the studies related to the type of fever that is specific to this traditional treatment -which is characterized by rising temperature but having cold ears, palms, and soles of the feet are cold, as well as experiencing discomfort in the stomach- are also needed. Further study about this type of fever and what medical measures can cure it is highly encouraged.

References

Anggeriyane, E. (2019). *Studi Fenomenologi: Pengalaman Ibu dalam Penanganan Anak Balita Demam dengan Bapidara di Kota Banjarmasin*. Universitas Muhammadiyah Banjarmasin.

Ashraf, K., & Sultan, S. (2017). A Comprehensive Review on Curcuma Longa Linn: Pytochemical, Pharmacological, and Molecular Study. *International Journal of Green Pharmacy*, *11*(4), 671–685.

Astutik, Sulaiman, & Astuti, W. D. (2016). *Perempuan Banjar dalam Dekapan Penyakit "Kelalah" Banjar-Kabupaten Banjar: Buku Seri Etnografi Kesehatan 2015*. Unsesa University Press.

D'Ambrósio, U., & Knijnik, G. (2020). Ethnomathematics. In S. Lerman (Ed.), *Encyclopedia of Mathematics Education* (pp. 283–288). Springer.

Ermadayanti. (2018). *Bapidara pada Anak Demam: Solusi atau Sugesti*. Website. http://rsas.kalselprov.go.id/berita-262-bapidara-pada-anak-demam-solusi-atau-sugesti.html

Gulo, W. (2000). *Research Methodology*. Grasindo.

Higginson, W. C. (1997). Freire, D'Ambrosio, oppression, empowerment and mathematics: background notes to an interview. *Learn Math*, *17*(3), 3–4.

Jamalie, Z. (2011). *Batatamba: Pengobatan Tradisional dalam Masyarakat Banjar*.

Khalandar, S. D., Adhitya, T. N., Basha, S. J., Koshma, M., Subbareddy, U. V., & Reddy, V. J. S. (2018). A Current Review on Curcuma Longa Linn Plant. *International Journal of Pharmaceutical, Chemical & Biological Sciences*, *8*(1), 68–73.

Lesmana, H., Alfianur, Utami, P. A., Retnowati, Y., & Darni. (2018). Pengobatan Tradisional pada Masyarakat Tidung Kota Tarakan: Studi Kualitatif Kearifan Lokal Bidang Kesehatan. *MEDISAINS: Jurnal Ilmiah Ilmu-Ilmu Kesehatan*, *16*(1).

Matthew. (2013). *Perbandingan Efek Antipiretik Ekstrak Kunyit (Curcuma Longa L.) dan Patikan Kebo (Euphorbia Hirta L.) pada Mencit Swiss Webster*. Universitas Kristen Maranatha.

Megawati. (2014). *Bapidara di Desa Cemantan Kecamatan Kahayan Kuala Kabupaten Pulang Pisau (Perspektif Filsafat Roland Barthes)*. Universitas Islam Negeri Antasari Banjarmasin.

Nurnabila, N. (2011). *Formulasi Tablet Hisap Ekstrak Etanol Sirih (Piper Betle L.) dan Kapur Sirih (CaCO3) dengan Mikrokristalin Selulosa (Avicel) sebagai Pengikat Serta Pengaruhnya Terhadap Kadar CD4 dalam Darah*. Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Powell, A., & Frankenstein, M. (Eds.). (1997). *Ethnomathematics: Challenging Eurocentrism in mathematics education.* State University of New York Press, Albany.

Prahmana, R. C. I. (2017). *Design Research, Teori dan Implementasinya: Sebuah Pengantar*. Rajawali Press.

Situmorang, R. O., & Harianja, A. H. (2014). Faktor-faktor yang Mempengaruhi Kearifan Lokal Pemanfaatan Obat-obatan Tradisional oleh Etnik Karo. *Prosiding Ekspose Hasil Penelitian Tahun 2014 Balai Penelitian Kehutanan Aek Nauli Medan.*

Spradley, J. P. (2006). *Metode Etnografi*. Tiara Wacana.

Verma, R. K., Kumari, P., Maurya, R. K., Kumar, V., Verma, R. B., & Singh, R. K. (2018). Medicinal properties of turmeric (Curcuma longa L.): A review. *International Journal of Chemical Studies*, *6*(4), 1354–1357.

WHO. (2013). *WHO Traditional Medicine Strategy: 2014-2023*. Website. www.who.int

Fractional *Lempeng* Media Development for IV Class Students

Anisa Munawarah, Rahmita Yuliana Gazali, Winda Agustina
Universitas PGRI Kalimantan, Faculty of Social and Humanity
Mathematics Education Study Program
Banjarmasin, Indonesia
Anisamunawarah03@gmail.com
rahmitayg@upk.ac.id,
wenagustina@upk.ac.id

Abstract. Fractions are one of the materials that are prone to misunderstandings because most students do not understand the concept of fractions. Lack of students' understanding of the concept of fractions is due to the not maximizing the making of learning media which is designed simply and with makeshift materials. As the results of observations, it was found that the learning media for fraction pizza puzzles made by students were only limited to origami paper which was cut into 8 parts and then pasted on cardboard covered with cardboard paper. So that the media can only display one concept of ordinary fraction examples with the same denominator and cannot be modified for other denominator fractions. From the statement of the homeroom teacher for IV Class, it is known that there is no use of learning media for fraction of material in the class. The purpose of this study was to determine the feasibility of Fractional *Lempeng* Media for IV Class students in terms of validity, practicability, and effectiveness. The type of research conducted is development research (Research & Development/R&D). The development model used is the ADDIE model with 5 stages, namely Analyze, Design, Development, Implementation, and Evaluation. The test subjects in this study were students of SDN Karang Mekar 4 IV Class with a total of 27 students. Data collection instruments used were validation sheets, student response questionnaires, and evaluation tests. The data analysis technique used is the average score and percentage. This research produces a product, namely Fractional *Lempeng* Media for IV Class students. The results showed that the media developed obtained valid, very practical and effective criteria. So that this Fractional *Lempeng Media* is suitable for use in learning.
Keywords: development, media, fraction *lempeng*

1 Introduction

One of the important branches of science for humans to learn is mathematics. By studying mathematics well, students will gain a good understanding of mathematical concepts and the ability to solve problems effectively. This ability supports the development of modern technology in people's lives. As Mufidah stated, mathematics is a universal science that is useful for human life, is the foundation for the development of modern technology, plays a role in various sciences, and advances human thought (Mufidah et al., 2022).

Based on the Minister of National Education Regulation number 22 in year of 2006, the aim of learning mathematics is for students to have the ability to understand mathematical concepts, explain the relationship between concepts or algorithms, flexibly, accurately, efficiently and precisely in solving problems (Rahayu, 2018). The objectives of learning mathematics can be achieved through a meaningful learning process, in this case one of which is using learning aids, namely interesting learning media that can explain the material properly.

Media is a tool used by teachers to convey messages in the form of learning to students and can make it easier for teachers to convey learning (Wulandari & Yuliandari, 2023). Learning media can be described as a tool that helps students start the learning process. Sanjaya stated that learning media includes hardware that can convey messages and software that contains messages (Makki & Aflahah, 2019).

According to Ratnasari (in Wulandari & Yuliandari, 2023) the lack of media use by teachers at the elementary school level in mathematics lessons results in learning being less interesting and the

impression being monotonous because it only conveys the material, especially for fractions. Furthermore, Ratnasari stated that fractions are also one of the materials that are prone to misconceptions because most students do not understand the concept of fractions. The misconception in question is a concept that is not in line with the established scientific concept. It can happen if the teacher does not emphasize understanding the concept of fractions, but only emphasizes how to solve problems. The lack of learning aids and learning media also a factor in students' difficulty in understanding the concept of fractions.

This is in line with the results of observations at SDN Karang Mekar 4, researchers found several learning media created by students that looked damaged at the school. Among them are 2 mathematics learning media, namely fractional pizza puzzles. The media looks very simple and uses simple materials. The media made is limited to origami paper that is cut into 8 parts and then attached to cardboard covered with cardboard. Thus, the media has a drawback, namely that it can only display the concept of ordinary fractions with the same denominator so that it cannot be modified for other denominator fractions.

Based on the statement of the homeroom teacher for IV Class, it is known that in explaining the material on fractions, learning media was not used in the class, which is thought to be the cause. Lack of students' understanding of the concept of fractions. As stated by Pajarwati in (Wulandari & Yuliandari, 2023) that the lack of teacher creativity in creating learning media and the limited use of media also affect students' understanding of the concept of fractions. This statement is in line with the data obtained from the average value of IV Class in the final exercise of the fraction chapter, which is 48.43 with a classical completion percentage of only 21.87%.

Seeing the media conditions as described, it is necessary to develop learning media, especially for the concept of fractions. With appropriate media, it will attract more students' attention, foster students' learning motivation, and improve students' learning outcomes. One effort to make learning media attract students' attention is to design the media using attractive images based on what is in the surrounding environment. One way is to use a picture of "*lempeng pisang*". "*Lempeng pisang*" are a local food of South Kalimantan with a round and flat shape similar to pizza, so it is nicknamed the pizza of the Banjar people. The circular shape of the *lempeng* can be used to explain the concept of fractions.

Based on these problems, the researcher is interested in conducting research and developing appropriate media for fraction material with the title " Fractional *Lempeng* Media Development for IV Class Students ".

2 Methods

2.1 Types of research

The type of research conducted is development research (Research & Development/R&D). The development model used is based on the model developed by Sugiono, namely the ADDIE model. This model consists of 5 stages, namely Analyze, Design, Development, Implementation, and Evaluation (Kurnia et al., 2019). The following is a picture of the stages of the ADDIE model.

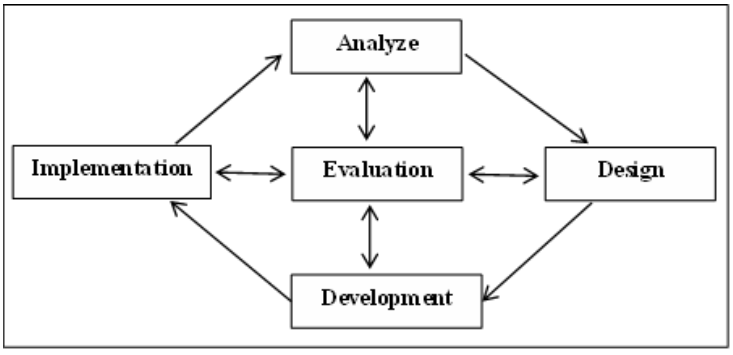


Figure 1: ADDIE Model Stages

At the Analyze stage, it is carried out analysis of student needs by means of direct observation and interviews with the homeroom teacher for IV Class at SDN Karang Mekar 4. Stage Design, here, start making a design or draft of learning media according to the results of the analysis that has been done and prepare various materials and a combination of sizes, colors, and shapes that suit the needs. Furthermore, at the Development stage, learning media begins to be developed according to the results of the analysis and design stages. After the learning media has been developed, the media is validated by validators who are divided into media experts and material experts. At the Implementation stage, learning media that has been declared valid by the validator will be tested on IV Class students of SDN Karang Mekar 4. The last stage is evaluation, namely evaluating whether the product made is feasible and in accordance with what is expected based on needs. The results of the evaluation test are used to measure the effectiveness of the media and the results of the student response questionnaire to measure the practicability of the media.

2.2 Research Subject

The subjects in the development of Fractional *Lempeng* Media were students of SDN Karang Mekar 4 IV Class with a total of 27 students.

2.3 Data Collection Instruments

The instruments used in data collection are validation sheets, response questionnaires, and tests. Validation sheets are given to media expert validators and material experts to measure the validity of the Fraction *Lempeng* Media. To measure the practicality of the media, a response questionnaire is used which is given to students with 10 statement items. And the evaluation test is used to determine the effectiveness of the product developed. The evaluation test is given to students at the end of the learning in the form of 10 questions.

2.4 Data Analysis Techniques

The data analysis techniques used are average scores and percentages. The types of data obtained are qualitative and quantitative data. Qualitative data are obtained from the classification of the validation sheet and student response questionnaire. While quantitative data are obtained from the percentage score of the results of the validation sheet classification, response questionnaire, and test results. Validity and practicability analysis of the media is carried outbased on the formula reference from (Audhiha et al., 2022) as follows.

$$percentage = \frac{score\ obtained}{maximum\ score} \times 100\%$$

Meanwhile, for the analysis of media effectiveness, the final score of the students is first calculated based on the results of the student evaluation test by referring to the following formula. (Panjaitan et al., 2022).

$$final\ score = \frac{score\ obtained}{maximum\ score} \times 100$$

Futhermore, the percentage of classical Completion of students can use the formula

$$p = \frac{T}{n} \times 100\%$$

Information

P = classical completion percentage

T = the amounts students who have completed

N = the amount students who take the test

According to the provisions of the Ministry of Education and Culture in (Munjiati, 2021) that students are said to have completed their studies if they obtain a minimum score of 75 of the ideal score and are considered to have completed classically if they obtain a minimum of 85% from the number of students who have completed their studies. So based on these provisions, the media is declared effective if classically ≥ 85% of students achieve a final score of 75.

The validation criteria used to measure the level of validity of the Fractional *Lempeng* Media can be seen in Table 1.

Table1 Validation Criteria

Interval (%)	Criteria
$0 \leq p < 80$	Invalid
$80 \leq p \leq 100$	Valid

Source: adaptation from Yunianto, et al. (2019)

Information:
p = percentage

The criteria for the practicality of the Fractional *Lempeng* Media used to measure the level of practicality of the Fractional *Lempeng* Media can be seen in Table 2.

Table 2 Product Practicality Criteria

Interval (%)	Criteria
$0 \leq p < 50$	Not Practical
$50 \leq p < 70$	Less practical
$70 \leq p < 85$	Practical
$85 \leq p \leq 100$	Very Practical

Source: Adapted from Audhiha et al. (2022

p = percentage of student questionnaire responses

The conclusion regarding the classification of the practicality of the media was obtained based on the results of the student response questionnaire using the following Guttman scale.

The conclusion regarding the classification of the practicality of the media was obtained based on the results of the student response questionnaire using the following Guttman scale.

Table 3 Guttman Scale

Answer	Score
Yes No	1
	0

Source: Novianti & Susilowibowo (2019)

Based on the results of the data analysis techniques that have been presented, Fractional *Lempeng* Media is said to be feasible if it meets the minimum criteria of being valid, practical, and effective.

3 Results and Discussion

The results of the research and development are in the form of Fractional *Lempeng* Media. Fractional *Lempeng* Media can explain the concept of comparing, ordering, recognizing equivalent fractions, as well as addition and subtraction operations of fractions.

However, this study focuses more on IV Class material according to the learning achievements of the independent curriculum, namely the material on comparing and ordering fractions and recognizing equivalent fractions.

This learning media consists of pieces of fractions with a picture of a "*lempeng pisang*" in the shape of a circle which is a local food of South Kalimantan which functions as a numerator. The pieces of the *lempeng* are then glued using velcro glue onto a striped plate base the size of the pieces of the fraction that have been divided into fractions $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{6}, \frac{1}{8}$ and $\frac{1}{12}$ as a fraction denominator.

There are 18 disc bases available with each denominator having three-disc bases. Two blue disc bases serve as fraction operation questions, while one black disc base serves as the result.

As a place to operate fractions, this media provides a small board made of styrofoam. Inside it is provided clear mica to write questions using a marker so that there is no need to provide question cards and answer cards. While the large board functions as a place to put the bases of the plates and their *lempeng* pieces. This large board is then given a cover so that the media lasts a long time, while also being able to provide a sense of curiosity so that it can attract students' interest.

The tools and materials used in making this media consist of styrofoam, paper, paper glue, double tape, velcro adhesive, used cardboard, *kur* rope, photo paper and origami paper. The following is a picture of the Fractional *Lempeng* Media design that has gone through the revision stage.

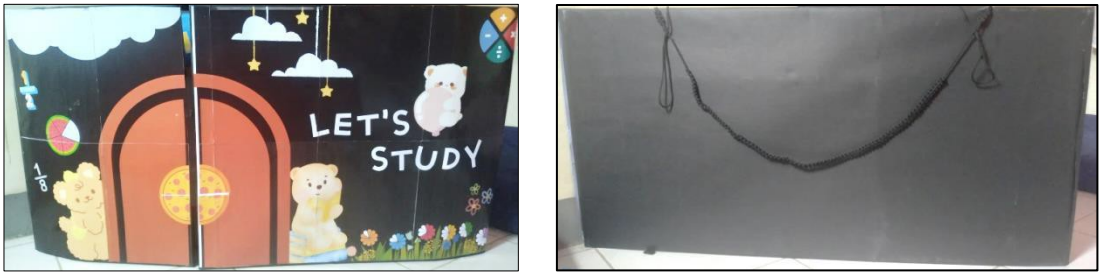


Figure 2: Front and back cover

The image above is the final design for the cover of Fractional *Lempeng* Media when viewed from the front and back. A rope made of *kur* rope is provided so that the media can be hung.

Figure 3: Fractional *Lempeng* Media Board

The image above is the final design for the Fractional *Lempeng* Media board after going through the revision stage.

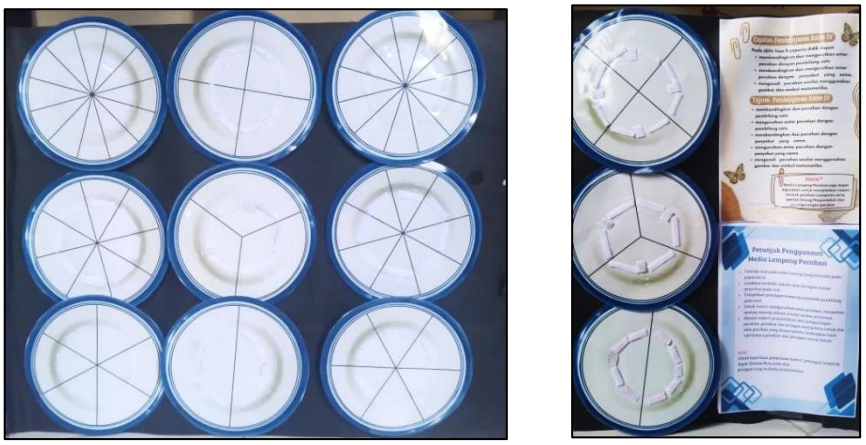


Figure 4: Place the disc base on the right and left

Figure 4 is the final design of the Fractional *Lempeng* Media base, its placement is on the right and left side of the cover. On the left side of the cover there are details on how to use the Fractional *Lempeng* Media as well as learning achievements and learning objectives for IV Class.

The results of the data analysis for the development of Fractional *Lempeng Media* are as follows.

Table 4 Media Validity Analysis

No.	Validators	Total Score	Maximum Score
1	Validator I	39	44
2	Validator II	41	44
3	Validator III	36	36
	Amount	116	124

From the table above, the validation score is calculated using the following formula.

$$percentage = \frac{score\ obtained}{maximum\ score} \times 100\%$$

$$percentage = \frac{116}{124} \times 100\% = 93{,}55\%$$

Based on the calculation results, with reference to Table 1, then it can be seen that the Fractional *Lempeng Media* meets valid criteria.

Table 5 Summary of Student Questionnaire Results

	Statement	Score
1	Fractional *Lempeng Media* can make me enthusiastic about learning mathematics	26
2	Fractional *Lempeng Media* makes it easier for me to understand fraction material	27
3	The image on the broken plate media is clearly visible	25
4	The size of the numbers on the Fractional *Lempeng Media* is clearly visible	26
5	Fractional *Lempeng Media* makes learning fun	27
6	Interesting Fractional *Lempeng Media* display	26
7	Fractional *Lempeng Media* is easy to use in learning mathematics on fraction material.	25
8	Fractional *Lempeng Media* stimulates my curiosity in learning mathematics	22
9	Fractional *Lempeng Media* makes me more active in learning mathematics	24
10	Fractional *Lempeng Media* made me interested in trying to use it in mathematics learning.	26
	Total Score Acquisition	254
	Maximum Score	270

From the table above, the percentage of media practicality score can be calculated as follows.

$$percentage = \frac{score\ obtained}{maximum\ score} \times 100\%$$

$$percentage = \frac{254}{270} \times 100\% = 94{,}07\%$$

From the calculations, based on the criteria in Table 2, the practicality of the Fractional *Lempeng* Media is categorized as very practical.

Table 6 Analysis of valuation Test Results

No.	Completion Statement	Amount	Percentage
1	Students who have completed	24	88.89%
2	Students who do not complete	3	11.11%

The table above is the result of the student evaluation test with a classical completion of 88.89%. Before learning using Fraction *Lempeng* Media, the classical completion of students was only 21.87%. This means that there was an increase of 67.02% in the classical completion of students. So according to the criteria for media effectiveness that have been determined, the Fractional *Lempeng* Media is declared effective.

Based on the results of data analysis, the developed media obtained valid criteria. very practical, and effective. So that the Fractional *Lempeng* Media is suitable for use in learning.

4 Conclusion

This research produces a product in the form of Fractional *Lempeng* Media for IV Class students. The developed product obtains valid criteria, is very practical and effective so that it is suitable for use in learning. This is proven based on the results of data analysis; the validity of the media obtained a percentage of 93.55% so that the media was declared valid. the results of the recapitulation of the student questionnaire obtained a percentage of 94.07% so that the media was declared practical. And based on the results of the student evaluation test, it showed that the classical completeness of students increased by 67.02% from before using which was only 21.87% to 88.89% after using the Fraction *Lempeng* Media.

Reference

Audhiha, M., dkk. (2022). Pengembangan Multimedia Interaktif Berbasis *Adobe Animate CC* pada Materi Bangun Ruang Sekolah Dasar/ Madrasah Ibtidaiyah. *Jurnal Basicedu*, *6*(1), 1086–1097.

Kurnia, T. D., dkk. (2019). Model ADDIE untuk Pengembangan Bahan Ajar Berbasis Kemampuan Pemecahan Masalah Berbantuan 3D. *Seminar Nasional Pendidikan Matematika*, *1*(1), 516–525.

Makki, M. I., & Aflahah. (2019). *Konsep Dasar Belajar dan Pembelajaran*. Pamakesan: Duta Media Publishing.

Mufidah, M., dkk. (2022). Pengembangan Media Kado Pecah pada Materi Pecahan Senilai di Sekolah Dasar. *Jurnal Basicedu*, *6*(5), 8018–8025. https://doi.org/10.31004/basicedu.v6i5.1766

Munjiati. (2021). Meningkatkan Hasil Belajar PPKn pada Materi Sistem dan Dinamika Demokrasi Pancasila melalui Model Pembelajaran *Kooperatif Tipe Quick on The Draw* Kelas XI MAN 1 Banda Aceh. *Jurnal Pendidikan dan Pengabdian*, *2*(2), 227–232.

Novianti, D. A., & Susilowibowo, J. (2019). Pengembangan Modul Berbasis Model *Problem Based Learning* (PBL) sebagai Pendukung Implementasi Kurikulum Merdeka. *Jurnal Pendidikan*, *3*(1), 1–9.

Panjaitan, R., Mujiwati, E. S., & Aka, K. A. (2022). Pengembangan Media Papan Pecahan untuk Materi Penjumlahan dan Pengurangan Pecahan Berpenyebut Sama Siswa Kelas III SDN Sambi 2. *Jurnal Penelitian Inovatif*, *2*(2), 389–396. https://doi.org/10.54082/jupin.83

Rahayu, Y. (2018). Pengembangan Alat Peraga Papan Pelangi pada Operasi Hitung Pecahan di Sekolah Dasar. *Jurnal Didaktika Pendidikan Dasar*, *2*(2), 2580–2586.

Wulandari, A., & Yuliandari, R. N. (2023). Pengembangan Media Pembelajaran Puzzle Lingkaran untuk Meningkatkan Pemahaman Konsep Pecahan pada Siswa Sekolah Dasar. *JEID: Journal of Educational Integration and Development*, *3*(1), 13–25. https://doi.org/10.55868/jeid.v3i1.158

Reinforcement of the Pancasila Learner Profile Character in South Kalimantan Elementary Schools

Dina Huriaty, Trina Listiyani, Wulida Makhtuna
Universitas PGRI Kalimantan, the Faculty of Social and Humanities
Mathematics Education Study Program, Elementary Teacher Education Study Program
Banjarmasin, Indonesia
dina_huriaty@upk.ac.id
wmakhtuna@upk.ac.id

Abstract. The strategy of forming a Pancasila Learner Profile is a way to shape or build students' character by the values of Pancasila. This study aimed to determine and describe the teacher's strategy in forming the Pancasila Learner Profile in class IV Elementary School in 2023. This research was qualitative descriptive research. The subjects of this study were two teachers and six grade IV students. Data collection techniques were carried out through interviews, observation, and documentation. Data analysis techniques were conducted by data reduction (data reduction), data presentation (data display), and data conclusion (verification). Data validity testing utilized source triangulation. The results showed that teachers used the strategy of forming the Pancasila Student Profile in the form of regulations and implementation of habituation. Regulations are carried out in the form of class clean-up duty, ceremonial activities, wearing *Sasirangan* uniforms and eating together on Thursday morning. Habituation was divided into two: routine habituation and spontaneous habituation. Routine habituation carried out in the form of collecting garbage every morning, reciting prayers before and after learning, performing Zuhur prayers, Friday Taqwa, performing Dhuha prayers, reciting Asmaul Husna, respecting parents, handshaking by blessing the teacher's hand, using recycled goods, doing community service, actively asking questions, and working in groups, whereas for spontaneous habituation that was carried out, including: Disposing of garbage properly, picking up garbage, behaving honestly, making friends with anyone, helping others, and contributing to social funds.
Keywords: Teacher Strategy; Character; Pancasila Learner Profile

1. Introduction

Character education is an essential foundation of the nation and needs to be instilled early in children, especially in this era of globalization. The decline of Pancasila education affects the character of students, especially students who are still in elementary school, because elementary school is the first place where character education is instilled, and when its application decreases, there are many problems related to character values caused by students. Character education in its application requires a specific strategy to be implemented properly. Nurzakiyah (2017: 56) argues that the teacher's strategy in shaping students' character is crucial. Teachers are also motivators, facilitators, models, role models, encouragers of learner creativity, mentors, directors, and educators to shape students' character, mind, and personality. Character is synonymous with morals, which are the values of human behaviour to relate to God, oneself, and fellow humans in the context of the school setting and cultural and traditional customs. Strengthening character education is carried out through habituation and exemplary behaviour by teachers to students. From this statement, teachers are essential in shaping students' character through habituation and exemplary behaviour.

The implementation and reinforcement of character education in elementary schools can be done through the Pancasila Student Profile program. The Pancasila Student Profile contains six profiles virtuous, independent, cooperative, taking part in global diversity, critical reasoning, and a creative attitude. The Pancasila Student Profile is a view of students who, in their daily lives, apply and practice the values of Pancasila. The role of the government is vital, so the government created a character-strengthening program with the Pancasila Student Profile with six-character applications to form a better

generation. "The Pancasila Student Profile will be said to be successful if it meets six criteria, namely: 1) Faithful, Religious and virtuous, 2) Independent, 3) Teamwork, 4) Embrace Global Diversity, 5) Critical Reasoning, 6) Creative" (Tululi, 2022). Based on the above background, the researcher is interested in conducting a study entitled Teacher's Strategy in Shaping the Profile of Pancasila Students in Class IV Elementary School.

2. Method

This research was conducted using a descriptive qualitative method. The purpose is to describe the teacher's strategy in forming the profile of Pancasila learners in class IV elementary school. The research was conducted from June to July 2023 in one of the State Elementary Schools in Marabahan, Kec. Marabahan, Barito Kuala Regency. Primary data sources were obtained through structured interviews with two fourth-grade teachers and six students. Passive participatory observation and documentation in the form of photographs during the research were used as secondary data sources.

The data collected was then analyzed in steps that included data reduction, data presentation, and verification or drawing conclusions. Data validity is proven by triangulating sources, consisting of interviews with two homeroom teachers and six students.

3. Result and Discussion

3.1. Result

The results obtained from data collection show that teachers use the strategy of regulations and habituation, which can be grouped into three school activities: regulations, routine habituation, and spontaneous habituation. Regulations are rules set by the school and applied by teachers in the classroom, which include the implementation of scheduled cleaning duty, participation in the flag ceremony on Monday, the use of Sasirangan uniforms on Thursday, and eating together on Thursday morning.

The routine habituation contains scheduled activities at certain times. This routine habituation includes activities such as collecting garbage in the morning with school members, shaking hands with teachers, reading prayers before and after the implementation of learning activities, reading Asmaul Husna before class starts, praying Zuhur, praying Dhuha, carrying out Islamic activities called *Jumat takwa* every Friday, give respect to elders, recycle waste goods, carry out community service, get students to be more active in asking questions and apply group work in assignments.

The third is spontaneous habituation, which consists of throwing garbage in bins, not hesitating to pick up trash nearby, practising honesty, being willing to make friends indiscriminately, not being slow when someone needs help, and donating for social reasons. The following is a table grouping the forms of activities based on the elements of the Pancasila student profile.

Table 1. Activity Forms and Elements of the Pancasila Student Profile

No.	Elements of the Pancasila Student Profile	Activities
1.	Faithful, Religious and virtuous.	1. Performing Zuhur prayer in the congregation 2. Performing Dhuha prayer 3. Jumat Takwa (Friday piety) 4. Reciting prayers before and after learning 5. Reciting Asmaul Husna 6. Shaking hands by blissing the teacher's hand 7. Respecting parents 8. Behaving honestly 9. Contributing to a social fund 10. Helping each other 11. Disposing of garbage properly 12. Collecting litter when seeing it
2.	Independent	1. Having Class clean-up duty 2. Having breakfast together on Thursday

3.	Mutual aid	1. Doing Community service 2. Picking up litter in the morning 3. Having Group work
4.	Possess a sense of Global Diversity.	1. Making friends with anyone 2. Wearing Sasirangan uniform 3. Participating in the flag ceremony 4. Having breakfast together on Thursday
5.	Thinking Critically	1. Actively making questions
6.	Creative	2. Recycling waste goods

Furthermore, the strategies applied to the six characters of the Pancasila Student Profile are shown in the following table.

Table 2. Strategy for Establishing Pancasila Learner Profile

No.	Elements of the Pancasila Student Profile	Activities	Strategy for Establishing Pancasila Learner Profile		
			Regulations	Routine Habituation	Spontaneous Habituation
1.	Faithful, Religious and virtuous.	1. Performing Zuhur prayer in the congregation		√	
		2. Performing Dhuha prayer		√	
		3. Jumat Takwa (Friday piety)		√	
		4. Reciting prayers before and after learning		√	
		5. Reciting Asmaul Husna		√	
		6. Shaking hands by blissing the teacher's hand		√	
		7. Respecting parents			√
		8. Behaving honestly			√
		9. Contributing to a social fund			√
		10. Helping each other			√
		11. Disposing of garbage properly			√
		12. Collecting litter when seeing it		√	
2.	Independent	1. Having Class clean-up duty	√		
		2. Having breakfast together on Thursday	√		
3.		1. Doing Community service		√	

	Bergotong-royong / Mutual aid	2. Picking up litter in the morning		√	
		3. Having Group work		√	
4.	Possess a sense of Global Diversity.	1. Making friends with anyone			√
		2. Wearing Sasirangan uniform	√		
		3. Participating in the flag ceremony	√		
		4. Having breakfast together on Thursday	√		
5.	Thinking Critically	1. Actively making questions		√	
6.	Creative	1. Recycling waste goods		√	

3.2. Discussion

Based on the results of the research above, the establishment of the Pancasila Student Profile is formed with two strategies, which are regulation and habituation. The habituation strategy is then divided into two parts: routine habituation and spontaneous habituation. Regulations in this context are school provisions governing activities that must and do not have to or may not be carried out. Meanwhile, habituation is an activity done repeatedly on purpose to become a habit that becomes part of everyday life. In other words, habituation is common and often done continuously, so it is expected to become a habit (Febria, Hilmiati 70-78: 2020). Habituation in this study refers to routine habituation and spontaneous habituation. Where routine habituation is a scheduled activity that forms the character and habits of students (Gularso & Fironi, 2015). The two strategies implemented in this elementary school are divided into each dimension of the Pancasila Student Profile, including:

3.2.1. Faithful, Religious and virtuous

Faithful, religious and virtuous are the central identity in the Pancasila Student Profile. For this reason, efforts to build student character are directed at religious activities such as establishing Dzuhur prayers in congregation, praying when starting and ending learning, performing Dhuha prayers, reciting Asmaul Husna every morning before class time, and Friday Taqwa. There are also efforts to build morality for students through activities such as helping hands, contributing to social funds, upholding honesty, and respecting parents. These activities aim to produce religious obedience and foster good manners and habits in students' daily lives.

3.2.2. Independent

The importance of independence for students can be seen in their ability to solve problems and not rely on others. The attitude of independence in elementary school students in this study is reflected in students' awareness of classroom cleanliness. This awareness causes them to complete classroom duty and remember their turn voluntarily. This independence is also reflected in eating breakfast together on Thursdays. In this activity, learners can eat quietly and immediately clean up their tableware when finished without needing immediate direction from the teacher.

3.2.3. Bergotong-royong / Mutual aid

Mutual aid is a form of togetherness in completing a job to make it easier. The students at the elementary school in this study were also taught gotong-royong. Togetherness in this cooperation can be seen in implementing community service, picking up trash every morning, completing tasks with group work, and finishing classroom duty. The above activities are the practice of Pancasila values that

have been rooted and accustomed to students' practice. The attitude of cooperation shown by students is by the Dimensions and Sub Elements of the Pancasila Student Profile, where Pancasila students must have the ability to work together, namely being able to do activities together and voluntarily so that the activities carried out can run smoothly, efficiently and lightly.

3.2.4. Possess a sense of Global Diversity.

Awareness of diversity, culture, ethnicity, language, race, social identity, and social class is a form of global diversity that we must have. This form of awareness of diversity is illustrated when students can respect each other among friends and each other. The awareness also creates an understanding that diversity is a cultural heritage that must always be respected. Elementary school students in this study highly appreciate preserving the nation's culture in this regard, practising mutual respect, and making friends without discriminating against each other. They also show a high attitude of love for the country when participating in the flag ceremony, which is scheduled on Monday morning, and wearing sasirangan uniforms on Thursdays, a form of cultural respect.

The above attitudes are based on the Pancasila Student Profile Development Study, which implies that students who uphold cultural values, mature in their identity, are able to represent the noble culture of their nation, have strong insight and understanding, and are open to various regional, national, and global cultures are Indonesian students with global diversity.

3.2.5. Thinking Critically

Critical reasoning means being able to understand and see things from various perspectives. This attitude is essential to be nurtured in the development of students. In the elementary school where this research was conducted, students are accustomed to actively asking questions in their learning process. The activity of asking questions fosters the ability to explore information effectively and deeply so that the knowledge gained becomes more comprehensive. Asking questions also makes students more courageous in expressing their opinions. In this case, the Pancasila Student Profile Study formulates that students with critical reasoning can objectively process qualitative and quantitative information, build links between various information, analyze information, evaluate and conclude.

3.2.6. Creative

The last dimension in the Pancasila Learner Profile is creative. Creative students are students who are able to produce ideas and original work. In this study, the creativity of fourth-grade elementary school students is shown in making puppet crafts made from used cardboard, which are then used as learning media in the classroom. Creative Attitudes in the Dimensions, Elements, and Sub-Elements of the Pancasila Learner Profile in the Merdeka Curriculum are the ability to modify and produce something original, meaningful, useful, and impactful.

4. Conclusion

Based on the research and data analysis presented above, it can be concluded that the Pancasila Student Profile Establishment Strategy at Elementary Schools in this study contains 2 (two). First, the rules include class cleanliness duties, ceremonial activities, wearing Sasirangan uniforms, and eating together on Thursday mornings. Second, habituation is in the form of routine and spontaneous habituation. Routine habituation itself takes the form of picking up litter every morning, reciting prayers before and after learning, performing zuhr prayers, Friday Taqwa, performing Dhuha prayers, reciting Asmaul Husna, respecting parents, shaking hands by blissing the teacher's hand, utilizing used goods, doing community service, actively asking questions, and performing group work. At the same time, spontaneous habituation takes the form of practising throwing garbage in the right place, picking up litter, behaving honestly, making friends with anyone, helping, and contributing to social funds.

5. Acknowledgements

This study can be completed with the cooperation of the University of PGRI Kalimantan and State Elementary Schools in the city of Marabahan, Kec. Marabahan, Barito Kuala Regency.

References

Amannabella, Maulina. (2019). *Pendidikan Karakter dalam Meningkatkan Perilaku Peserta Didik di Kelas IV MIN Bandar Lampung*. Tesis. tidak diterbitkan. Lampung : Fakultas Tarbiyah dan Keguruan Universitas Islam Negeri Raden Intan Lampung.

Anggraena, Yogi. dkk. (2020). *Kajian Pengembangan Profil Pelajar Pancasila*. Jakarta : Badan Standar, Kurikulum, dan Asesmen Pendidikan.

Budio, S. (2019). Strategi Manajemen Sekolah. *Jurnal Menat*, 2(2):58.

Direktorat Sekolah Dasar. (2023). *Kurikulum Merdeka*. Jakarta : Media Center Direktorat Sekolah Dasar.

Febria Saputra, Hilmiati. (2020). Penanaman Nilai-nilai Religius Melalui Pembiasaan Sholat Dhuha dan Sholat Dhuhur Berjamaah. *Jurnal PGMI*, no.1:70-78.

Gilang. (2021). *Pengertian Kurikulum dan Fungsinya dalam Dunia Pendidikan*. Gramedia Blogh, hlm 3.

Glarso, D., & Firoini, K. A. (2015). Pendidikan Karakter Melalui Program Pembiasaan di SD Islam Terpadu Insan Utama Bantul Yogyakarta. *Jurnal Pendidikan Ke-SD-An*.

Nurzakiyah. (2017). *Strategi pendidikan Karakter Peserta Didik di SMP Negeri 3 Mapilli Kec.Mapilli Lab. Polewali Mandar*. Tesis tidak diterbitkan. Makassar : Fakultas Tarbiyah dan Keguruan Universitas Islam Negeri Allaudin Makassar.

Satria, R. Dkk. (2022). *Projek Penguatan Profil Pelajar Pancasila*. Jakarta : Badan Standar, Kurikulum, dan Asesmen Pendidikan.

Sit, Masganti.(2012). *Perkembangan Peserta Didik*. Medan : Perdana Publishing.

Sugiyono. (2008). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.

Tululi, I. (2022). Profil Pelajar Pancasila (Online), (https://www.imrantululi.net/berita/detail/profil-pelajar-pancasila, diakses 17 Desember 2022) .

Yunita, Riza. (2022). *Analisis Faktor Penghambat Pembentukan Profil Pelajar Pancasila dalam proses pembelajaran PPKN pada siswa kelas VIII E di SMP Negri 1 Muaro Jambi*. Tesis tidak diterbitkan. Fakultas keguruan dan iilmu pendidikan universitas jambi.

Zubaedi. (2011). *Desain Pendidikan Karakter Konsepsi dan Aplikasinya dalam Lembaga Pendidikan*. Jakarta: Kencana.

The Problems in Speaking English Faced by The EFL Students in The Third Semester of UPK and How AI Can Help

Denisa Damayanti[1], Desi Hidayanti[2]
[1]SDN 2 Jaar, Barito Kuala
[2]University of PGRI Kalimantan, Faculty of Social and Humanities
English Language Education Study Program
[1]Kalimantan Tengah, Indonesia
[2]Banjarmasin, Indonesia,
desihidayanti@upk.ac.id

Abstract. This research focuses on English-speaking problems EFL students faced and the uses artificial intelligence (AI) to help with the problems. It aims to understand the problems in speaking English faced by EFL students in the third semester of the University of PGRI Kalimantan and describe the use of AI in learning to speak. This research uses a qualitative method. The researchers interview the students to collect the data. Based on the research findings, the result showed that students problems in speaking English faced by the third-semester students at the English Language Education Study Program of the University of PGRI Kalimantan due to two factors, namely linguistic and psychological factors. In linguistic problems, there are pronunciation of the word difficult (50%), difficulty in similar pronunciation (50%), difficulty in grammar (100%), lack of vocabulary (50%), and difficulty in memorizing the academic vocabulary (50%). Moreover, in psychological problems, the students felt fear of mistakes (85,71%), fear of mispronunciation (71.42%), shyness (78,57%), not remembering anything to say or nothing to say (100%), and felt not confidence (100%). In addition, additional factors make students have difficulty speaking English, which is their mother tongue. Researchers also found that numerous AI offer advantages can used to develop students' English skills. It can be concluded that linguistic and psychological factors make students speaking English skills become lacking. While EFL students in their third semester face notable challenges in speaking English primarily related to linguistic and psychology aspects, AI technologies provide innovative solutions that enhance learning experiences and improve speaking skills effectively.
Keywords: speaking skill, artificial intelligence, EFL

1. Introduction

Speaking is the most important skill of the four skills aside from, listening, reading, and writing (Ur, 1996:120). It means that speaking English is the most important element that must be mastered by a foreign language, especially English as a Foreign Language (EFL) students. Nunan (2003:50) said that speaking is very important in our lives because we cannot know what other people are saying until we speak, and speaking is the way we communicate with other people. It is thought that speaking ability is a significant part of English mastery. In line with this, Sayuri (2016:49) stated that speaking English is used to communicate, convey information, and make relationships among people in the world. It is one of the abilities to carry out a conversation, but unfortunately, many students are still unable to speak English. Speaking English is difficult because the speaker has to master several crucial aspects, including grammar, vocabulary, pronunciation, and fluency. By this requirement of using speaking elements in speaking, English foreign language students must master it however many students are still complicated in speaking English, especially EFL students at university.

Some researchers have looked into English Foreign Language (EFL) students' speaking problems. Heriansyah (2012:39) explained that many EFL students often have no idea about what to say, they are shy if make mistakes in speaking English and will be laughed at by friends. In addition, they do not use English since their vocabulary and pronunciation are poor. Furthermore, Sayuri (2016:54) researched English-speaking problems among the Mulawarman University EFL students. In his study, he discovered that EFL students who had difficulty speaking had low knowledge of elements

of speaking competence such as vocabulary, grammar, pronunciation, and fluency. Moreover, the students have their reasons including lack of motivation, lack of confidence, lack of practice, and shyness. Based on the two research above, the researchers want to find out whether this also happens at the English Language Education Study Program (ELESP) at the University of PGRI Kalimantan (UPK).

In line with this, based on preliminary interviews with some English Language Education Study Program (ELESP) students at the University of PGRI Kalimantan (UPK), the students have problems speaking English, such as they afraid to speak English, lack of vocabulary, nervousness and they afraid of the pronunciation they say is wrong. According to phenomena the above, the researchers are interested in researching students' problems in speaking English faced by the third-semester students of the English Language Education Study Program (ELESP) students at the University of PGRI Kalimantan (UPK).

Meanwhile, nowadays Artificial Intelligence (AI) booming and offer many technologies which can used as the tools to learning English, include speaking skill. The researchers were interested in researching students' problems in speaking English faced by the third-semester students of the English Language Education Study Program (ELESP) students at the University of PGRI Kalimantan (UPK) dan how Artificial Intelligence (AI) can help to solve the problems.

2. Method

Research Design

In this research, the researchers used a descriptive qualitative research design. The method used to find out: (1) the student's problem in speaking English and the factors that cause it at the 3rd semester students of ELESP at UPK, (2) Artificial Intelligence (AI) that can used to help the students' problems in speaking skill for the subject research. This research tries to get the students to share their thoughts on a topic without giving them much guidance or direction. This research used qualitative research because the researchers wanted to describe the students who have problems in learning speaking at the university level. Through qualitative research, the researchers focused on analysing the student's problems and the cause of the problems in speaking English for EFL students in the third semester of the University of PGRI Kalimantan.

Research Location

This research located at the University of PGRI Kalimantan: Jalan Sultan Adam Komplek Haji Iyus Blok.A No.18 RT.23 RW.02 Sungai Jingah Village, Banjarmasin Utara sub-distric, Banjarmasin City, South Borneo, Borneo Island, Indonesia.

Research Subject
Students Problems

The researchers chose the third semester at University of PGRI Kalimantan of ELESP as the subject research because the problem being investigated can be found in this semester. The third semester of English Education Study Program at the University of PGRI Kalimantan has 19 students in the class.

Artificial Intelligence (AI)

For the artificial Intelligence (AI) used to help the student's problems, the researchers using online literature: studies that relate with this research to explore the appropriate tools and technologies can be used to assist these students in improving their speaking skills.

Data Collection

In this research, the researcher used interviews as an instrument for collecting the data. The techniques of data were analysed by using an interactive model of data analysis consisting of three concurrent flows of activity: data reduction, data display, and drawing conclusion/verification (Miles and Huberman 2014:13). The data from the interview was transcribed and sorted into transcription interviews. After that, the data were displayed on narrative text, to conclude the mass of data. The last conclusion from the displayed data is based on objective research.

3. Result and Discussion

Speaking Problems

The results of this research are the data analysis gathered during the research process. It is collected based on the interview section. According to the interview with the third-semester students, most of the students have problems speaking English, especially in linguistic factors and psychological factors can be seen as follows:

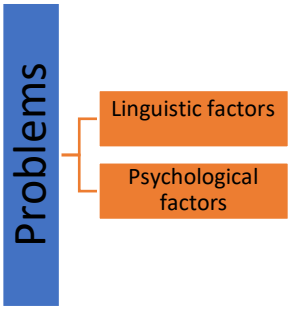


Figure 1. Problems faced by 3rd semester of ELESP at the UPK

Linguistic Factors

Some linguistic problems affect someone in speaking, such as poor pronunciation, poor grammar, and lack of vocabulary. The researcher described the problem and the cause of the problem can be seen in the figure below:

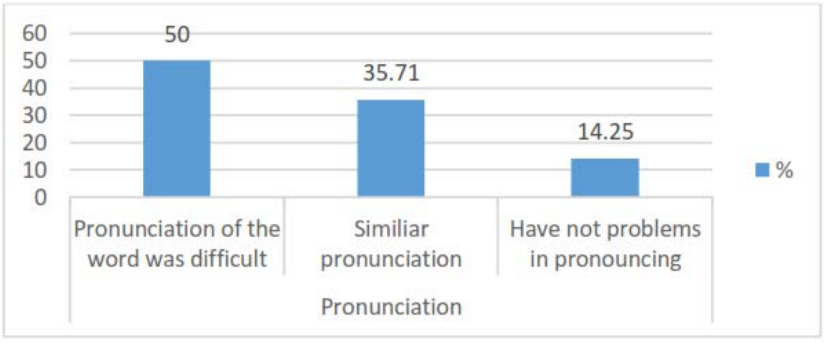


Figure 2. The Presentation of Pronunciation Factors

Based on the table above, point out that In Pronunciation Factors, half of student in the class through that pronounce the word was difficult. It was the biggest problem in pronunciation factor

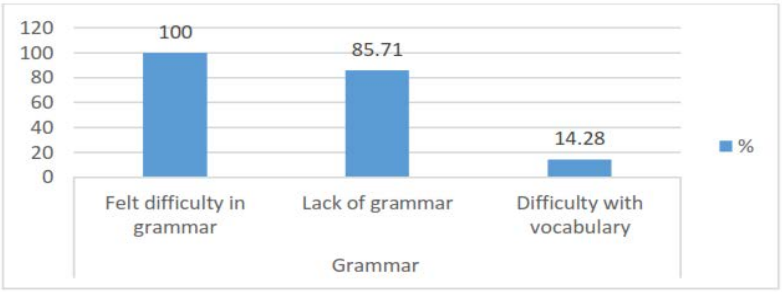


Figure 3. The Presentation of Grammar Factors

All the students of the class felt difficulty in grammar. Almost all students lack of grammar and les than 15 % students faced difficulty with vocabulary.

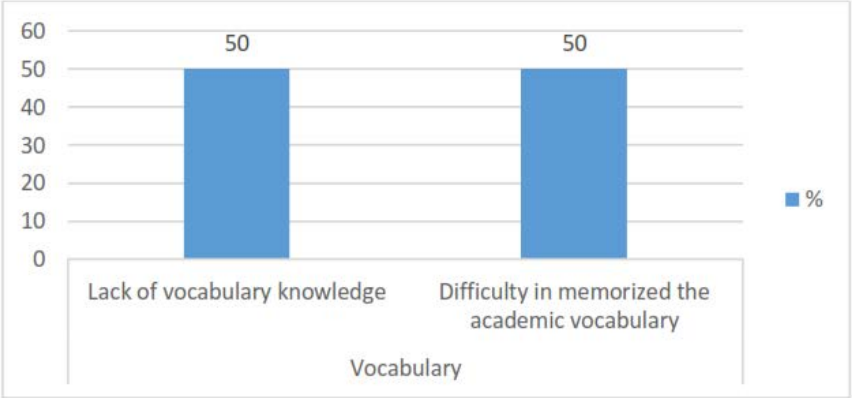


Figure 4. The Presentation of Vocabulary Factors

Students Psychological Factors

These psychological problems can harm student's speaking performance. The researcher can describe that the students' responses were varied can be seen in the figure below:

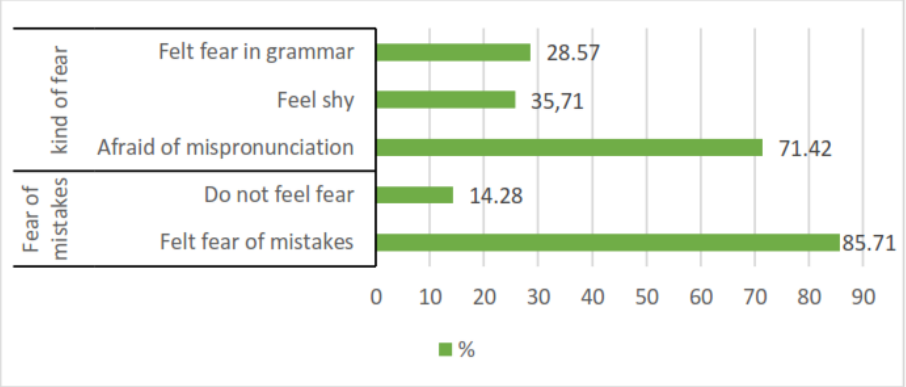


Figure 5 The Presentation of Fear of Mistakes Factors

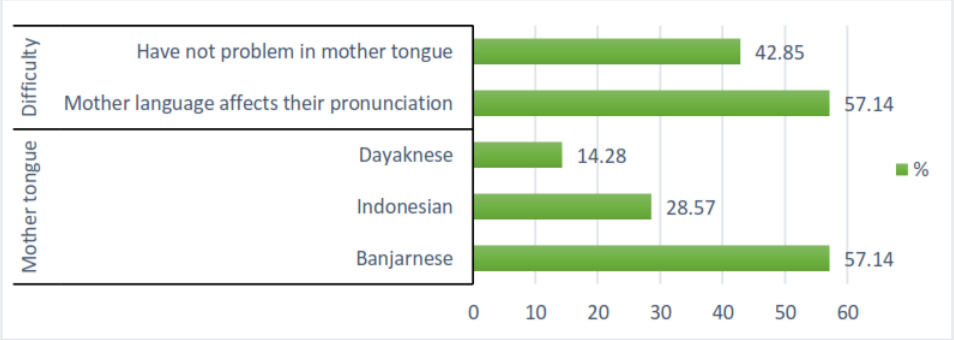


Figure 6. The Presentation of Shyness Factors

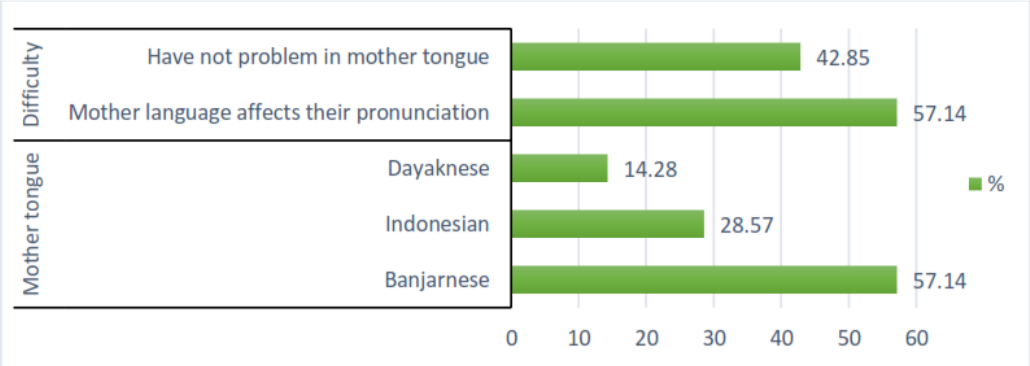


Figure 7. The Presentation of Mother Tongue Factors

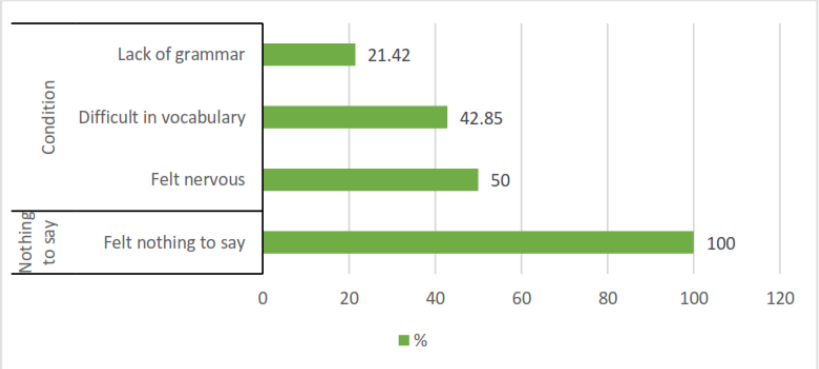


Figure 8. The Presentation of Nothing to Say Factors

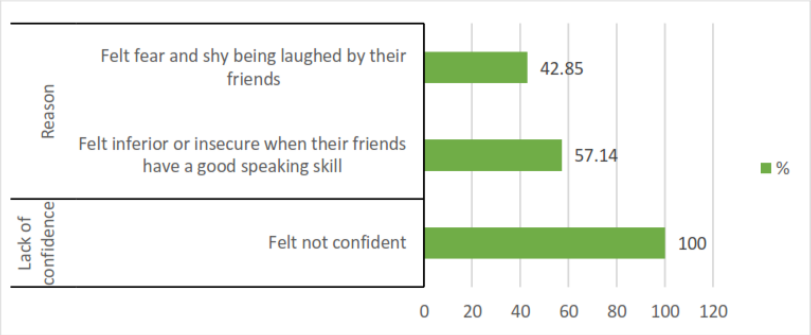


Figure 9. The Presentation of Lack of Confidence Factors

From the figures above, it can be concluded that the problems in speaking English faced by the third-semester students at the English Language Education Study Program (ELESP) of University of PGRI Kalimantan (UPK) divided in two main factors, namely: linguistic factors and psychological factors. In students' linguistic problems, most students have difficulties with pronunciation, grammar, and vocabulary. In students' psychological factors, the students have problems with fear of mistakes, nothing to say, lack of confidence, and shyness (lack of confidence. Linguistics problems are those problems that make students' speaking English skills become lacking.

The first problem faced by the third-semester students in linguistic factors is the pronunciation aspect. From the data of findings from the third semester, 50% of the students said that their pronunciation of the word was mistakes. It caused by in English language the pronunciation and writing form was different for example the word written *worry* read as /wʌri/ and word *biscuit* read as /ˈbɪskɪt/. It supported by Christina (2018:57) explained that English pronunciation is not simple, not only talking

about how to pronounce words, but students need to know that pronunciation of English is difficult because we know that pronouncing is different with some words, that is why the English language is complex.

The second problem is the grammar aspect, one hundred percent of them stated that they have difficulty in grammar when they speak English. The students stated that they have difficulty in compiling the structure of English sentences. The grammatical rules often confused the students so most of the students sometimes felt nervous and shy when they spoke English. There are many speaking books and advanced speaking courses emphasize that to enhance our speaking English quickly, we should stop thinking about grammar when speaking because grammar leads us to focus on English, rather than speaking (Sayuri, 2016:56). It means that grammar rules are extremely distracting for students learning to speak. On the other hand, grammar is important to make our utterances more accurate. If learners or students do not know the rules of grammar, they will never be able to communicate using English effectively. This statement is supported by Celce-Murcia (2001, as cited in Sushy, 2019:27), who stated that grammar is difficult because the students do not learn structure one at a time.

The last problem in linguistic factors is the vocabulary aspect, the researcher found that 50% of students have difficulty memorizing the academic vocabulary and 50% of them stated that they lack vocabulary knowledge. In speaking English, the students cannot communicate well without having enough vocabulary. This statement is supported by Sayuri (2014:245) said that with limited vocabulary, students cannot express their ideas properly. That is why vocabulary is one of the basics of language skills, Nation (2001, as cited in Ayu, (2022:51).

Furthermore, psychological problems are those problems, which often affect emotional or physical health. In psychological problems, there are most students have problems with fear of mistakes, nothing to say, lack of confidence, and shyness.

The first problem faced by the third-semester students in psychological factors is the fear of mistakes aspect, 85.71% of students mentioned that they felt fear of mistakes when they speaking English and 71.42% of them mentioned that they are afraid of mispronunciation. Fear of mistakes is the one common reason English learners when speaking English (Sayuri, 2016:58). This is much influenced by the student's afraid of mispronunciation and they are afraid of looking foolish in front of other people. Kurtus (2001, as cited in Sushy, 2019:26) also supports the result of this statement, which states that students are afraid of looking foolish in front of an audience or their classmates and receive negative evaluations if they make mistakes in speaking English.

The second problem is nothing to say aspect. 100% of them stated that the students felt speechless or had nothing to say when they speaking English. The students stated that they felt nervous, and had difficulty in vocabulary and grammar when they spoke English. One of the problems that the students felt nervous about was talking in front of other students, they suffered from fear of making mistakes in front of their lecturer and friends. Therefore, the students cannot remember anything to say and they do not have any motivation to express themselves. This is supported by Ur (1996:121) mentions that the students often complain that they cannot think of anything to say which means they are confused about what are they going to say this statement is also in line with research conducted by Sayuri (2016:54) that the students also cannot say anything when they speaking English.

The third problem in psychological factors is the lack of confidence aspect, the students mentioned that they have problems in confidence aspect. 100% of them stated that they felt inferior and shy when they spoke English. Many students feel that they do not speak English better than others, this is much influenced by the students fear of being laughed at by others. It is difficult for them to master English speaking if they are not confident in their speaking ability. This statement is supported by He and Chen (2010, as cited in Juhana, 2019:102) stated that the low ability to speak English is the main factor of students' low confidence. Therefore, self-confidence is one of the most influential factors affecting learning English (Ninuk & Maria, 2017:64). In line with this research, research conducted by Heriansyah (2012:38) also stated the students of the English Department of Syiah Kuala University have problems in self-confident.

The last problem faced by the third-semester students in psychological factors is shyness. The researcher found that 78.57% of them felt afraid of making mistakes when they spoke English and they were shy if they mispronounced words, which is why they felt afraid to speak English. According to Sushy (2019:26), shyness is an emotional feeling that many students experience when they are required to speak in English class. This indicates that shyness could be a source of problems in student's activities especially in speaking English. In addition, the students were not confident and tended to be shy because most of them felt intimidated when speaking English in front of their friends or teachers. This statement is supported by Baldwin (2011, as cited in Sushy, 2019:26), who stated that feeling shyness makes students speechless or that they will forget what to say and this research also is in line with research conducted by Sayuri (2016:59**)** that the students also experienced feel shy to others when they speak English.

Besides the main problems faced by students above, there are also additional factors that make students have difficulty in speaking English, namely their mother tongue. From the data of findings, 57.14% of the students assumed their mother tongue affects their pronunciation when they speak English. The issues can researchers seen when they pronounce the word *boy* which is pronounced /bɔi:/ will be pronounced /bui:/. Vocal *o* substitutes by sound *u*. It is influenced because they are familiar with their mother tongue especially *Banjar* language, so it is easier for them to sound *u* rather than *o*.

Furthermore, the researcher realizes that the results that have been collected still have many shortcomings, both in language style and in data collection. Therefore, the next researchers are suggested to add data collection techniques for collecting the data to explore more students' problems in speaking English.

AI for Pronunciation Problem

According to Aryani and Santosa (2024) states that applications like ELSA Speak utilize AI-driven features such as Automatic Speech Recognition (ASR) to provide real-time feedback on pronunciation accuracy. These tools can detect pronunciation errors with high accuracy (up to 90%) and offer corrective suggestions, enabling students to practice and improve their speaking skills independently.

Interactive Practise

AI *chatbots* and *virtual assistants* can create interactive speaking environments where students can practice conversational skills without the pressure of a classroom setting. These platforms allow learners to engage in dialogues, receive instant feedback, and build confidence in their speaking abilities.

AI for Grammar and Vocabulary Problems

AI applications can adapt to individual learning styles and needs, providing tailored exercises that focus on specific areas where a student may struggle, such as grammar or vocabulary expansion. This personalized approach enhances engagement and motivation among learners.

AI for Confidence Issues

The use of AI in language learning can significantly reduce anxiety associated with speaking English. By allowing students to practice in a non-judgmental environment, these tools help alleviate fears about making mistakes in front of peers, fostering a more relaxed learning atmosphere and booster confidence the students.

AI Tools

1. ELSA Speak
   ELSA Speak significantly enhances students' pronunciation skills by providing immediate corrections and suggestions for improvement.
2. Talkpal.ai

It provides real-time feedback on pronunciation, grammar, and vocabulary usage, allowing students to practice in various contexts, from casual conversations to professional scenarios.

3. Lyra Virtual Assistant
   It allows students to engage in spontaneous speech and provides comprehensive feedback on their performance.
4. Orai
   It has been recognized for its ability to boost confidence and effectiveness in public speaking scenarios.
5. GetPronounce
   It is specifically designed to help learners perfect their pronunciation.
6. ChatGPT with Voice Integration
   With this AI, students can engage in spoken dialogues, receive immediate feedback on their language use, and practice various scenarios relevant to everyday communication.

4. Conclusion

Based on the research findings and discussion, it can be concluded that the third-semester students at the English Language Education Study Program of STKIP PGRI faced some problems in speaking English, especially with linguistic factors and psychological factors. In linguistic factors, most of the students had difficulties in grammar, pronunciation, and vocabulary. The main problem faced by most students in linguistic factors is grammar. The students found it difficult to manage grammar when they spoke English, it caused students to feel nervous when they spoke English. Besides that, they had difficulty pronouncing the word because pronunciation and writing were different, the students also stated that they were poor in vocabulary knowledge, especially academic vocabulary.

Meanwhile, in psychological factors, there are most students have problems with nothing to say, lack of confidence, fear of mistakes, and shyness. The students stated that they cannot say anything when they speak English. The students also felt a lack of confidence because they felt inferior when their friends had good speaking skills in English. Furthermore, most students felt fear of making mistakes and shyness when speaking English because they fear and worry about being laughed at by others. Regarding this, there are also additional factors that make students have difficulty speaking English, namely their mother tongue.

While EFL students in their third semester face notable challenges in speaking English primarily related to grammar, pronunciation, vocabulary, etc., AI technologies provide innovative solutions that enhance learning experiences and improve speaking skills effectively

References

Abrar, M, et al. (2018). “If our English isn’t a language, what is it?” Indonesian EFL Student Teachers’ Challenges Speaking English. T*he Qualitative Report*, 23 (1), 129-145. https://doi.org/10.46743/2160-3715/2018.3013

Alizadeth, I. (2016). Vocabulary Teaching Techniques: A Review of Common Practise, International Journal of Research in English Education. 1 (1), 22- 30.

Brown, H. D. (2001). *Teaching by Principle and Interactive Approach to Language Pedagogy*. New York: Longman Inc.

Burns, A., & Joyce, H. (1997). *Focus on speaking*. Sydney, Australia: National Centre for English Language Teaching and Research

Heriansyah, H. (2012). Speaking Problems Faced by the English Department Students of Syiah Kuala University. *Lingua Didaktika*, 6 (1), 37–44.

Khan. 2005. Language in India. Available at: www.languageinindia.com. Viewed on: 15th November 2014.

Krismanti, N., & Siregar, M.M. (2017). Students' psychological problems in speaking: a case study on speaking II class of STKIP PGRI Banjarmasin. *Lentera: Jurnal ilmiah kependidikan 12 (2).*

Larsen-Freeman, D. (2009). Teaching and Testing Grammar. In Long, M.H. & Catherine, J. Doughty (ed.), *The Handbook of Language Teaching (pp. 518-542).* Malde, MA: Wiley Blackwell.

Tajniyah, L. (2021). Students' Problems in Speaking English at Smp Daruttaqwa Gresik. Sunan Ampel State Islamic University.

Miles, M. B. (2014). Qualitative Data Analysis: A Methods Sourcebook. America: SAGE Publication.

Mukminin, A., Ali, R. M., & Ashari, M. J. (2015). Voices from within: Student teachers' experiences in English academic writing socialization at one Indonesian teacher training program. *The Qualitative Report*, 20(9), 1394- 1407. Retrieved from http://nsuworks.nova.edu/tqr/vol20/iss9/2

Patanduk, Sushy Teko. 2019. Speaking English Problems Faced by the Fourth Semester Students of English Education Study Program UKI Toraja. *Christian University of Indonesia Toraja, Indonesia*. *Vol 7 (2), 26-27.*

Richard, J.C. Renandya, W. A. (2002). Methodology in Language Teaching. New York: Cambridge University Press.

Rullu M. Daburan H. (2020). Speaking Problems of EFL Students At English Education Study Program In Muhammadiyah Luwuk University. *BABASAL English Education Journal*. *Vol 1 (1), 11-13*.

Riyani, & Sari. (2019). Penggunaan Podcast Untuk Memperbaiki Pengucapan (Pronunciation) Mahasiswa Dalam Berbicara Bahasa Inggris. *Universitas Slamet Riyadi Surakarta*. *Vol 4 (1), 2*.

Sayuri. (2016). Problems in Speaking Faced by EFL Students of Mulawarman University. *Indonesian Journal of EFL and Linguistics, Vol 1 (1), 47–61*.

Sugiyono. (2015). Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif dan R&D) Bandung: CV Alfabeta.

Thornbury, S. (2005). How to Teach Speaking. England: Person Education Limited.

Tasmia. (2019). Students' Problems in Speaking English at Eight Grade of Riyadhul Amien Islamic Boarding Junior High School Muaro Jambi. *State Islamic University of Sulthan Thaha Saifuddin Jambi*.

Ur, P. (1996). *A Course in Language Teaching Practice: and Theory*. Cambridge: Cambridge University Press.

Zhang, F. (2009). A Study of Pronunciation Problems of English Learners in China. *Asian Social Science*. *5(6): 141-146.*, *5 (6)*, 141–1.

Culturally Responsive AI in Education: Merging Local Wisdom with Technological Innovation

Hasnawati
Universitas Islam Negeri Antasari, Management of education Islam,
Islamic Education,
Banjarmasin, Indonesia
https://www.uin-antasari.ac.id/

Abstract. This study aims to explore the challenges and opportunities involved in merging AI technology with traditional knowledge systems, emphasizing the significance of cultural context in educational content. The research employs a literature review methodology to examine existing studies and theoretical frameworks related to AI in education, local wisdom, and their intersection. Findings suggest that while AI technologies face challenges in accurately representing complex cultural values and practices, they offer unique opportunities to preserve and promote indigenous languages, knowledge, and values. AI can also facilitate personalized learning experiences that reflect students' cultural identities, enhancing engagement and learning outcomes. However, careful design and collaboration with cultural experts are crucial to avoid cultural misrepresentation and bias in AI algorithms. The study concludes that integrating local wisdom into AI curricula can create a more inclusive, culturally sensitive educational system that honours both technological innovation and cultural diversity.

Keywords: Local wisdom, AI-driven education, cultural relevance, personalized learning, indigenous knowledge, educational technology.

1. Introduction

In the modern educational landscape, technological advancements, particularly in Artificial Intelligence (AI), have brought transformative opportunities for educators and students alike. The ability of AI to personalize learning experiences, predict student needs, and facilitate innovative teaching methods has positioned it as a critical tool in the educational sector. However, as education systems around the world strive to incorporate AI, there is a growing recognition of the need to maintain cultural relevance within AI-enhanced curricula. This approach prioritizes the integration of local wisdom—values, practices, and knowledge systems rooted in cultural heritage—into AI-driven educational frameworks. By blending local wisdom with AI, educational curricula can become more holistic, promoting not only academic knowledge but also cultural identity and ethical values.

Local wisdom encompasses the traditions, practices, and ethical codes that communities have preserved and passed down through generations. These cultural elements provide a valuable source of guidance on sustainable living, community relations, and individual well-being. In regions with rich cultural histories, such as Southeast Asia, indigenous knowledge systems are not only integral to people's identities but also reflect important philosophical perspectives on life, nature, and society. Despite these contributions, local wisdom is often marginalized in modern educational systems that prioritize Western-centric knowledge and methodologies. Integrating this wisdom into AI-enhanced curricula offers an opportunity to bridge this gap, creating a more inclusive and culturally responsive education.

Incorporating local wisdom into AI-enhanced educational frameworks presents unique challenges but also numerous benefits. One of the challenges is the difficulty in translating traditional knowledge into digital formats that can be interpreted by AI algorithms. Additionally, AI systems trained on global data may not always align with the values and cultural norms of specific communities. Yet, these challenges highlight the importance of designing AI tools that are adaptable and capable of recognizing cultural context. For instance, in incorporating local narratives, stories, and problem-

solving approaches, educators can use AI to analyse how students respond to culturally relevant content, thereby creating a feedback loop that refines the curriculum to better meet students' needs. Moreover, incorporating local wisdom into education with the aid of AI can support the preservation of indigenous languages and dialects, allowing students to engage with learning materials in their native languages, which fosters a stronger connection to their heritage.

The benefits of integrating local wisdom into AI-enhanced curricula are profound. First, it can foster a sense of identity and belonging among students, as they see their cultural background reflected in the curriculum. This representation promotes self-esteem and empowers students to draw from their heritage as a source of pride. Second, local wisdom imparts values such as cooperation, respect for nature, and responsibility—principles that AI-driven educational content can reinforce through interactive lessons and simulations. As students interact with AI-powered educational platforms that incorporate these values, they can learn practical skills for navigating their cultural environment in an increasingly digital world. Finally, integrating local wisdom into AI curricula can help counter the homogenizing effects of globalization, offering an educational experience that values diversity and local identity.

The integration of local wisdom into AI-enhanced educational curricula is a vital approach for promoting cultural inclusivity in education. By addressing both the cognitive and cultural needs of students, this model offers a balanced way of imparting knowledge that respects and preserves local heritage. As educational institutions adopt AI-based learning tools, they have an opportunity to create curricula that celebrate cultural diversity, support identity formation, and instil values relevant to students' lives. This integration not only enhances the relevance of education but also strengthens the role of schools as custodians of cultural knowledge in the digital age.

2. Method

This study employs a literature review method to analyse the integration of local wisdom into AI-enhanced educational curricula. By gathering and examining existing scholarly articles, books, and research papers, this approach provides a comprehensive understanding of both the theoretical foundations and practical applications of local wisdom in education. The literature review focuses on identifying best practices, challenges, and successful case studies where local wisdom has been effectively embedded within AI-driven educational frameworks. Key themes include the cultural relevance of curriculum content, AI's role in personalizing learning experiences, and the preservation of indigenous knowledge systems. Sources are selected based on their relevance, credibility, and contribution to the topic, ensuring a well-rounded perspective on integrating local knowledge into modern educational technologies. Additionally, the review addresses how AI can be adapted to respect cultural diversity, supporting educational inclusivity while avoiding homogenization. By synthesizing diverse insights from previous research, this method highlights gaps in current approaches and proposes pathways for future study. The literature review not only contextualizes the importance of local wisdom in contemporary education but also underscores the ethical considerations of applying AI in culturally sensitive ways, thus providing a foundational framework for further research in this area.

3. Result and Discussion

The Role of Local Wisdom in Enhancing Cultural Relevance in AI-Driven Education

Integrating local wisdom into AI-driven education plays a crucial role in making learning experiences culturally relevant and personally meaningful for students. Local wisdom, which encompasses values, beliefs, traditions, and practices that communities have passed down through generations, reflects the unique identities, ethical principles, and worldviews of those communities. In education, incorporating local wisdom within AI-enhanced curricula allows students to see their own culture, language, and traditions represented, fostering a deeper sense of identity and self-worth (Qorbani, 2020). When students encounter culturally relevant content, their engagement and enthusiasm for learning increase because they relate more personally to material that resonates with their heritage

and daily lives. Research has shown that integrating cultural elements into educational content enhances students' motivation and helps them achieve a stronger connection to the material, which, in turn, improves their learning outcomes (Chao, et al, 2019). This approach to education aligns with the principle that students are not merely passive receivers of generalized knowledge; rather, they are active participants whose unique cultural backgrounds enrich their learning experiences.

The use of AI technology in education amplifies this potential, as AI can adapt and personalize learning pathways to include culturally relevant materials. For example, AI algorithms can analyse students' learning preferences and backgrounds to recommend content that reflects the values and practices of their cultural heritage. Such personalization fosters a more inclusive environment, allowing students to experience learning that honours their identity and history (Zhang & Jing, 2022). Moreover, this approach helps prevent the erasure of traditional knowledge, as students continue to engage with their heritage within a modern educational setting. This balance between innovation and tradition is vital, as it promotes cultural diversity rather than homogenizing knowledge across different communities. In addition, culturally relevant AI-driven education helps students develop an appreciation for diverse perspectives, which is essential in an increasingly interconnected world (Wongwatkit et al, 2023).

A curriculum that integrates local wisdom also strengthens moral and ethical development. Local wisdom often emphasizes community values such as respect, empathy, and responsibility. By embedding these values into AI-driven education, schools can foster a well-rounded understanding of social and ethical norms among students, helping them apply these values in practical, real-life situations. For example, lessons that reflect local environmental practices encourage students to respect and protect their natural surroundings. This approach is particularly relevant as environmental challenges become more prominent globally, requiring the next generation to prioritize sustainable practices (Salvia et al, 2019). By seeing these values reinforced through AI-enabled content, students can recognize the relevance of their cultural knowledge in addressing contemporary issues, further motivating them to take pride in their heritage.

Integrating local wisdom into AI-enhanced curricula not only benefits individual students but also has broader societal impacts. When educational systems prioritize cultural relevance, they contribute to preserving indigenous and local knowledge systems that might otherwise be marginalized or lost. This preservation becomes especially significant as traditional languages and customs face the threat of erosion in the face of globalization. AI technologies, when thoughtfully applied, can serve as tools to document and promote these languages, ensuring that students engage with their learning material in ways that reflect their cultural context (Nanduri, 2024). Furthermore, local wisdom in education can serve as a bridge between generations, allowing younger learners to connect with the traditions and experiences of their elders, thus fostering intergenerational respect and continuity.

Integrating local wisdom into AI-driven education offers a transformative approach to modern learning by making it more inclusive, culturally relevant, and impactful. By leveraging AI technology, educational systems can provide a personalized experience that respects cultural diversity, fosters identity formation, and preserves traditional knowledge systems. This integration of local wisdom also encourages students to value their heritage and apply their cultural knowledge to address contemporary global challenges. In doing so, AI-enhanced education can serve as a powerful tool for sustaining cultural identity and promoting ethical, responsible, and community-cantered values (Nanduri, 2024).

Challenges and Opportunities in Merging AI and Local Wisdom

The integration of local wisdom into AI-enhanced educational curricula presents significant challenges but also opens up numerous opportunities for advancing culturally inclusive and technology-driven learning. One of the most prominent challenges lies in the translation of complex cultural values and traditional practices into formats that AI systems can process and interpret. AI algorithms typically require large, standardized datasets to function effectively, yet these datasets often fail to encapsulate the intricate nuances of regional or indigenous knowledge systems. Local wisdom, which is deeply rooted in specific cultural, historical, and geographical contexts, does not always conform to the rigid structures that AI systems typically rely on. This disjunction can result in AI's inability to fully

comprehend or represent cultural practices, leading to potential misinterpretations or oversimplifications of traditional knowledge (Vallverdú, 2024).

Moreover, AI systems, if not designed with careful consideration, may inadvertently reinforce biases or perpetuate stereotypes. For instance, training AI algorithms on datasets that predominantly represent mainstream or Western cultural values may inadvertently marginalize non-Western knowledge systems, resulting in an education that is culturally unbalanced or irrelevant to students from diverse backgrounds (Varanasi, 2021). This challenge raises concerns about the potential for AI to perpetuate homogenized learning experiences that disregard the importance of cultural diversity in educational contexts.

However, these challenges also present opportunities for creating more adaptive, inclusive, and culturally sensitive AI technologies. To address the limitations of AI's ability to capture cultural context, researchers and educators are exploring ways to refine algorithms to accommodate the diversity of local wisdom. One potential solution involves involving cultural experts in the development of AI-driven educational tools. By incorporating knowledge from local communities and collaborating with anthropologists, linguists, and cultural scholars, AI algorithms can be fine-tuned to better represent regional and indigenous knowledge, ensuring that educational content is both relevant and accurate (Li et al, 2024).

Another opportunity presented by the merging of AI and local wisdom lies in the preservation and promotion of indigenous languages and knowledge systems. Indigenous languages, many of which are endangered, are often overlooked in the digital world, and traditional knowledge may be lost as younger generations shift to more globalized modes of learning. AI presents a unique opportunity to document, archive, and disseminate indigenous languages, stories, and practices. AI-driven platforms could facilitate the creation of interactive learning modules, language databases, and educational tools that allow students to engage with their cultural heritage in new, meaningful ways. For instance, AI tools could be designed to offer immersive experiences, such as language translation or cultural simulations, that help bridge the gap between modern education and traditional knowledge (Partarakis & Zabulis, 2024).

Furthermore, AI technologies can enable personalized learning experiences that cater to individual cultural backgrounds. AI-driven learning platforms are capable of analysing students' preferences, interests, and learning styles, allowing for customized educational content. When local wisdom is integrated into these platforms, students can engage with materials that reflect their cultural identity, providing a deeper connection to the content. This personalization also fosters a sense of belonging and pride in one's heritage, empowering students to draw from their traditional knowledge as they navigate an increasingly digital world.

In conclusion, while the integration of local wisdom into AI-enhanced educational curricula faces challenges such as cultural misrepresentation and algorithmic bias, it also presents opportunities to create more inclusive, adaptive, and culturally aware educational experiences. By refining AI algorithms to reflect local contexts, collaborating with cultural experts, and using AI to preserve indigenous knowledge, educators can develop platforms that balance technological innovation with respect for cultural heritage. Ultimately, such efforts could pave the way for an educational model that values both the advancements of technology and the rich diversity of global cultures.

4. **Conclusion**

In conclusion, integrating local wisdom into AI-driven education holds significant potential for enhancing cultural relevance, fostering identity, and preserving indigenous knowledge systems. While challenges such as the misinterpretation of cultural values and biases in AI algorithms exist, these obstacles also present opportunities for creating more inclusive, adaptive, and culturally sensitive educational technologies. By incorporating local knowledge and involving cultural experts in the development of AI tools, educators can ensure that AI systems represent diverse cultural contexts accurately. Additionally, AI offers a unique opportunity to preserve and promote indigenous languages and practices, which are often marginalized in the digital age. Through personalized learning experiences, AI can foster a deeper connection between students and their cultural heritage, enhancing both engagement and learning outcomes. Ultimately, the integration of local wisdom into AI curricula contributes to an educational model that celebrates cultural diversity, supports community values, and

prepares students to address contemporary global challenges, all while preserving their cultural identity and heritage.

5. Acknowledgements

The q Seminar on Education Technology and ART (ISETA) 2024 is acknowledged by the authors for providing the funding and materials required to finish this study. We also appreciate ISETA's sponsorship, which made a substantial contribution to the development of this work.

Our sincere gratitude is extended to our colleagues for their insightful and important contributions, which enhanced the caliber of this study. Our achievement was greatly aided by their assistance and input at different points throughout the study.

Reference

Chao, J., Jiang, T. W., Yeh, Y. H., Liu, C. H., & Lin, C. M. (2019). Integration of ARCS motivational model and IT to enhance students learning in the context of Atayal culture. *EURASIA Journal of Mathematics, Science and Technology Education*, *15*(11).

Li, Z., Pardos, Z. A., & Ren, C. (2024). Aligning Open Educational Resources To New Taxonomies: How AI Technologies Can Help And In Which Scenarios. *Computers & Education*, *21*(6).

Nanduri, D. K. (2024). *Exploring the Role of Generative Artificial Intelligence in Culturally Relevant Storytelling for Native Language Learning Among Children*. College Park.

Partarakis, N., & Zabulis, X. (2024). A Review Of Immersive Technologies, Knowledge Representation, And AI For Human-Centered Digital Experiences. *Electronics*, *13*(2), 269.

Qorbani, M. (2020). Humanity in the Age of AI: How to Thrive in a Post-Human World. *Bloomsberry*.

Salvia, A. L., Leal Filho, W., Brandli, L. L., & Griebeler, J. S. (2019). Assessing research trends related to Sustainable Development Goals: Local and global issues. *Journal of Cleaner Production*, *20*(8), 841–849.

Vallverdú, J. (2024). Causality for Artificial Intelligence: From a Philosophical Perspective. *Springer Nature*.

Varanasi, U. (2021). *Mapping the vocabulary of AI through pluriversal lens*.

Wongwatkit, C., Thongsibsong, N., Chomngern, T., & Thavorn, S. (2023). The Future of Connectivist Learning with the Potential of Emerging Technologies and AI in Thailand: Trends, Applications, and Challenges in Shaping Education. *Journal of Learning Sciences and Education*, *2*(1), 122–154.

Zhang, J., & Jing, Y. (2022). Application of artificial intelligence technology in cross-cultural communication of intangible cultural heritage. *Mathematical Problems in Engineering*.

The Implementation of the Pancasila Learner Profile Strengthening Project in Grade V of SDN Marabahan 3 in the Academic Year 2023/2024

Halimatus Sa'diah, Muhammad Royani, Sa'adah Erliani
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Banjarmasin, Indonesia
halimatus2104@gmail.com
hmroyani@gmail.com
saadaherliani@upk.ac.id

Abstract. This project to strengthen the Pancasila Student Profile is carried out by considering the dimensions of the Pancasila Student Profile, which serve as competency standards in the "Merdeka" curriculum. Marabahan 3 State Elementary School is one of the schools implementing the "Merdeka" curriculum and conducting project-based activities. However, some teachers still do not fully understand the project for strengthening the Pancasila Student Profile comprehensively. The purpose of this study is to examine the planning, implementation, and evaluation of the Pancasila Student Profile Strengthening Project at Marabahan 3 Elementary School. This study uses descriptive qualitative research methods, with data collection techniques in the form of interviews, observations, and documentation. The data analysis technique follows Miles and Huberman's model, which includes data reduction, data display, and conclusion drawing/verification. The results of this study indicate that the implementation of the Pancasila Student Profile Strengthening Project in grade V at Marabahan 3 Elementary School for the 2023/2024 academic year involves: (1) Project planning by forming a facilitator team, identifying the school's readiness level, determining themes, dimensions, and time allocation, developing project modules, and creating reporting strategies. (2) The execution of activities begins with preparation, including coordination with the principal, discussions with colleagues, socialization with parents and students, creating evaluation instruments, and preparing tools and materials. The implementation phase includes introducing traditional food topics, exploring information on traditional Banjar foods, discussing potential products with teachers and students, taking action to create a product, and reflecting on the process. (3) In the evaluation phase, teachers conduct direct observations using evaluation instruments to measure the achievement of the targeted Pancasila Student Profile dimensions: global diversity, collaboration, and creativity.
Keywords: implementation, Pancasila Student Profile Strengthening Project

1. Introduction

Essentially, education should equip students with a higher level of understanding of knowledge, behavior, and character. Education is, of course, implemented through a curriculum that is the spearhead of education. In 2019, there was a curriculum change to an Emergency Curriculum. This curriculum overhaul was caused by gaps in learning, skills, and personality, as well as differences in learning across regions.

The trial results of the emergency curriculum showed that 31.5% of schools wanted to use the emergency curriculum and learning loss became less significant (MendikbudRistik, 2022). This emergency curriculum was also adapted and improved, leading to the birth of the Independent Curriculum. The Ministry of Education, Culture, Research, and Technology (MendikbudRistik, 2022), Nadiem Makarim, launched the Independent Curriculum on February 11, 2022, online. This independent curriculum will subsequently be formally implemented at the elementary and secondary school levels in accordance with the Minister of Education, Culture, Sports, Science, and Technology Regulation Number 56.

The Merdeka Curriculum is a simpler and more flexible curriculum designed to support the recovery of learning loss due to the COVID-19 pandemic. The Merdeka Curriculum focuses on the development of students' character through the concept of the Pancasila Student Profile. The character

traits of the Pancasila Student Profile are derived from the objectives of Indonesia's national education.

Based on the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Decree Number 262/M/2022, the curriculum structure in primary and secondary education is divided into two main activities: intracurricular learning and the Pancasila Student Profile strengthening project. The intracurricular learning activities for each subject are aimed at achieving learning outcomes. Meanwhile, the Pancasila Student Profile strengthening project is designed to reinforce efforts in achieving the Pancasila Student Profile, which refers to the Graduation Competency Standards.

Intracurricular learning refers to regular and scheduled activities based on the subject content. On the other hand, the Pancasila Student Profile strengthening project is a cocurricular activity aimed at reinforcing and deepening the achievement of the Pancasila Student Profile, which is developed based on specific themes that have been established. This project is not aimed at achieving certain learning outcomes, as the Pancasila Student Profile strengthening project is not bound by the context of specific subjects.

The Pancasila Student Profile strengthening project is an activity that is organized and planned with objectives related to strengthening the character of the Pancasila Student Profile in Indonesian students. The Pancasila Student Profile represents the character and competencies that are developed and embodied in Indonesian students through the educational institution's culture, intracurricular learning, Pancasila Student Profile strengthening projects, and extracurricular activities. The character referred to here is the one that aligns with the values of Pancasila.

The Pancasila Student Profile strengthening project has become a flagship program within the Merdeka Curriculum. This project is introduced to foster the development and reinforcement of the Pancasila Student Profile character in students through project-based learning related to the values of Pancasila. The project was created when education practitioners and educators realized the importance of learning processes that are directly connected to students' daily lives. This reasoning aligns with the philosophy of Ki Hajar Dewantara, who emphasized the importance of learning beyond the classroom so that students not only acquire knowledge but also experience it firsthand.

Through this program aimed at strengthening the Pancasila Student Profile, students are encouraged to actively contribute to their environment and become capable, intelligent, and well-rounded learners who embody the Pancasila Student Profile. Based on this, the implementation of the Pancasila Student Profile strengthening project is considered essential to be applied in every educational unit.

Based on monitoring conducted by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) in the implementation of the School Movement Program (Sekolah Penggerak) and the Center of Excellence Vocational High Schools (SMKPK), nearly all schools have implemented the Pancasila Student Profile strengthening project. However, there are still some challenges in its execution. One such challenge is teachers attempting to link this project to the intracurricular subject content and facing difficulties in understanding the assessment for project-based learning. Similar findings have been identified in previous research by Yeni Fitriya and Adiyan Latif, where the Pancasila Student Profile strengthening project still faces misconceptions, particularly in its implementation in the learning process. One common misconception is the difficulty in distinguishing between project-based learning models and the Pancasila Student Profile project itself.

Elementary schools in the Marabahan area have already implemented the Merdeka Curriculum and are running the Pancasila Student Profile Strengthening Project. However, some of these schools are still facing challenges in fully optimizing the implementation of the project due to several factors. Based on observations at SDN Marabahan 3, the factors that contribute to the suboptimal implementation of the Pancasila Student Profile Strengthening Project include the class teachers not fully understanding the Merdeka Curriculum, especially the Pancasila Student Profile Strengthening Project. Teachers also face difficulties in selecting project themes and determining how to assess the project.

Based on this analysis, the researcher is interested in conducting a study titled "Implementation of the Pancasila Student Profile Strengthening Project in Grade 5 at SDN Marabahan 3 for the 2023/2024 Academic Year." This research is considered important because the Pancasila Student

Profile Strengthening Project is an innovative approach in the field of education. The study is necessary to provide a more detailed description of how the implementation of the project unfolds, from planning and execution to evaluation. It is hoped that this research will serve as a good practice example that can enhance understanding of the implementation of the Pancasila Student Profile Strengthening Project, both for the researcher and for other educational institutions. Additionally, this study is expected to be a useful reference for other schools in adopting similar projects.

The researcher chose SDN Marabahan 3 (Elementary School) as the research location based on the decision of the Head of the Education Standards, Curriculum, and Assessment Agency of the Ministry of Education, Culture, Research, and Technology, Decree Number 044/H/KR/2022, regarding educational units implementing the Merdeka Curriculum in the 2022/2023 academic year. SDN Marabahan 3 was designated as one of the schools implementing the Merdeka Curriculum under category 2, which is "independently changing."

Based on initial observations and interviews with the Acting Principal of SDN Marabahan 3, the implementation of the Pancasila Student Profile has been integrated into various activities at the school, including school culture, intracurricular, extracurricular, and cocurricular activities. An interview with the Grade 5 homeroom teacher regarding the implementation of the Pancasila Student Profile Strengthening Project in the odd semester of the 2023/2024 academic year revealed that the project has already been carried out, with the theme of the project being “Sustainable Lifestyle” throughout the semester. Activities are conducted every Saturday, and the theme is developed into several diverse activity topics.

2. Methods

The research method used in this study is a descriptive method with a qualitative approach. The purpose of this research is to describe the stages of planning, implementation, and evaluation of the Pancasila Student Profile Strengthening Project at an elementary school in Barito Kuala Regency.

1. Subjects and Research Location
   The subjects of this research are the school principal and the Grade 5 teacher at SDN Marabahan 3. This study is conducted at SDN Marabahan 3.
2. Data Sources
   The data used in this research are as follows:
   a) Primary Data: This data is obtained from the school principal and one teacher.
   b) Secondary Data: This data includes books, supporting documents, journals, or articles related to the implementation of the Pancasila Student Profile Strengthening Project.
3. Data Collection Procedures
   The data collection techniques used in this research are observation, interviews, and documentation.
   a) Observation
      In this research, the researcher directly observes the implementation of the Pancasila Student Profile Strengthening Project.
   b) Interviews
      In this study, the researcher conducts interviews with the sources to gather information about the implementation of the Pancasila Student Profile Strengthening Project through a set of pre-designed questions.
   c) Documentation
      In this research, the documentation used includes photographs and supporting documents as appendices. In addition, the researcher also collects data in the form of notes or records from the school related to the implementation of the Pancasila Student Profile Strengthening Project.
      1) Data Analysis Techniques
         Data analysis in this study is conducted using the Miles and Huberman model, which involves three steps in analyzing the data: Data Reduction**,** Data Display**,** and Conclusions Drawing/Verifying.

2) Data Validity Testing

The data validity testing in this study is conducted using the triangulation model. In this research, triangulation is applied through technique triangulation, where the researcher uses different data collection techniques to obtain data from the same sources. The techniques used in this study include observation, interviews, and documentation.

3. Results and Discussion

Results

1. Planning Stage

At SDN Marabahan 3, the planning of the P5 project for Grade 5 is carried out in a thorough and structured manner, involving the school principal, teachers, and students. The project design is tailored to meet the needs of the students and aligns with the dimensions of the Pancasila Student Profile: global diversity, mutual cooperation, and creativity. Each project includes objectives, implementation steps, evaluation, and follow-up plans. There are 5 stages in the planning of the Pancasila Student Profile Strengthening Project as follows:

a. Formation of the Facilitator Team
The P5 facilitator team has not yet been fully established at this school, as SDN Marabahan 3 is not yet a "Sekolah Penggerak" (Driving School). However, the class teacher and supporting teachers act as facilitators after participating in various training sessions related to the Merdeka Curriculum, including workshops, teacher working groups (KKG), professional development courses (diklat), and the Merdeka Mengajar platform.

b. Readiness of the Education Unit
SDN Marabahan 3 is at the developing stage in the implementation of the P5 project, as indicated by the teachers' basic understanding of project-based learning and community involvement. The school also receives full support from the school principal and relevant external parties to enrich the implementation of the project.

c. Selection of Dimensions, Themes, and Time Allocation
Two themes were established for the project-based learning throughout the year: sustainable lifestyle in the first semester and local wisdom in the second semester. The local wisdom theme includes projects related to traditional foods, such as "Hintalu Karuang." Time allocation for the project activities is scheduled every Saturday, separate from intracurricular and extracurricular activities.

d. Development of the Project Modul
The modules used have not been developed independently by the school but are adopted and modified from the modules available on the Merdeka Mengajar Platform to better suit the needs of Grade 5 students at SDN Marabahan 3.

e. Project Reporting Strategy
The results of the project are reported in the form of a special P5 report card, which is filled out based on observations during the project activities and delivered at the end of the academic year. This P5 report card is separate from the students' regular academic report cards and provides a comprehensive assessment of the students' involvement and development in relation to the Pancasila Student Profile aspects.

2. Implementation Stage

a. Preparation Stage
In this stage, various preparation activities were carried out to ensure the smooth running of the project, including:
1. Coordination with the School Principal: The teacher coordinated with the principal regarding the traditional food-making activity for "Hintalu Karuang." The principal was very supportive of this activity.
2. Discussion with Colleagues: Discussions were held to involve other teachers in the project. However, most colleagues were unable to participate due to certain reasons.

3. Socialization with Students' Parents and Students: The teacher conducted socialization efforts to gain support from the students' parents. Some parents were even willing to become resource persons for the activity. The students also showed high enthusiasm for the project.
4. Development of Evaluation Instruments: Evaluation instruments were created to monitor the implementation and achievement of the Pancasila Student Profile dimensions, specifically in the areas of global diversity, mutual cooperation, and creativity.
5. Preparation of Tools and Materials: Discussions between the teacher and students were held regarding the preparation of tools and materials for making "Hintalu Karuang." Tools were available at the school, while materials were brought by the students in groups.

b. Implementation Stage

The project implementation was scheduled every Saturday and carried out in four sessions:

1. First Session (April 20, 2024): The teacher opened the activity by introducing the topic of traditional Banjar foods. Students were given homework to interview relatives about traditional Banjar foods.
2. Second Session (April 27, 2024): Students presented the results of their interviews about various traditional Banjar foods. The teacher then asked the students to gather additional information about "Hintalu Karuang" and "Kakoleh."
3. Third Session (May 4, 2024): Students were divided into groups and chose "Hintalu Karuang" as the dish they would make for the project. The teacher guided the students to work collaboratively in their groups, which supported the development of collaboration and appreciation for diversity.
4. Fourth Session (May 11, 2024): Students, together with the resource persons, made "Hintalu Karuang." This process required cooperation and creativity, as the students worked together to form the dough and decorate the final product using pandan leaves. The activity concluded with a reflection, motivational talk, and joint cleanup of the tools and materials.

3. Evaluation Stage

In the evaluation stage of the Pancasila Student Profile Strengthening Project (P5), the evaluation was conducted using instruments consisting of a project implementation instrument and an achievement instrument for the Pancasila Student Profile. This evaluation involved observations during and after the project activities. Grade 5 teacher, Mrs. Tanty Sulastri, explained that the evaluation instruments included both observational assessments and rubrics for measuring the achievement of the Pancasila Student Profile, which were used as references for filling out the project report cards.

The monitoring instrument for the project's implementation, which was distributed via Google Form, showed positive results, with an average implementation score of 84.4%. Students appeared enthusiastic, and in some activities, all students were present and actively participated.

The evaluation results of the achievement of the Pancasila Student Profile across three dimensions—Global Diversity, Mutual Cooperation, and Creativity—indicated that the P5 program was successful in improving students' understanding in these areas. Below is a summary of the evaluation results by dimension:

a) Global Diversity Dimension: Students showed an achievement rate of 94%, with 32 students progressing and 2 students not yet progressing. Students demonstrated the ability to work together in groups without discrimination, respecting differences, and listening to their peers' opinions.
b) Mutual Cooperation Dimension: The achievement rate was 82%, with 28 students progressing and 6 students not yet progressing. Students displayed good collaboration within their groups, actively contributed ideas, and maintained communication.
c) Creativity Dimension: The achievement rate was 82%, with 28 students progressing and 6 students not yet progressing. Students showed creativity by trying new things in the project, such as ensuring consistency in the shapes of the traditional food.

Based on these evaluation results, it can be concluded that the P5 program was successful in strengthening the Pancasila Student Profile among the Grade 5 students. The students showed improvement in teamwork, respect for diversity, and creativity during the project activities.

Discussion

1. Project Planning Stage for Strengthening the Pancasila Student Profile

Based on interviews, observations, and documentation (SK Tim Fasilitator Nomor: 422/093/SD-07/2023), the planning stage of the Pancasila Student Profile Strengthening Project (P5) for Grade 5 at SDN Marabahan 3 in the 2023/2024 academic year showed that the school principal formed a facilitator team through a teacher's meeting, involving all teachers (classroom teachers, religious teachers, and physical education teachers). Each facilitator in their respective class was responsible for planning, implementing, and evaluating the project.

During the formation of the facilitator team, collaboration between classroom teachers, religious teachers, and supporting teachers was essential, as well as identifying student readiness. This is in line with the guidelines from the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), which states that the facilitator team plays a role in planning, implementing, and evaluating the project profile according to the needs of the school (Aditomo, 2022:23). The formation of the team also supports Khusnul Wardan's theory, which emphasizes the teacher's responsibility in the cognitive, affective, and psychomotor development of students (Wardan, 2019: 108).

The next stage is identifying the readiness level of the education unit. SDN Marabahan 3 is at the developing stage in implementing the P5 project, as the school already has a project-based learning system supported by teachers' understanding and involvement from external parties, in accordance with the project profile strengthening(Aditomo, 2022:27).

For planning dimensions, themes, and time allocation, the theme "Sustainable Lifestyle" was chosen for the first semester and "Local Wisdom" for the second semester. These different themes provide students with the opportunity to study various aspects. The project is conducted every Saturday, although adjustments are sometimes made. The local wisdom theme, focusing on traditional foods, aims to introduce local culture to the students. The selection of project modules from the government via the Merdeka Mengajar Platform (PMM) allows teachers to adjust the materials to meet students' needs (Aditomo, 2022: 42).

Furthermore, the project reporting stage is prepared. Teachers use rubrics to assess project implementation and the achievement of the Pancasila Student Profile, focusing on the dimensions of global diversity, mutual cooperation, and creativity. The project report card is given at the end of the semester.

2. Project Implementation Stage for Strengthening the Pancasila Student Profile

The project implementation took place after thorough planning, with coordination between teachers, the school principal, peer discussions, socialization with students' parents and students, as well as the preparation of evaluation instruments and materials. These stages are supported by Nadjib's theory on the importance of collaboration and communication skills (Nadjib, 2023.) and Wena's emphasis on instructions regarding material preparation for students (Wena, 109).

During the implementation, activities began with an introduction to traditional foods, discussions, group selections, making the traditional food "Hintalu Karuang," reflection, and evaluation. The activity flow followed the stages of "Discover," "Imagine," "Do," and "Share," in line with the guidelines for the Pancasila Student Profile Strengthening Project (Aditomo, 2022:71). Students had the opportunity to share their work with their teachers and peers, and received feedback.

3. Evaluation Stage for Strengthening the Pancasila Student Profile

The evaluation was conducted to measure students' achievements and the realization of the Pancasila Student Profile dimensions. Teachers used observations during the project and evaluation rubrics covering the dimensions of global diversity, mutual cooperation, and creativity. According to the Ministry of Education's guidelines, variations in assessment instruments are recommended (Aditomo, 2022:101).

However, the evaluation at SDN Marabahan 3 used a "yes/no" format, which differs from the Ministry's recommendation of using a "developing" phase. Despite this discrepancy, the project was still successful in instilling Pancasila values in students, as reflected in their attitudes toward respecting differences and their increased creativity.

4. Conclusion

Based on the research findings, the following conclusions can be drawn:

1. Planning: The school formed a facilitator team consisting of the classroom teachers, religious teachers, and supporting teachers. SDN Marabahan 3 is at the "developing" readiness level. The project themes include sustainable lifestyle (odd semester) and local wisdom (even semester), with a weekly time allocation (Saturday). The project module includes objectives, tools, steps, and assessments.
2. Implementation: The implementation began with preparations through coordination, discussions, socialization, and the preparation of tools and materials. The activities included introducing traditional foods, gathering information, discussions, practical work in making "Hintalu Karuang," and reflections.
3. Evaluation: The evaluation was conducted through observations and monitoring instruments. The evaluation results show positive development in students, with achievement in the dimensions of global diversity (94%), mutual cooperation (82%), and creativity (82%).

5. Suggestions

Based on the research findings, the following suggestions are proposed:

a. To the School: Enhance educators' competencies related to the Merdeka Curriculum and aim to become a driving school that can set an example for other schools. Encourage closer collaboration between teachers and parents to increase parental participation in education.
b. To the Teachers: Continue to develop a deeper understanding of the Merdeka Curriculum. When preparing evaluation instruments for projects, it is advisable to include a comprehensive developmental phase of students, rather than relying solely on a yes/no approach, to provide more in-depth feedback.
c. To the Students: It is encouraged that students continue to develop their creativity and improve cooperation in projects, making these activities more meaningful and enjoyable.
d. To Other Researchers: This research can be further expanded by focusing on evaluation instruments or the challenges teachers face in implementing the Pancasila Student Profile Strengthening Project.

References

Aditomo A. 2021. *Kajian Akademik: Kurikulum untuk Pemulihan Pembelajaran*. Jakarta: Pusat Kurikulum dan Pembelajaran Badan Standar, Kurikulum, dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Aditomo A. (2022). *Panduan Pengembangan Projek Penguatan Profil Pelajar*. Pusat Kurikulum dan Pembelajaran Badan Standar, Kurikulum dan Asesmen Pendidikan Kementrian Pendidikan, Kebudayaan, Riset dan Teknologi.

Direktorat Sekolah Dasar. (2022). *Luncurkan Kurikulum Merdeka, Mendikbudristek: Ini Lebih Fleksibel*. https://ditpsd.kemdikbud.go.id/artikel/detail/luncurkan- kurikulum-merdeka -mendikbudristek-ini-lebih-fleksibel#

Kahfi, A. (2022). Implementasi Profil Pelajar Pancasila dan Implikasinya Terhadap Karakter Peserta didik di Sekolah. Dirasa: Jurnal Pemikiran Dan Pendidikan Dasar Islam.

Khusnul Wardan. (2019). Guru Sebagai Profesi. Yogyakarta: CV. Budi Utama.

Made Wena. (2010). *Strategi Pembelajaran Inovatif Kontemporer*. Bumi Aksara.

Nadjib, M. F. (n.d.). *Kolaborasi antara Kepala Sekolah, Guru dan Tenaga Kependidikan adalah Kunci Keberhasilan*. Jatim.Nu.or.Id.

Nugraheni Rachmawati, Arita Marini, Maratun Nafiah & Iis Nurasiah, Projek Penguatan Profil Pelajar Pancasila dalam Implementasi Kurikulum Prototipe di Sekolah Penggerak Jenjang Sekolah Dasar, Jurnal Basicedu Vol. 6 No. 3 Tahun 2022

Sugiyono, Metodologi penelitian Kuantitaif, Kualitatif, dan R&D (Bandung: Alfabeta, 2018), 241. Yeni Fitriya, Ardiyan Latif. (2022). Miskonsepsi Guru Terhadap Implementasi Proyek Penguatan Profil Pelajar Pancasila. Prosiding Seminar Nasional Sultan Agung ke-4

Wardan, K. (2019). *Guru Sebagai Profesi*. CV. Budi Utama.

The Potential for Integrating Educational Values of Local Literature from Hulu Sungai Selatan into AI-Based Innovative Learning

Haswinda Harpriyanti[1]; Kamariah[2]; Noor Indah Wulandari[3]; Tri Winindyasari Palupi[4], Normalasarie[5]
Universitas PGRI Kalimantan
[1,3,4,5]Faculty of Social Humanities; [2]Faculty of Science and Technology
[1,3]Indonesian Language and Literature Education; [2]Information Technology Education;
[4]English Education; [5]Elementary School Teacher Education
Banjarmasin, Indonesia
haswindaharpriyanti@upk.ac.id;
kamariah@upk.ac.id;
Ndah_wulandari@upk.ac.id;
triwp@upk.ac.id;
normalasarie@upk.ac.id

Abstract. Local literature possesses educational values that are essential for character education among the younger generation, especially within the context of Indonesian culture. This study aims to examine the potential integration of educational values from the local literature of Hulu Sungai Selatan, specifically the legends of Batu Laki and Batu Bini, as well as Hampang Datuo, into AI-based learning. Values such as filial piety, mutual cooperation, and social solidarity are identified as important components that can be strengthened through interactive and personalized AI technology applications. Several AI technologies applied in this research include Natural Language Processing (NLP) to create chatbots representing characters in the legends, Machine Learning (ML) for adaptive learning systems, Computer Vision for cultural artifact visualization, and Intelligent Tutoring Systems (ITS) to provide personalized guidance. The study results show that AI can enhance student engagement and comprehension of moral values in local literature by providing a more engaging, adaptive, and relevant learning experience. The implications of this study include opportunities for local cultural preservation through modern learning relevant to the digital generation, as well as improving the effectiveness of character education based on local wisdom.
Keywords: Local literature, artificial intelligence, educational values, character education, chatbot, adaptive learning, cultural visualization, AI-based education

1. Introduction

Local wisdom is a cultural element that reflects the identity and noble values of a community. In the context of local literature, this wisdom is often conveyed through folklore, legends, and oral traditions that are rich in philosophical and moral meaning (Harpriyanti, H., & Wulandari, 2024); (Nurgiyantoro, 2019). Hulu Sungai Selatan Regency in South Kalimantan holds a diverse legacy of oral literature, including the legends of Batu Laki and Batu Bini, the legend of Hampang Datuo, and other folk tales. This local literature is not merely a collection of stories; it also contains educational values that can serve as sources of moral learning, such as respect for parents, mutual cooperation, and love for nature (Arifin, 2018).

Previous studies have shown that these legends are still alive in the community of Hulu Sungai Selatan and play a vital role in preserving the local cultural identity (Rochyadi, 2020). For example, the legend of Batu Laki and Batu Bini teaches the importance of filial piety, while the legend of Hampang Datuo illustrates the significance of mutual cooperation in community life. These values not only shape the character of the local community but are also relevant for conveying to younger generations as part of character education (Hasan, R., & Sutrisno, 2022).

Despite its rich educational values, local literature in Hulu Sungai Selatan faces challenges in preservation, especially among younger generations who tend to be more interested in digital media and

interactive technology (Hermawan, 2021). Research by (Wijayanto (2023) suggests that current technological advancements open up new opportunities to introduce local literature to the younger generation through a more innovative approach. Artificial Intelligence (AI), for instance, can be utilized to create interactive learning media that bring folklore to life in an engaging and accessible way. Additionally, AI enables the development of adaptive applications that can tailor learning materials to students' needs and interests, making the learning process more effective and personalized (Siregar, 2021).

In the context of formal education, integrating local cultural values into the curriculum through innovative technology has the potential to support the achievement of national educational goals. The Indonesian National Education System Law No. 20 of 2003 states that national education aims to develop the potential of students to become individuals who are faithful, pious, and of noble character. The integration of local literature into AI-based learning can serve as a strategic step to instill these values among students effectively. As Astuti (2019) has noted, the values in local literature can be utilized to strengthen character education, especially when delivered through teaching methods aligned with technological advancements and the learning styles of today's generation.

This study aims to examine the potential of integrating the educational values of local literature from Hulu Sungai Selatan into AI-based learning. This approach is expected not only to enhance students' understanding of local culture but also to support the preservation of cultural heritage amid technological development. Furthermore, it is hoped to contribute to improving the quality of education through innovative and adaptive learning media. Thus, this study is expected to serve as a guide for educators and policymakers in developing local wisdom-based learning that meets the needs of the younger generation.

2. Method

This study employs a descriptive qualitative approach aimed at exploring the potential for integrating educational values from the local literature of Hulu Sungai Selatan into innovative AI-based learning. A qualitative approach was chosen because the research focuses on analyzing the content of local literature and developing an adaptive and interactive learning concept using technology (Creswell, 2013). The research methodology consists of several main stages: data collection, data analysis, and the development of an AI-based learning media concept.

Data collection was carried out through several techniques, namely documentation, in-depth interviews, and literature review. Documentation Study: The documentation technique was used to gather various forms of local literature from Hulu Sungai Selatan, such as legends, folklore, and myths that potentially contain educational values. Collected documents include written records, books, and other publications containing relevant local stories (Bogdan & Biklen, 2007). In this study, the legends of Batu Laki and Batu Bini, as well as Hampang Datuo, were the main focus, as they embody values such as filial piety and mutual cooperation, which are relevant in character education.

In-depth Interviews: In-depth interviews were conducted with several cultural figures, traditional leaders, and literary activists in Hulu Sungai Selatan Regency who have a deep understanding of these local stories. This technique aims to gain a deeper understanding of the meanings, values, and moral messages within each story. Interviews also focused on the relevance of these stories in the context of educating the younger generation (Patton, 2002). All interviews were recorded and transcribed for analysis purposes. Literature Review: A literature review was conducted to identify and understand previous studies that are relevant, particularly those discussing the use of technology in culture-based learning. Some of the referenced literature includes a study by (Harpriyanti & Kamariah, 2019) on the role of local literature in character education and an article by Wijayanto (2023) exploring the potential use of AI in cultural learning.

This review helps establish a theoretical foundation for developing AI-based learning media that incorporates the values of local literature.

The collected data were analyzed using a thematic analysis approach, where each story or legend was broken down to identify key themes containing educational values. Thematic Analysis: Each story or legend was analyzed to identify relevant themes, such as filial piety, mutual cooperation, environmental love, and other important values in character education (Braun & Clarke, 2006). This analysis also examines how these themes can be integrated into innovative learning processes. For example, the Batu Laki and Batu Bini legends, which emphasize filial piety, were identified as values that could be applied in AI-based learning, where AI could present the story in an interactive dialogue format that allows students to experience the narrative more deeply.

Data Triangulation: Data triangulation was conducted to ensure the validity of the findings. This technique involves comparing data from interviews, documentation, and literature to derive robust conclusions about the values within local literature (Denzin, 1978). The results of this analysis form the basis for developing an effective learning media concept.

Based on the data analysis results, the next step is to design an AI-based adaptive learning media concept that allows the interactive integration of local literature values. Design of Adaptive AI-Based Learning Media: The learning media concept designed involves the use of AI to create an adaptive learning application, which adjusts the material and delivery methods according to students' needs (Siregar, 2021). For instance, an AI-based chatbot can be developed to introduce characters from Hulu Sungai Selatan folklore, enabling students to interact directly and delve into the values within the stories. AI also allows real-time analysis of student responses to provide personalized and adaptive feedback.

3. Results and Discussion

This study focuses on the potential integration of educational values embedded in the local literature of Hulu Sungai Selatan into AI-based learning. The findings reveal that legends such as Batu Laki and Batu Bini, as well as Hampang Datuo, contain profound moral messages and cultural values highly relevant to character education. Moreover, this study demonstrates that AI technology can be effectively applied to convey these values through more interactive and adaptive learning methods.

1. Educational Values in the Local Literature of Hulu Sungai Selatan

Previous studies indicate that folklore and legends from Hulu Sungai Selatan hold important moral values for character education. These values can serve as a foundation for building strong personalities rooted in local culture. The primary findings from this study highlight two legends popular within the local community:

a. The Legend of Batu Laki and Batu Bini: This tale emphasizes the importance of filial piety. In this story, a disobedient child is ultimately cursed into stone by his mother. The moral message of this tale is relevant for instilling in students the importance of respecting parents and maintaining family bonds. Nurgiyantoro (2019) asserts that folklore that conveys moral values through storytelling can shape children's character more effectively, as it touches the emotional aspects of students. This makes the legend of Batu Laki and Batu Bini an ideal example for educating students about the value of filial piety and the negative consequences of disobedience.
b. The Legend of Hampang Datuo: This story teaches the importance of mutual cooperation and social solidarity. In the tale, villagers work together to protect the peace and safety of their village from external threats. The value of mutual cooperation in this story aligns closely with Indonesian culture, which emphasizes togetherness and helping one another. (Hasan & Sutrisno, 2022) explain that mutual cooperation is one of the fundamental pillars of Indonesian society that should be preserved and strengthened through culture-based education. This story can be used as a concrete example to teach students about the importance of cooperation in community life.

The following table summarizes the educational values found in these legends:

Table 1. Educational Values in the Legends of Hulu Sungai Selatan

Legend	Main Educational Value	Description
Batu Laki and Batu Bini	Filial piety and respect for parents	Depicts the negative consequences of disobedience, emphasizing the importance of respecting parents as a fundamental cultural value.
Hampang Datuo	Mutual cooperation and solidarity	Teaches the importance of working together to face threats, symbolizing unity within the community.

2. AI Technology Integration in Educational Value-Based Learning of Local Literature

AI technology opens up opportunities for local wisdom-based learning by providing a more modern, engaging, and interactive approach, particularly for younger generations. The moral and cultural values from the legends of Hulu Sungai Selatan, such as filial piety, mutual cooperation, and social solidarity, can be effectively conveyed through various AI applications. Below are relevant ways to integrate AI technology to bring the legends of Batu Laki and Batu Bini, as well as Hampang Datuo, to life in an educational context.

a. Natural Language Processing (NLP)

Natural Language Processing (NLP) is a technology that enables natural language processing, allowing machines to understand and respond to human language. In this context, NLP enables the creation of chatbots that can represent characters in the legends and interact with students.

Implementation for the Legend of Batu Laki and Batu Bini: A chatbot can be programmed to play the roles of the mother and child characters from the legend. In this dialogue, students can role-play as the child and directly experience a conversation that emphasizes respect for parents. For instance, students can ask questions to the chatbot (acting as the mother) about her views on the child's behavior, and the chatbot can respond with advice and moral messages. Through this type of dialogue, students directly experience the moral lesson about the importance of filial piety, deepening their understanding through meaningful interaction.

Implementation for the Legend of Hampang Datuo: Chatbots can be used to represent village characters who work together to protect their village from threats. Students can interact with the chatbot, which emphasizes the importance of cooperation, mutual assistance, and social solidarity. They can ask the chatbot characters about the challenges faced by the village or how villagers united to confront these threats. This interaction helps students understand that mutual cooperation is an essential social value displayed through direct engagement with the story.

According to Lee et al (2022), learning through interactive chatbots allows students to experience a more personal and emotional learning experience, helping them better understand and internalize the values within the stories.

b. Machine Learning (ML)

Machine Learning (ML) enables adaptive learning, where learning material is tailored to students' interests and comprehension levels. This technology can be used to create a learning system that presents different content based on student responses.

Implementation for the Legend of Batu Laki and Batu Bini: An ML system can be designed to detect student responses to the theme of filial piety. If a student shows a high interest in the value of respect, the system will expand content related to this story by adding reflective quizzes on respecting parents or deeper dialogue simulations. For instance, students showing a high interest in understanding the moral aspects of the story might receive additional scenarios that depict further consequences of disobedience.

Implementation for the Legend of Hampang Datuo: An adaptive learning system can detect student interest in the theme of mutual cooperation and adjust content to reinforce this value. If a student is intrigued by the concept of social solidarity, the system can present additional material, such as modern examples of mutual cooperation in society and how this value applies in real life.

(Santoso, 2022) state that AI-based adaptive systems can increase student engagement, as students feel the material is tailored to their personal interests.

This approach provides each student with a personalized learning experience, making their understanding of the moral values in the legends deeper and more relevant.

c. ComputerVision

Computer Vision enables the visualization of local cultural elements in an interactive digital format. This technology can be used to create a visual learning experience that enhances students' understanding of the stories.

Implementation for the Legend of Batu Laki and Batu Bini: Computer Vision technology can display images or 3D models of the stone believed to represent the disobedient child in the legend. Students can view and interact with the visualization of the stone associated with the story, helping them internalize the moral lesson about respect for parents. This stone visualization can also be integrated with the narrative of the child's transformation into stone as a consequence of disobedience, allowing students to feel the emotional impact deeply.

Implementation for the Legend of Hampang Datuo: The visualization of the cooperating village in the story can be shown in images, illustrations, or interactive models depicting the setting. Students can see symbols of mutual cooperation, such as villagers working together during village events or ceremonies. (Putra, 2018) note that the use of visuals in cultural learning helps students form an emotional attachment to the culture they study, as they can see and experience visual elements relevant to local culture.

d. Intelligent Tutoring Systems (ITS)

Intelligent Tutoring Systems (ITS) provide personalized guidance and feedback to students, helping them better understand complex material, such as cultural values.

Implementation for the Legend of Batu Laki and Batu Bini: ITS can provide additional guidance when students struggle to understand the moral messages in this legend. For instance, after students read the story or interact with the chatbot, the system can offer further reflection through quizzes or discussion questions on the importance of filial piety and provide additional explanations as needed. (Hidayat, S., & Susilo, 2020) state that ITS, which offers personalized feedback, helps students overcome confusion and ensures a deeper understanding of the material.

Implementation for the Legend of Hampang Datuo: ITS can be used to encourage further reflection on the importance of mutual cooperation. After interacting with the village visuals or chatbot characters, ITS can provide an interactive quiz that prompts students to reflect on the benefits of cooperation in daily life. If students answer correctly or provide relevant insights, ITS can offer additional guidance to enhance their understanding of solidarity. This creates a learning experience that reinforces their understanding through guidance and personalized feedback, orienting them toward strengthening their character in terms of mutual cooperation and solidarity.

The following table summarizes AI technology applications that can be implemented in educational value-based learning of local literature:

Table 2. AI Technology in Educational Value-Based Learning of Local Literature

AI Technology	Application in Local Wisdom-Based Learning	Benefits
Natural Language Processing (NLP)	Interactive chatbot as characters in the legends	Enhances student interaction with story characters, deepening their understanding of story values.
Machine Learning (ML)	Adaptive learning based on interests and comprehension level	Provides content tailored to students' needs and interests, increasing engagement and motivation.

AI Technology	Application in Local Wisdom-Based Learning	Benefits
Computer Vision	Visualization of local cultural artifacts	Offers a visual experience that enriches understanding of culture within the story context.
Intelligent Tutoring Systems (ITS)	Personalized feedback and guidance	Supports more personalized learning, helping students to gain a deeper understanding of the material.

3. Impact of AI-Based Learning on Student Character Education

By integrating AI technology into culture-based learning, students not only gain knowledge about cultural values but also experience a more personal and immersive learning environment. Some positive impacts of implementing AI-based learning include:

a. Increased Student Engagement: AI technology allows students to engage directly in a more interactive learning experience. The use of chatbots and interactive visualizations helps students understand moral and cultural values more deeply. According to (Sanchez, 2022), interactive AI-based learning approaches can increase student participation and motivation, as students feel more connected to the material presented.
b. Personalized Learning: Machine Learning enables personalized learning, where content is tailored to students' interests and needs. This customized learning approach motivates students and makes them feel valued, as the learning material aligns with their interests. Rahmawati & Aditya (2020) state that personalization in AI-based learning can significantly enhance student interest, especially in understanding cultural values that may feel relevant to their daily lives.
c. Strengthening Cultural Identity: Understanding local cultural values through an immersive approach not only helps students grasp moral concepts but also strengthens their own cultural identity. With AI-based learning focused on local wisdom, students can develop a stronger emotional attachment to their culture, which helps to reinforce their sense of belonging. Harpriyanti & Wulandari (2024) affirm that culture-based learning helps students to better understand and appreciate the cultural values around them.

4. Discussion

The use of AI in local wisdom-based learning offers opportunities to introduce traditional values in a way that is relevant to the digital generation. Nugroho (2021) state that AI technology can adapt cultural content into a modern and interactive format, making it more accessible for today's students. By utilizing this technology, stories such as Batu Laki and Batu Bini, as well as Hampang Datuo, can be delivered in an engaging manner, allowing students to grasp moral values without feeling bored.

However, it is important to ensure that AI technology does not replace the authentic cultural values embedded in these stories. As noted by Hidayat & Susilo (2020), implementing AI in cultural education must consider ethics and cultural sensitivity, so that AI serves as a tool that enriches the learning experience without diminishing the authentic values of the culture.

5. Conclusion

This study shows that local literature from Hulu Sungai Selatan, such as the legends of Batu Laki and Batu Bini and Hampang Datuo, holds great potential as a medium for character education by integrating educational values into AI-based learning. Values such as respect for parents, mutual cooperation, and social solidarity not only reflect the culture of the Banjar community but are also relevant to character education for students today. AI technology, through applications like Natural Language Processing (NLP), Machine Learning (ML), Computer Vision, and Intelligent Tutoring Systems (ITS), offers an interactive, adaptive, and personalized learning approach that can enhance students' engagement and understanding of the moral values within these folktales.

The use of AI technology in learning facilitates the delivery of local wisdom-based content that aligns with the learning preferences of the digital generation, who tend to be more attracted to interactive media and personalization. With chatbots that can represent story characters, visualization of cultural

artifacts, and intelligent tutoring systems, students can understand cultural values not only cognitively but also emotionally and experientially. This approach provides a more holistic perspective in character education and the preservation of local culture.

Implications

Based on the conclusions, several important implications can be drawn from this study:

1. Educational Implications: Integrating educational values from local literature into AI-based learning offers educational institutions an opportunity to strengthen culture-based character education. A curriculum that combines local wisdom with modern technology allows students to learn in a more contextual and relevant way. This can also serve as an innovative model of culture-based learning that not only educates but also preserves local culture. Therefore, schools and government agencies should consider implementing this learning model in primary and secondary education as part of the national character education program.
2. Technological Implications: When developing AI-based learning systems, it is crucial to incorporate cultural elements to ensure that the values contained in local literature are not lost in the digitalization process. Educational technology developers should collaborate with cultural experts and educators to ensure that AI applications, such as chatbots or adaptive learning systems, maintain local cultural context and ethics. Additionally, developing AI technology in cultural education requires ethical programming oriented toward preserving moral values, so the technology truly functions as a tool that enriches learning.
3. Implications for Cultural Preservation: AI-based learning with a focus on local wisdom also has important implications for cultural preservation. By providing engaging and relevant access for younger generations, AI helps ensure that folklore and cultural values are not forgotten amidst changing times. These AI-based programs can also be expanded into broader digital resources, such as a digital folklore library or an interactive cultural learning platform accessible to anyone, not just in school settings.
4. Implications for Further Research: This study opens up opportunities for further research on the development of AI-based learning media focused on local culture. Future studies could explore the effectiveness of various AI technologies in enhancing students' understanding of cultural values and the long-term impact on character formation. Additionally, studies are needed to assess how AI-based learning contributes to students' attitudes and behaviors in appreciating their culture, which could provide valuable insights for the development of technology and culture-based curricula.

Overall, this study demonstrates that integrating educational values from local literature into AI-based learning not only supports effective character education but also aids in cultural preservation in a relevant and innovative way. Thus, this approach can serve as an adaptive educational model that meets the needs of the times while preserving cultural heritage for future generations.

References

Arifin, M. (2018). *Legends and Local Wisdom in Hulu Sungai Selatan: A Study of Oral Literature*. Kencana.

Astuti, S. (2019). *Character Education Based on Local Wisdom*. Gadjah Mada University Press.

Bogdan, R., & Biklen, S. K. (2007). *Qualitative Research for Education: An Introduction to Theory and Methods*. Allyn & Bacon.

Braun, V., & Clarke, V. (2006). Using Thematic Analysis In Psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches (3rd ed.)*. Sage Publications Ltd.

Denzin, N. K. (1978). *The Research Act: A Theoretical Introduction to Sociological Methods*. McGraw-Hill.

Harpriyanti, H., & Wulandari, N. I. (2024). Mamanda as a Medium for Cultural Education (Ethnopedagogical Study). *Onoma Journal: Education, Language, and Literature*, *10*-(1), 43–58.

Harpriyanti, H., & Kamariah. (2019). Character Education in the Folklore of South Kalimantan (The Perspective of Literary Sosciology). *Socia Jurnal Ilmu-Ilmu Sosial*, *16*(1). https://journal.uny.ac.id/index.php/sosia/article/view/25553.

Hasan, R., & Sutrisno, A. (2022). The use of AI in Innovative Culture-Based Learning. *Journal of Educational Technology*, *20*(123–130).

Hermawan, B. (2021). Digital Learning for Generation Z. *Indonesian Journal of Educational Innovation*, *10*(1), 98–104.

Hidayat, S., & Susilo, A. (2020). Culture-Based Learning in Education. Journal of Character Education. *Journal of Character Education*, *12*(3), 187–201.

Lee, J., Choi, H., & Park, S. (2022). The Use of Chatbots in AI-Based Learning. *Journal of Educational Technology*, *14*(2), 102–120.

Nugroho, S., et al. (2021). AI Innovation in Traditional Arts. *Journal of Art and Technology*, *8*(1), 34–46.

Nurgiyantoro, B. (2019). *Literature and Character Education*. Angkasa.

Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods (3rd ed.)*. CA: Sage Publications.

Putra, A. W. (2018). Pamali as the Product of Ethnic Wisdom of the Indigenous People of Kampung Kita Ciamis. *Proceedings of the International Symposium on Social Sciences, Education, and Humanities (ISSEH 2018)*. https://www.atlantis-press.com/proceedings/isseh-18/55915147

Rahmawati, Y., & Aditya, D. (2020). AI-Based Adaptive Learning and Its Impact on Student Motivation. *Journal of Educational Technology*, *15*(2), 88–99.

Rochyadi, D. (2020). *Local Wisdom as a Source of Moral Education in Schools*. Airlangga University Press.

Sanchez, F., et al. (2022). Student Participation in AI Learning. *Journal of Education and Culture*, *10*(1), 55–70.

Santoso, R. (2022). Peran Teknologi dalam Mewujudkan Keadilan Sosial di Bidang Pendidikan. *Jurnal Pemberdayaan Masyarakat*, *9*(1), 54–67.

Siregar, A. (2021). Adaptive Potential of AI in Character Education. *Journal of Technology and Digital Learning*, *11*(2), 101–112.

Wijayanto, M. (2023). The Potential of AI in Culture-Based Literature Learning. *Journal of Educational Science*, *12*(1), 88–96.

Language Politeness in Hanan Attaki's Religious Lecture

Husnul Khatimah[1], Alimuddin A. Djawad[2], Akhmad Humaidi[3]
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Indonesian Language and Literature Education [123]
Banjarmasin, Indonesia
3062011003@mhw.upk,ac.id[1]
Aldin331966@gmail.com[2]
humaidi@upk.ac.id[3]

Abstract. The politeness of a preacher's language is important to study as the majority of Indonesians are Muslim, and preachers significantly influence societal behavior.. One of the preachers who has a big influence in Indonesia, especially young people, is Ustaz Hanan Attaki. This study aims to (1) describe the forms of politeness, (2) identify the factors leading to violations of politeness, and (3) explore the politeness strategies employed in Ustaz Hanan Attaki's religious lectures. This study is a qualitative descriptive study with data sources taken from three videos of Ustaz Hanan Attaki's religious lectures. The data collection techniques used are listening techniques, note-taking techniques, and data transcription techniques. The data analysis involved collecting videos, categorizing video data, sorting texts, synthesizing data, and drawing conclusions. The results of the study found that: (1) the form of politeness in Ustaz Hanan Ataki's language includes a scale of formality, a scale of indecisiveness, and a scale of peerism; (2) factors of violations of politeness in language include: direct criticism, accusing the interlocutor, and cornering the interlocutor; and (3) the language politeness strategies used are the main problem, method, and reason.
Keywords: language politeness, religious lectures, Hanan Attaki

1. Introduction

Islam is the predominant religion in Indonesia Islamic teachings are delivered by preachers or da'i through assemblies that are held regularly. They have a great influence in society because the reference of society to study their religion is mostly taken from these lectures. They are also role models and examples for society because as religious figures they always convey moral advice in living life in their lectures. Preachers deliver their lectures directly and disseminate them through videos shared across various social media platforms.

One of the preachers who has a great influence in Indonesia, especially young people, is Ustaz Hanan Attaki. His full name is Tengku Hanan Attaki, Lc. He is a preacher who delivers lectures with topics that are close to everyday problems and the style of young people. Additionally, Ustaz Hanan Attaki commands a significant following on social media. On Tik Tok, his personal account has 245.4 thousand followers. He delivered his lectures casually and often used informal language so that young people preferred to listen and more easily understood the material presented. This great influence should be accompanied by exemplary behavior in communicating, especially in terms of politeness. Islam highly prioritizes politeness in speaking and teaches not to mock or belittle others (Apriliasari, 2023). Society often regards preachers as role models, making their demonstrated politeness an important area of observation. Politeness in language is a regulation in conversation that regulates speakers and interlocutors to pay attention to politeness in language (Insani, 2023). Politeness in language is a rule of behavior that is established and agreed upon by a particular society so that politeness is also a prerequisite agreed upon by social behavior. In social life, politeness is also called etiquette that must be learned in order to socialize well and respect each other.

1 Language Politeness in Religious Lectures

1.1 Forms of Politeness

Politeness of language plays an important role in communication because language reflects a

person's personality (Afkarina, 2022). Politeness is very important when interacting with others so that good relationships are always maintained (Aji, 2020). Based on data obtained from Ustaz Hanan Attaki's lecture video on Youtube, the form of politeness of language can be observed from; (1) formality scale; (2) indecisiveness scale; and (3) friendliness scale (Hafizoh; Kamalia; Yunus, 2023). The discussion is as follows.

1.1.1 Formality Scale

On the formality scale, a speaker is said to be polite if he does not speak in a loud tone. The speaker should not be arrogant or force the interlocutor (Ilham, 2022). In addition, the speaker should not speak arrogantly or elevate his social status when communicating. he speaker should regard themselves as having equal status with the interlocutor and avoid forcing their views upon them. The interlocutor should not be forced when carrying out the speaker's orders or words. Data findings on the formality scale can be observed in the video entitled "Cinta Karena Allah atau Cinta Karena Nafsu" with the following quote.

> Apa ibadahnya nikah? Apa nikah itu setengah dari agama?

Ustaz Hanan Attaki delivered this statement when discussing about parents who prevent their children who have good intentions from getting married. Ustaz Hanan Attaki asked questions to the congregation who still prevent their children who want to get married. The question tries to direct the way other people think about marriage and religion in a doubtful or questioning way. The sentence does not directly blame the parents who forbid their children from getting married. The speaker instead invites the interlocutor to reflect on the question asked so that the decision taken is not based on coercion, but the result of their own decision.

1.1.2 Indecisiveness Scale

The speaker acts as if he is not serious about the interlocutor by giving several choices. The speaker gives choices and does not appear too firm and rigid to the interlocutor. A speech is considered polite if the speaker offers multiple options, whereas it is deemed impolite if no choices are provided. A speaker who forces the interlocutor to carry out the given order without any other choice is considered to violate this politeness. The scale of indecisiveness can be observed in the following excerpt from the speech in the video entitled "Cinta Karena Allah atau Cinta Karena Nafsu".

> Jadi kalau ada rasa yang buat kita nggak khusyuk dalam salat pasti bukan cinta, kalau ada rasa yang bikin kita jadi sakit hati pasti bukan cinta, kalau ada rasa yang kemudian bikin kita malah melakukan perbuatan-perbuatan yang Allah nggak suka pasti bukan cinta, itu disebut dengan yang ada di dalam hawa nafsu manusia.

In the quote, Ustaz Hanan Attaki explains that love is a gift from heaven and love is a gift from God. Ustaz Hanan Attaki provides various possibilities that make someone's feelings restless. The speaker does not directly say that the cause is lust. The speaker provides other possibilities first before leading to the statement.

1.1.3 Scale of Peerage

Speech is deemed polite when equality is maintained between the speaker and their interlocutor. The speaker must consider the speech partner as a friend or companion so that the speaker can consider the speech partner to be equal to him. Speech is considered impolite if the speaker considers himself to have a higher degree than the speech partner. The application of the peer scale can be observed in the quote in the video entitled "Keep Happy, Selalu Tenang, dan Tidak Panik" as follows.

> Jalan sama seorang teman saya yang dia bukan Ustaz sama sekali bahkan dia ngakunya belajar ke saya, enggak tau benar apa enggak. Yang sejati mungkin saya yang belajar ke dia.

Ustaz Hanan Attaki said that he was the one who learned knowledge from his friend, even though he was a Ustaz who had studied a lot of religious knowledge, while his friend did not take the same

education. However, the speaker considered that his knowledge was still very lacking, so he studied with his friend. This statement shows that the speaker considered himself equal to his friend.

2.2 Factors Causing Violations of Politeness

According to (Fatma, 2023), language violations are violations of language rules by speakers when communicating using impolite language, such as speaking in a high tone, using harsh, demeaning, or arrogant words. The factors causing violations of politeness found in this study are as follows.

2.2.1 Direct Criticism

Direct criticism of the interlocutor may render the speech impolite. This speech can be seen in the video entitled “Cinta Karena Allah atau Cinta Karena Nafsu” with the following statement.

> Ya Allah tolong jangan kabulkan doa orang di sebelah karena mudaratnya lebih lebih banyak. Saya enggak rela banget dia yang berkuasa karena bahaya banget.

The speaker tells his experience in the raudah with a candidate for official while performing the Umrah pilgrimage. For Muslims, this place is one of the holy places where prayers will be answered. Ustaz Hanan Attaki believes that the candidate for official is praying that he will be elected. He looks very solemn to the point of crying. The speaker who saw this actually prays that the candidate for official will not be elected because he knows that the candidate for official has done more bad things than good. This statement is a direct criticism because it attacks the character of another person sharply. Another statement that shows this can be seen in the video entitled "Allah, Apa Mau-Mu" with the following quote.

> Teman-teman kenapa sih curiga banget sama Allah, kalau mau curiga itu sama setan.

Ustaz Hanan Attaki explains about people who are suspicious of the destiny given by God, even though destiny is actually better. The speaker firmly criticizes the notion that humans should doubt destiny, emphasizing that God knows what is best for them. The explanation that directly criticizes the understanding of the interlocutor is a factor that makes this speech less polite because it can offend the interlocutor who hears it.

2.2.2 Accusing the Speech Partner

Speech is considered impolite if it contains accusations directed at the interlocutor. The speaker's accusation is a form of suspicion so that the speech is considered impolite. The speaker should find out first before accusing the interlocutor because the suspicion is not necessarily true. The speech of Ustaz Hanan Attaki which shows this can be observed in the following quote.

> Buktinya masih banyak yang masih single berarti bukan Allah yang menyusahkan pernikahan, calon mertua tuh.

Ustaz Hanan Attaki said that getting married is easy but there are still many people who are alone. The speaker argues that getting married is not difficult, it is the blessing of the prospective in-laws that makes marriage difficult so that many couples are not married. The speaker said that this situation was caused by the prospective in-laws not giving their blessing. However, this opinion does not consider the reasons for the rejection, such as economic, mental, or social readiness that is not yet mature. As a result, the interlocutor can be offended by hearing this statement.

2.2.3 Cornering the Speech Partner

A speaker who deliberately corners or leaves the interlocutor defenseless violates politeness norms. This speech causes the interlocutor to be unable to defend himself because the speaker

corners him and does not give him a chance to answer. This action makes the interlocutor unable to defend himself. This kind of violation can be observed in the following quote.

> Kalian nggak sanggup punya suami yang kayak gitu. Kalian nggak sanggup punya istri yang kayak gitu.

Ustaz Hanan Attaki explained that God does not give partners according to our wishes, but partners who are suitable. The speaker gave an example of a woman or a man who wants to get a partner who is a K-Pop idol. The speaker explained that his congregation would not be able to have that partner. The violation occurred because the interlocutor was cornered by the arguments presented by the speaker and they did not have the opportunity to explain their wishes.
Other utterances that show this can be observed in the following excerpt.

> Makin panjang curhat kita Allah makin sayang sama kita. Bedakan sama orang, makin panjang curhat kita makin ditandain besok-besok kalau kita telepon enggak akan diangkat lagi.

Ustaz Hanan Attaki discusses how comfortable it is to pour out one's feelings to God rather than to humans. The speaker reveals that complaining too much to humans will usually only be listened to once. Humans will soon get bored of listening to stories that are too long. Speakers tend to corner their conversation partners so that they are aware and no longer pour out their feelings to humans because they will be judged badly by their conversation partners. This negative assessment tends to generalize that all human responses will be the same. This speech can give rise to negative assumptions and feelings of discomfort or offense in the conversation partner so that it can violate politeness.

2.3 Politeness Strategies in Language

Politeness strategy is defined as a plan to make polite speech so that others do not feel they have lost their respect. Politeness strategy can be said as an effort by a speaker to express politeness in the form of language. Ustaz Hanan Ataki's strategy found in this study is as follows.

2.3.1 Main Issues

Every communication should center around a main issue to ensure focused and effective dialogue between the speaker and the interlocutor. The absence of a central issue in the conversation can lead to disorganized and ineffective communication. Focused conversation prevents the topic from shifting to other issues so that the speech becomes more focused. This strategy can be observed in the video entitled. "Cinta Karena Allah atau Cinta Karen Nafsu" in the following excerpt.

> "Cinta itu adalah pemberian dari Allah."

The speech is the main theme of the problem being discussed. Ustaz Hanan Attaki discusses that love is a gift from God and there is no love that leads to something that is sinful, if there is then it is not love given by God, but lust given by Satan. This speech is delivered by the speaker in his lecture to explicitly show the main problem. This topic raises deep issues about religion, philosophy, and society related to the nature of love in the content of his lecture. The determination of this main problem allows for a broad exploration of different perspectives on love and its influence on human life. The discussion becomes more focused and politeness in language can be maintained.

2. Method

Before initiating communication, a speaker must consider the context, situation, and surrounding conditions to ensure their speech is appropriate and polite. If his speech does not consider these things, the speaker will potentially violate politeness. Ustaz Hanan Attaki's speech which includes this politeness strategy can be seen in the following quote.

> "Allah, apa mau-Mu?"

The theme above was explained by Ustaz Hanan Attaki together with two preachers who were present at a gathering. The delivery of the theme was in accordance with the situation at that time. The

speaker explained that events that occur in life are destiny from God. The speaker advised never to doubt the destiny that has been given because God knows best what is best for his people. The selection of this topic has adjusted the main theme of the gathering together with other preachers. Thus, the politeness of the speaker's language is better maintained.

Reasons

Effective communication should provide clear reasoning for the topic being discussed. The speaker must have sincerity and honesty in communicating. Before starting a conversation, the speaker should first state the reasons why a topic is important to discuss. The speech included in this politeness strategy can be seen in the following quote.

> Ada satu hal yang perlu kita dasari betul dan kita bangun di dalam diri kita bahwa cinta itu adalah anugerah dari langit.

Ustaz Hanan Attaki explained the reasons why this theme was discussed in his lecture. The speaker explained that love is a gift from God and the feeling of love will not lead someone to sin. On the contrary, people who often sin on the grounds of love are not truly feeling love. This reason or argument makes the interlocutor understand the basis of the speech delivered so that politeness in language is maintained.

3. Conclusion

Preachers have a wide influence in society so they should convey their material to the community with polite speech. Based on the data that has been found, the conclusions that can be drawn are as follows.

1. The form of politeness that appears in Ustaz Hanan Attaki's lecture can be observed on 3 scales, namely the formality scale, the indecisiveness scale, and the peer scale.
2. The factors contributing to violations of politeness in Ustaz Hanan Attaki's lectures include direct criticism, accusations against the interlocutor, and cornering the interlocutor.
3. The politeness strategies employed by Ustaz Hanan Attaki in his lectures include addressing the main issue, adopting appropriate methods, and providing valid reasons.

References

Afkarina, T. W. (2022). Penyimpangan Prinsip Kesantunan Berbahasa dalam Siniar Deddy Corbuzier. *Jurnal Penelitian, Pendidikan, Dan Pembelajaran*, *17*(9), 1–14.

Aji, J. P. (2020). *Analisis Kesantunan Berbahasa Menurut Leech pada Tuturan Tokoh Nyai Ontosoroh dalam Novel Bumi Manusia: Kajian Pragmatik*. Universitas Muhammadiyah Surakarta.

Apriliasari. (2023). *Kesantunan Berbahasa dalam Kumpulan Cerpen Religi Islami dan Relevansinya dengan Pembelajaran Bahasa Indonesia di Madrasah Aliah*. Universitas Islam Negeri Raden Mas Said Surakarta.

Fatma, A. (2023). *Pelanggaran Pinsip Kesantunan Berbahasa oleh Para Tokoh Novel Bertema Perempuan Tertindas*.

Hafizoh; Kamalia; Yunus, M. (2023). Analisis Skala Kesantunan Robin Lakoff dalam Novel" Ketika Perempuan Berhenti Mencintai" Karya Sri Normuliati. *Prosiding Seminar Nasional Unars*, 354–360.

Ilham, S. J. (2022). Friksi dalam Interaksi Pribadi Ali Mochtar Ngabalin dalam Dialog Acara Mata Najwa di Trans 7: Kajian Kesantunan Perspektif Teori Robin Lakoff. *Jurnal Ilmiah Mandala Education (JIME)*, *8*(3), 1863–1874.

Insani, D. M. (2023). Pelanggaran Prinsip Kesantunan Berbahasa dalam Video Siaran Langsung Bunda Corla: Kajian Pragmatik Brown dan Levinson. *Jurnal Pendidikan Sosial Dan Humaniora*, *2*(3), 11629–11640.

Effectiveness of Project Based Learning Model on Learning Outcomes in The Subject of Network System Administration of Grade XI TKJ SMK Bina Banua Banjarmasin

Hajriyah, Nonong Rahimah
Universitas PGRI Kalimantan, Faculty of Science and Technology, Information Technology Education Study Program
Banjarmasin, Indonesia
hajri050400@gmail.com
nonongrahimah6@gmail.com

Abstract. This research aims to determine the effectiveness of the project-based learning model on learning outcomes in the Network Systems Administration subject class XI TKJ SMK Bina Banua Banjarmasin. This type of research is quasi-experimental. The population of this study was all students in class XI TKJ. The sampling technique uses saturated sampling. The type of research instrument is multiple choice questions. The data analysis technique used was descriptive and statistical analysis via SPSS 25 with the Shapiro-Wilk normality test, homogeneity test and Mann- Whitney test. Based on the research results, the average learning outcome score for the experimental class was 89.41 while the control class was 53.82. After carrying out the Mann- Whitney test, the Sig (2-tailed) = 0, 000 < 0.05. This shows a significant difference in average values. So, it can be concluded that the project-based learning model is effective on student learning outcomes in network system administration subjects with material evaluating and configuring DHCP Server.
Keywords: Model project-based learning, learning outcomes

1. Introduction

Improving the quality of education in Indonesia can be realized through the effectiveness of the learning process. One factor that directly affects the effectiveness of the learning process is the learning model used by the teacher, in addition to mastery of the material that the teacher aims to deliver.

Learning effectiveness is a measure of the success of the relationship process between students and students with teachers in learning conditions in order to achieve learning objectives. The effectiveness of learning can be seen from student activities during learning, student responses to learning and mastery of each student's material (Yulianto & Aninditya Sri Nugraheni, 2021).

A learning model is a description of the learning process that has been designed, used and evaluated systematically by educators with the goals to be achieved in the learning process. The learning model is also interpreted as an example of a description of the learning process carried out from beginning to end that has been presented by educators in the classroom. Implementing a learning model is very much influenced by basic competencies, a learning objective at least has steps or stages that must be understood by students through educational guidance (Rokhimawan et al., 2022).

The Project Based Learning model is an innovative learning model that is centered on students and places teachers as motivators and facilitators, where students are given the opportunity to work independently to construct their learning (Martiani, 2021). Learning activities in the PjBL model in the PjBL model are centered on students (student-centered learning) so that children are more proactive in learning activities. Students are required to be independent in solving problems or completing tasks faced. In addition, this model can also improve children's abilities in terms of cognitive, group work skills, learning motivation, teamwork, and student creativity (Sari et al., 2023). Based on the analysis of the subject teacher of Network System Administration Class XI TKJ SMK Bina Banua Banjarmasin,

the less-than-optimal student learning outcomes are due to the application of conventional learning models that are monotonous and boring. Based on the evaluation results in the Network System Administration subject, many students obtained learning outcomes below the KKM. The Minimum Completion Criteria (KKM) set at SMK Bina Banua Banjarmasin is 70.

Seeing from the problems above, teachers need to apply a learning model that can help students understand the material presented by the teacher optimally so that later students get maximum learning outcomes. There are several implementations of learning models that can be used as alternatives. One of them is the project-based learning model. With the Project Based Learning learning model, students not only seek knowledge independently, but students are also able to solve concrete problems in the material taught so that the learning process leads students to be active in class. Based on the above, the author is interested in researching "The Effectiveness of the Project Based Learning Model on Learning Outcomes in the Network System Administration Subject of Class XI TKJ SMK Bina Banua Banjarmasin"

2. Research Methods

The type of research used by the researcher in this study is quasi-experimental research. Sugiyono defines experimental research as research used to find the effect of certain treatments on others under controlled conditions (Sugiyono, 2009). Population is the entire object of research from all objects or individuals who have certain characteristics. The population in this study was class XI TKJ totaling 35 students. The sample is part of a population. The sampling technique in this study was carried out using saturated sampling. So, the samples to be taken in this study were class XI TKJ 1 (experimental class) totaling 17 students using the Project Based Learning model and class XI TKJ 2 (Control class) totaling 18 students using the conventional learning model.

The data collection techniques used in this study were: (1) Interviews, conducted to find the problems to be studied and also to deepen the problems to be studied. The problems in question are that in the learning process the teacher is more dominant in class and the lack of student participation during the learning process; (2) Observation, conducted to find out about the school to be studied such as obtaining school data, student data, school conditions, classes, classroom learning processes, student responses to the learning process, the curriculum used and other things related to the research; (3) Tests are used to measure students' ability to understand the material or teaching materials presented. The test in this study was used to measure students' abilities in the cognitive domain after learning. The test used was in the form of multiple-choice questions. From this test data collection technique, data will be obtained in the form of student learning outcomes in the subject of network system administration, the material for evaluating and configuring DHCP servers. The instrument used was a learning outcome test question, the questions were made and developed by the researcher (with consideration from the subject teacher) and adjusted to the topic to be taught. The questions used in this study were in the form of multiple-choice questions. These questions were made to measure student learning outcomes in the cognitive domain. The questions will be given to the experimental class and the control class that had been given treatment. Before being used, the questions were first validated by expert lecturers and material experts after the questions were validated, the questions were tested in the field to measure the validity and reliability of the instrument. The learning instruments used in this study were the Learning Implementation Plan (RPP) and Student Worksheets (LKPD).

Before conducting the study, the researcher first conducted a trial of the instrument with 40 questions tested. The results of the instrument trial were then analyzed using a validity test with the product moment formula. After testing the validity of the test questions, the reliability test was carried out using the split-halt method. Then the test questions were analyzed for their level of difficulty and their distinguishing power. To determine the validity, reliability, level of difficulty and distinguishing power, the researcher used SPSS 25 software.

The data analysis techniques used in this study were descriptive analysis and hypothesis testing. Descriptive analysis in this study was to calculate the average value of the learning outcome test. While the hypothesis test used the Mann-Whitney test. The t-test was conducted to determine the differences in learning outcomes obtained by students. Before conducting the t-test, the prerequisite analysis test was first carried out. The prerequisite analysis tests carried out were the normality test and the

homogeneity test. The Mann-Whitney test is an alternative to the independent sample t-test if the data is not normally distributed or the data does not have homogeneous variance.

3. Results and Discussion

This study aims to determine which is more effective between the Project Based Learning and conventional learning models on student learning outcomes in the material Evaluating and Configuring DHCP Server in class XI TKJ SMK Bina Banua Banjarmasin. Based on this objective, this study was conducted using an experimental class and a control class. The experimental class is a class that receives learning treatment using the Project Based Learning model on the material Evaluating and Configuring DHCP Server, while the control class is a class that receives learning treatment using the conventional model on the material Evaluating and Configuring DHCP Server.
After conducting the research instrument test, the results of the test of the validity of the question items can be seen in Table 1 below.

Table 1. Instrument Validation

Question Item Number	Information
2, 5, 6, 11, 13, 16, 17, 18, 19, 21, 23, 24, 28, 29, 30, 31, 34, 37, 38, 39	Valid
1, 3, 4, 7, 8, 9, 10, 12, 14, 15, 20, 22, 25, 26, 27, 32, 33, 35, 36, 40	Not Valid

Based on Table 1, there are 20 valid questions and 20 invalid questions. Meanwhile, the results of the reliability of the questions are 0.797 or a high interpretation value so that the questions can be used. The results of the reliability test of the questions can be seen in Table 2 below.

Table 2. Question Reliability

Guttman Split-Half Coefficient	0,797

Table 2 above provides information on the reliability of the test items as a whole. The table above shows the Guttman Split-Half Coefficient correlation value of 0.797 with the interpretation of a high reliability value. So it can be concluded that the test items for the test competency variable as a whole are declared reliable. The results of the difficulty test level can be seen in Table 3. As follows:

Table 3. Level of Question Difficulty

Difficulty Level	Question Number	Total Number
Easy	2, 5, 6, 11, 13, 17, 18, 23, 24, 28, 29, 34	12
Currently	16, 19, 21, 30, 31, 37, 38, 39	8

Based on Table 3. above, the questions that have an easy level of difficulty are 12 questions, the questions that have a medium level of difficulty are 8 questions. The results of the calculation of the discriminatory power of the question items can be seen in Table 4. as follows:

Table 4. Distinguishing Power

Question Number	Distinguishing Power Criteria	Number of Questions
13, 17, 18, 23, 28, 29	Very Good	6
2, 5, 6, 11, 16, 19, 24, 30, 31, 34, 37, 38	Good	12
21, 39	Sufficient	2

Based on Table 4. above, the results of the discriminatory power test can be seen that there are 6 questions that have very good discriminatory power, 12 questions have good discriminatory power, and 2 questions have sufficient discriminatory power. After conducting the item analysis test, the next

step is to conduct a prerequisite analysis test including a normality test and a homogeneity test. The results of the normality test can be seen in Table 5. as follows:

Table 5. Results of the Normality Test for the Experimental and Control Classes

Class	*Shapiro-Wilk*	Conclusion
XI TKJ 1 (Experimental)	0, 128	Data is normally distributed
XI TKJ 2 (Control)	0, 219	Data is normally distributed

The statistical analysis conducted in this study was the Shapiro-Wilk test calculated using the SPSS 25 program. The Shapiro-Wilk test is used if the number of samples used is less than 50. The results of the test of class XI TKJ 1 (experimental) from the learning outcome test based on Table 5. obtained a significance value in the Shapiro-Wilk test of 0.128> 0.05, so Ho is accepted and Ha is rejected. Testing class XI TKJ 2 (control) from the learning outcome test based on Table 4.6 obtained a significance value in the Shapiro-Wilk test of 0.219> 0.05, so Ho is accepted and Ha is rejected, so the data is normally distributed. It can be concluded that the experimental and control class learning test score data are normally distributed. The test results with SPSS 25 obtained the results of the homogeneity test of the experimental and control class learning outcome scores which can be seen in Table 6. below:

Table 6. Homogeneity Test

Levene Statistic	Df1	Df2	Sig	Conclusion
14, 766	1	33	0,001	Data is not homogeneous

The determination of the hypothesis Ho is the variance of the two samples (experimental class and control class) is the same, and Ha is the variance of the two samples (experimental class and control class) is different. The basis for making decisions with a significance level of 5% is if the significant value (Sig)> 0.05 then Ho is accepted, and if the significant value (Sig) <0.05 then Ha is rejected.
By using a 95% confidence level, it is known that the Sig. value is 0.001 <0.05, then Ho is rejected and Ha is accepted. The learning outcome test score data for the two samples have different variances or are not homogeneous at a 95% confidence level.
The following is a description of the learning outcome values obtained, which can be seen in Table 7. As follows:

Table 7. Description of Learning Outcome Data for Experimental Class and Control Class

Data Description	Eksperiment Class (XI TKJ 1)	Control Class (XI TKJ 2)
Number of Students (N)	17	18
Mean	89, 41	53, 82
Lowest Value (*Min*)	80	35
Highest Score (*Max*)	100	75
Standard Deviation	5, 832	12, 441

Based on the results of the analysis of the description of learning outcome data in Table 7, it shows that the average value of learning outcomes for the experimental class is 89.41 while the control class is 53.82. Hypothesis testing in this study uses the Mann-Whitney test. Because the data is not homogeneous, the Mann-Whitney test is used to test the hypothesis. To see the results of the hypothesis test, see Table 8. Below.

Table 8. Mann-Whitney Test Values

Test Statistics	
	Learning outcomes
Mann-Whitney U	0,000
Wilcoxon W	171.000
Z	-5.082
Asymp. Sig. (2-tailed)	0, 000

Determination of the hypothesis Ho there is no significant difference in the average value of the experimental class and control class learning outcome tests, while Ha there is a significant difference in the average value of the experimental class and control class learning outcome tests. The basis for making decisions with a significant level of 5% is if the Sig. (2-tailed) value ≥ 0.05 then Ho is accepted and Ha is rejected, and if the Sig. (2-tailed) value <0.05 then Ho is rejected Ha is accepted. The results of the Mann-Whitney test can be seen in the Test Statistics in Table 8. Based on the test results in Table 8 it can be seen that the Sig. (2-tailed) value is 0.000 <0.05 so that Ha is accepted and Ho is rejected, from these results it can be concluded that there is a significant difference in the average value of the learning outcomes of students in the experimental class and control class on the material Evaluating and Configuring DHCP Servers at SMK Bina Banua Banjarmasin. Based on the hypothesis test (Mann-Whitney test), the Sig.(2-tailed) value is obtained = 0.000 <0.05, which means Ha is accepted and Ho is rejected, there is a significant difference in learning outcomes between the experimental class and the control class. Then seen from the average value of student learning outcomes in class XI TKJ 1 (experimental class) which is 89.41, and the average value of student learning outcomes in class XI TKJ 2 (control class) which is 53.82. So, it can be concluded that student learning outcomes using the project-based learning model are more effective than student learning outcomes using the conventional model.

These results are in accordance with the research conducted by Astri Ayu Ramadianti "Effectiveness of the Project Based Learning Model on Elementary School Mathematics Learning Outcomes". The results of the study showed that the project-based learning model is more effective in improving student learning outcomes than the conventional model in mathematics subjects.

4. Conclusion

Based on the results of the research that has been conducted, it can be concluded that the project-based learning model is effective for student learning outcomes. The results of hypothesis testing using the Mann-Whitney test obtained a Sig. (2-tailed) value = 0.000 <0.05, which means that Ha is accepted and Ho is rejected. So, it can be concluded that there is a significant difference in the average value of student learning outcomes in the Network System Administration subject in the material evaluating and configuring DHCP Server using the project-based learning model with the conventional model, which means that the project based learning model is effective for student learning outcomes in the Network System Administration subject in the material evaluating and configuring DHCP Server.

References

Martiani. (2021). Kemandirian Belajar Melalui Metode Pembelajaran Project Based Learning Pada Mata Kuliah Media Pembelajaran Pendidikan Jasmani. *Edukatif Jurnal Ilmu Pendidikan*, *3*(2), 481–482.

Rokhimawan, A. M., Jami Ahmad Badawi, & dan Siti Aisyah. (2022). Model-Model Pembelajaran Kurikulum 2013 pada Tingkat SD/MI. *Edukatif: Jurnal Ilmu Pendidikan*, *04*(02), 2080.

Sari, A. M., Dadan Suryana, Alwen Bentri, & Ridwan. (2023). Efektivitas Model Project Based Learning (PjBL) dalam Implementasi Kurikulum Merdeka di Taman Kanak-Kanak. *Jurnal Basicedu*, 433–434.

Sugiyono. (2009). *Metode Penelitian Kuantitatif, kualitatif dan R&D*. CV ALFABETA. .
Yulianto, D., & Aninditya Sri Nugraheni. (2021). Efektivitas Pembelajaran Daring Dalam PembelajaranBahasa Indonesia. *Decode, 01*(01), 36.

Using AI in Banjar Language Learning for UPK Students as an Effort to Preserve the Banjar Language

Ida Komalasari
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Indonesian Language Education Study Program
Banjarmasin, Indonesia
idakomalasari@upk.ac.id

Abstract. Preserving the Banjar language aims to maintain the continuity and preservation of the Banjar language so that it does not become extinct. Various strategies are implemented to ensure that the Banjar language remains in use, is passed on to the younger generation, and becomes an integral part of the cultural identity of the Banjar people. The use of artificial intelligence (AI) in learning the Banjar language is a response to the problems faced by the Banjar language. The aim of this research is to describe 1) the facts about the use of the Banjar language among UPK students), 2) what are the obstacles to preserving the Banjar language among UPK students, and 3) how to apply AI in learning Banjar language for UPK students. This research uses a descriptive approach and qualitative methods. Data sources are PBSI 1st semester students in 2024 and teaching lecturers. Data collection techniques are documentation, observation, questionnaires and interviews. The results of the research illustrate 1) the fact that the use of Banjar language is that some UPK students in their daily lives are dominated by Indonesian language due to urbanization and lack of resources, 2) the obstacles to preservation are that Banjar language speakers are decreasing in use, it is difficult to find lecturers who are experts in Banjar language, and there is a lack of learning resources. , 3) the application of AI in Banjarese language learning for UPK students can take the form of Banjarese virtual assistants, machine translation, educational games, text and voice analysis, and online learning.
Key words: use of AI, learning, preservation, Banjar language

1. Introduction

Banjar language is a regional language predominantly used in the province of South Kalimantan. This language has its own uniqueness, both in grammar and vocabulary, and reflects the history and culture of the Banjar people. The Banjar language contains wisdom that needs to be preserved.

The Banjar language is also a valuable cultural heritage for the people of South Kalimantan. Various efforts for its preservation are expected to keep the Banjar language alive and make it an integral part of Indonesia's national identity. Preservation efforts will involve many parties, including families, communities, and the government (Muhammad, 2020).

The Banjar language plays a significant role in society, serving multiple functions. First, it functions as a means of daily communication. Second, it serves as a cultural identity. Third, it functions as a subject of teaching in schools to preserve it. Fourth, it is used in oral literature.

In practice, the use of the Banjar language has decreased due to modernization. Furthermore, the material for learning the Banjar language is limited, especially in text form. There is also a lack of qualified teachers and lecturers to teach the Banjar language. These factors greatly affect the preservation of the Banjar language.

Given this, the preservation of the Banjar language is necessary to prevent it from becoming extinct. The preservation of the Banjar language is crucial because it is a cultural identity. Preserving it means safeguarding the heritage of ancestors and the local wisdom of the Banjar people. The Banjar language also represents cultural diversity. It reflects Indonesia's cultural diversity, and by preserving it, we can maintain the nation's cultural wealth. The Banjar language often contains unique local knowledge, such as the names of plants, animals, and cultural concepts that are not found in other languages. The Banjar language also strengthens character and reinforces the national identity.

The preservation of regional languages is an effort to maintain the continuity and sustainability of a regional language to prevent it from disappearing. This involves various actions to ensure the language remains in use, is passed down to the younger generation, and becomes an integral part of the cultural identity of a community (Bozkurt, 2021).Various strategies are being implemented to ensure the Banjar language remains preserved.

2. Results and Discussion

Given the importance of the Banjar language, various preservation efforts continue to be made, including: 1) **Educational Institutions**, by making the Banjar language a local content subject in schools and using the regional language in daily learning activities, as well as developing engaging and relevant learning materials; 2) **Mass Media**, by using the Banjar language in mass media such as local radio and television, and broadcasting programs that use the Banjar language; 3) **Cultural Activities**, by organizing cultural events that use the Banjar language, such as banter contests, rhyming, theater, and music performances that incorporate the Banjar language; 4) **Research**, by conducting research on the Banjar language with the aim of documenting and developing it; 5) **Family**, by encouraging parents to speak to their children in Banjar at home and creating an environment conducive to the use of the regional language; 6) **Community**, by organizing activities that use the regional language, such as art performances, competitions, and discussions, and forming communities of Banjar language enthusiasts; 7) **Government**, by creating policies that support the preservation of the Banjar language and providing financial support for Banjar language preservation programs; 8) **Technology**, by developing applications and digital platforms for Banjar language learning, and using social media to promote the use of regional languages.

In facing the challenges of preserving the Banjar language, the use of Artificial Intelligence (AI) is a response in teaching the Banjar language (Muhammad, 2020).AI, which stands for Artificial Intelligence, refers to technology that enables computers and machines to simulate learning, understanding, problem-solving, decision-making, creativity, and human autonomy (Wilson, 2024).

Currently, the advancement of technology and the expectations of students (skills required to secure employment) are forcing higher education institutions to support teaching and learning processes with advanced technology (Fulton, 2019).

The use of AI in education has spread to several developed countries in recent years and continues to experience rapid development. The use of AI in the educational context has been identified in several countries. For example, in Australia, an Intelligent Tutoring System has been developed to help address the imbalance between the number of educators and students (Luckin, 2016).

AI has the ability to execute various tasks that generally require human intelligence, such as speaking, listening, seeing, learning, thinking, and problem-solving (Lukman, 2022).AI then provides a learning experience tailored to the individual needs of each student (Maufidhoh, 2023).

AI, or Artificial Intelligence, holds different meanings for different people. However, everyone agrees that AI will have a significant impact on human work, education, and social life in the future (Littman, 2021).The use of Artificial Intelligence in education serves as a medium and support for learning. As a result, learning can take place effectively and optimally, with AI serving as an educational tool that helps teachers, educators, and mentors deliver lessons to students, making it easier for students to understand the material (Putri, 2023).

With AI, the learning process becomes more adaptive and responsive to the individual needs of students, allowing for better learning outcomes (Sitorus, 2024).

AI has various applications, such as:

- Web search systems (Google Search)
- Recommendation systems (YouTube, Amazon, Netflix)
- Virtual assistants (Google Assistant, Siri, Alexa)
- Autonomous vehicles (Waymo)
- Generative and creative tools (ChatGPT, AI art)

AI also has various research subfields, such as:

- Knowledge and reasoning

- Machine learning
- Natural language processing
- Computer vision
- Robotics

With the rapid development of AI technology, it is hoped that AI can assist humans in various aspects of life, such as healthcare, education, and the environment (Abdollahpour, 2006).AI offers innovative solutions to address these challenges in several ways, including:

- Personalized Learning: AI enables learning that is tailored to the needs and skill levels of individuals.
- Accessibility: AI-based learning materials can be accessed anytime and anywhere through digital devices.
- Interactivity: AI can create more engaging and interactive learning experiences through features such as games, quizzes, and conversation simulations.
- Instant Feedback: AI can provide instant feedback on student mistakes, making the learning process more effective.
- Cultural Preservation: AI can help preserve cultures and traditions related to regional languages through features like voice recognition, translation, and text analysis.

It is also important to emphasize that the use of AI in higher education should be grounded in good ethics and safe governance. Ethical guidelines and governance regulations are necessary to ensure that the use of AI technology is conducted in an ethical, reliable, and fair manner.

A. Facts about the Use of the Banjar Language

- Dominance of Indonesian: As the national language, Indonesian is often more dominant in various aspects of life.
- Modernization: The advancement of technology and globalization has led to the marginalization of the Banjar language.
- Urbanization: The migration of people to urban areas has contributed to the decline in the use of the Banjar language.
- Lack of Resources: There is a limited availability of books, learning materials, and qualified teachers for regional languages.

Obstacles in Regional Language Learning in Schools. The obstacles to learning regional languages in schools are diverse and complex. Below are some of the main challenges often faced:

Lack of Resources

- Textbooks and Learning Materials: The limited availability of quality textbooks and learning materials that align with the curriculum.
- Learning Media: The shortage of engaging and interactive learning media, such as videos, audio, or educational games.
- Software: The lack of software that effectively supports the learning of regional languages.

Lack of Competent Teachers

- Limited Competence: Not all teachers possess adequate competence in teaching regional languages, both in terms of language proficiency and teaching methods.
- Lack of Motivation: There is a lack of motivation among teachers to teach regional languages, especially if it is not a mandatory subject.

Negative Attitudes Toward Regional Languages

- Dominance of Indonesian: The dominance of the Indonesian language in daily life often leads to regional languages being perceived as less important.
- Negative Stigma: There is a belief that regional languages are associated with less educated or backward communities.

Lack of Learning Time

- Curriculum Load: The dense curriculum makes the time available for regional language learning limited.
- Subject Prioritization: Regional languages are often considered less important than core subjects.

Lack of Support from the Environment

- Parents: Not all parents support the learning of regional languages in schools.
- Community: There is a lack of community awareness about the importance of preserving regional languages.

Sociocultural Changes

- Modernization: Modernization and globalization have led to the marginalization of regional languages.
- Urbanization: The migration of people to urban areas has resulted in a decline in the use of regional languages.

Lack of Research and Development

- Lack of Research: There is a lack of research on effective methods for teaching regional languages.
- Lack of Curriculum Development: The curriculum for regional language learning is often not relevant to the needs of students.

B. Efforts to Overcome Barriers

To address these barriers, comprehensive efforts are needed (Trisna, 2018),including:

- Improvement of Resources: Providing quality textbooks, learning media, and software.
- Enhancement of Teacher Competence: Through training and professional development.
- Socialization of the Importance of Regional Languages: Through campaigns and activities that involve the community.
- Integration of Regional Languages into the Curriculum: Allocating sufficient time for regional language learning.
- Support from the Government and Community: Providing financial support and policies that support the preservation of regional languages.

C. Application of AI in Regional Language Learning

AI has paved the way for new approaches in language learning, including regional languages. Here are some of the most common applications:

- Regional Language Virtual Assistants:
  - Personal Tutor: AI can serve as a personal tutor that provides explanations on grammar, vocabulary, and cultural aspects related to the regional language.
  - Conversation Practice: Through conversation simulations, students can practice speaking with AI in various situations.
  - Real-time Correction: AI can provide instant feedback on pronunciation or grammar mistakes made by students.
- Machine Translation:
  - Text Translation: AI can translate text from a regional language to Indonesian or other international languages, and vice versa.
  - Voice Translation: Speech recognition technology enables AI to translate spoken conversations in real-time.
- Educational Games:
  - Gamified Learning: AI can create engaging and interactive games to learn vocabulary, grammar, and cultural aspects of the regional language.
  - Difficulty Level Adaptation: The games can adjust the difficulty level according to the student's abilities.
- Text and Voice Analysis:
  - Language Pattern Identification: AI can analyze text and voice to identify unique language patterns, such as dialects or specific speaking styles.
  - Progress Evaluation: AI can track student progress and provide regular progress reports.
- Online Learning Platforms:

- Personalized Learning Materials: AI can create learning materials tailored to each student's interests and learning styles.
- Discussion Forums: AI can facilitate discussions between students and tutors, as well as provide recommendations for additional learning resources.

Case Example of Use

- Javanese Language Learning App: This app uses AI to recognize students' speech, provide feedback on pronunciation, and suggest appropriate exercises.
- Online Sundanese Language Learning Platform: This platform offers various AI-based features, such as machine translation, educational games, and discussion forums.

D. Challenges and Opportunities

Opportunities

- Democratization of Education: AI can provide wider access to regional language education, especially for communities in remote areas.
- Innovation in Learning: AI can drive innovation in methods of regional language learning.
- Global Collaboration: AI can facilitate collaboration between researchers, educators, and developers from around the world to develop better solutions.

Benefits of AI Application in Regional Language Learning

- Accessibility: Learning materials can be accessed anytime and anywhere.
- Personalization: Learning can be tailored to individual needs.
- Interactivity: Learning becomes more engaging and enjoyable.
- Efficiency: The learning process becomes more effective and efficient.
- Cultural Preservation: AI can help preserve regional languages and cultures.

Challenges Faced

- Data Quality: The availability of high-quality data to train AI models is still limited.
- Cost: The development and implementation of AI solutions can be quite costly.
- Technical Skills: Expertise in AI is needed to manage and develop these technologies.
- Cultural Immersion: This technology allows students to interact with virtual environments that speak the regional language, providing them with a direct experience of the culture and daily life of the language community.

Implementation Examples

- Javanese Language Learning App: This app uses AI to recognize students' speech, provide feedback on pronunciation, and suggest appropriate exercises.
- Online Sundanese Language Learning Platform: This platform offers various AI-based features, such as machine translation, educational games, and discussion forums.

Challenges and Solutions

- Data Quality: High-quality data is needed to train AI models. Solution: Collaborate with regional language communities to gather relevant data.
- Cost: Developing AI solutions requires significant investment. Solution: Seek support from the government, NGOs, and technology companies.
- Technical Skills: Skilled professionals in AI are required. Solution: Build partnerships with universities and research institutions.
- Text Translation: AI can translate text from Banjar language to Indonesian or other languages, and vice versa.
- Voice Translation: Speech recognition technology allows AI to translate spoken conversations in real-time.
- Personalized Learning Materials: AI can create learning materials tailored to each student's interests and learning styles.
- Discussion Forums: AI can facilitate discussions between students and tutors, as well as recommend additional learning resources.

Benefits of Using AI in Banjar Language Learning:

- Accessibility: Learning materials can be accessed anytime and anywhere.
- Personalization: Learning can be tailored to individual needs.

- Interactivity: Learning becomes more engaging and enjoyable.
- Efficiency: The learning process becomes more effective and efficient.
- Cultural Preservation: AI can help preserve the Banjar language and culture.

Challenges and Solutions:

- Data Quality: High-quality data is needed to train AI models. Solution: Collaborate with the Banjar community to collect relevant data.
- Cost: Developing AI solutions requires significant investment. Solution: Seek support from the government, NGOs, and technology companies.
- Technical Skills: Skilled professionals in AI are needed. Solution: Build partnerships with universities and research institutions.

3. Conclusion

The use of AI in Banjar language learning at Universitas PGRI Kalimantan has great potential to improve the quality of learning and accelerate efforts to preserve this regional language. With proper utilization, AI can be a highly effective tool in preserving the cultural richness of South Kalimantan.

AI has significant potential to revolutionize regional language learning. With the right application, AI can help preserve local languages and cultures, as well as improve the quality of education. Students at UPK play a crucial role in the preservation of the Banjar language. By mastering AI technology and applying it in their studies, students can become agents of change who inspire the broader community to participate in the preservation of regional languages.

4. Referensi

Abdollahpour, M. A., K. P., & A. M. H. (2006). Relationship between cognitive style, cognitive and meta-cognitive strategies with academic achievement. *Psychological Research*, *8*(3–4), 30.

Bozkurt, A. dkk. (2021). Artificial intelligence and Reflections from Educational Landscape: A review of AI studies in half a century. *Sustainability (Switzerland)*, *13*(2), 1–16.

Fulton, J. (2019). *examples of innovative educational technology Classcraft*.

Littman, M., dkk. (2021). *Gathering Strength, Gathering Storms: The One Hundred Year Study on Artificial Intelligence (AI100) 2021 Study Panel Report*. Stanford Univ.

Luckin, R., & H. W. (2016). *Intelligence unleashed: An argument for AI in education*.

Lukman, dkk. (2022). Penerapan Kecerdasan Buatan sebagai Media Pembelajaran Bahasa Arab di Era Society 5.0. Tarling. *Journal of Language Education*, *7*(1), 69–80.

Maufidhoh, I., & M. I. (2023). Implementasi Pembelajaran Berbasis Artificial Intelligence Melalui Media Puzzle Maker Pada Siswa Sekolah Dasar. *Abuya: Jurnal Pendidikan Dasar*, 30–43.

Muhammad, A. & K. (2020). Pengurai Kalimat Bahasa Banjar dengan Menggunakan Parser PC-PATR. *Jurnal Linguistik Komputasional* , *3*(1), 20–24.

Putri, R. A. & R. A. (2023). Penggunaan Artificial Intelligence (AI) Untuk Pembelajaran di Kalangan Mahasiswa STIT Pemalang. *Jurnal Madaniyah*, *13*(2).

Sitorus, M. & M. D. F. Murti. (2024). Analisis Pengaruh Penggunaan Artificial Intelligenci pada Pembelajaran di Cyber University. *Jurnal Innovation and Technologi*, *1*(2).

Trisna, B. N., B. I. K., & S. T. Y. E. (2018). Students' metacognitive activities in solving the combinatorics problem: the experience of students with holist-serialist cognitive style. *Journal of Physics: Conference Series*.

Wilson, J., & C. D. (2024). Towards the Modelling of Mathematical Metacognition. *Mathematics Education Research Journal*, *16*(2), 25–48.

THE USE OF ARTIFICIAL INTELLIGENCE IN TEACHING ENGLISH FOR COMPUTER SCIENCE STUDENTS

I Made Darmayasa Wilantara[1], Miza Rahmatika Aini[2]
[1]Prodi Teknologi Informatika Universitas PGRI Kalimantan
[2]Prodi Pendidikan Bahasa Inggris Universitas Islam Balitar
wilantara_kpts@upk.ac.id
jumintenlarasati@gmail.com

Abstract. Artificial Intelligence (AI) has been increasingly integrated into educational systems, transforming how languages, particularly English, are taught. This integration is highly relevant for computer science students, who often need English proficiency to access resources, collaborate internationally, and keep up with rapid technological advancements. We accept without argue that AI itself is a field of computer science. This article examines the use of AI tools and methodologies in teaching English to computer science students. We analyse AI-driven applications such as: ChatGPT, Natural Language Processing (NLP) Tools, Personalized Learning Platforms, and Automated Assessment and Feedback Tools. These all-automated tutoring systems, and data analytics is used as methods to enhance language proficiency. AI-driven applications for teaching English to computer science students allow for more targeted, efficient, and contextually relevant language acquisition, addressing both general English proficiency and discipline-specific language skills. There are three important findings discussed in this article. Those give evident that 1) AI technologies can improve technical vocabulary, 2) AI technologies can increase student engagement, and 3) AI technologies can tailor learning experiences. Over all these finding has proven that AI can improve language comprehension and providing significant benefits for computer science students.

Key words: *artificial intelligence, English for computer science, automated tutoring system, computer science education, personalized learning, ChatGPT, NLP*

.

1. Introduction

English is the dominant language in information technology, since we know that English is The International Language. The domination of English can be seen from historical development of computing and IT. Much of the early development in computing, programming, and information technology took place in English-speaking countries, primarily the United States. Early innovators, companies, and research institutions established terminology, documentation, and standards in English, setting a linguistic precedent that continues today. English is also the Language of Major IT Companies. Leading tech companies like Google, Microsoft, Apple, Amazon, IBM, and Facebook were founded in English-speaking countries, primarily the U.S. These companies publish most of their documentation, user manuals, technical guidelines, and research in English, establishing it as the industry's primary language.

The use of English in computing and programming is both foundational and widespread. English permeates nearly every aspect of programming, from the language syntax to documentation, collaboration, and resources. Most programming languages use English keywords and syntax, which has become a standard. For instance, almost all programming languages use terms like*: if, else, while, for, return, print* etc. This standardization has created a universal structure that enables people from various linguistic backgrounds to learn and work within a consistent framework. These key words (*if, else, while, return, print,* etc) are widely used in programming including Python, Java, JavaScript, and C++. They were developed in English-speaking contexts.

Output error messages and warnings in programming also written in English. So, it is very important for programmer to understand this error message. We can say that understanding these messages is crucial for debugging, as they provide specific clues to help resolve issues. Even error logs

and stack traces are also provided in English, encouraging English proficiency for efficient troubleshooting.

In PGRI Kalimantan University, English for computing science is taught early in the first semester. As one of essential subject, English for computing science provides essential access to resources, facilitates communication, and prepares students for global professional environments. The subject is taught in English-based syntax. It means that learning these languages also requires some English understanding. This standardization in English not only simplifies learning for new programmers, but it also reinforces English as the default language for writing and reading code globally. In global scientific discourse, English language proficiency has become a vital skill for computer science students.

Conventional language teaching often falls short in addressing the unique learning needs of the students. We need other way and method to help student to understand the technical terms in computing dan programming. In this case we need AI for solutions, from personalized learning systems to real-time feedback mechanisms, present novel opportunities to create customized language instruction that adapts to each student's pace, background, and preferences.

Artificial Intelligence (AI) is a branch of computer science focused on creating systems or machines that can perform tasks that would typically require human intelligence. These tasks include learning from experience, understanding natural language, recognizing patterns, making decisions, and solving problems. Expert says that the beginning of AI development, researchers began efforts to develop computer programmes that could simulate human learning abilities. (Nuryadin, Riki and Marlina, 2023). Artificial Intelligence (AI) is a field of computer science concerned with the development of computer systems capable of performing tasks that normally require human intelligence. According to McCarthy (Mccarthy, 2007), one of the founders of AI, AI is the science and engineering that deals with creating intelligent machines, especially intelligent computer programs. This paper explores the various AI tools and methodologies used to enhance English language acquisition among computer science students, emphasizing the importance of AI in making learning adaptive, efficient, and engaging.

2. Literature Review

AI in language learning is a growing field, with many studies supporting the use of AI-based tutoring systems, natural language processing (NLP), and machine learning to improve outcomes. Research shows that personalized AI-driven content enhances retention and motivation. Moreover, studies have shown that students' engagement with AI-powered tools, such as chatbot and language assessment systems, results in higher language proficiency.

A chatbo**t** is a software application designed to simulate and process human conversation, allowing users to interact with it through text or voice interfaces. Chatbots can range from simple systems that respond to specific keywords to complex AI-driven platforms that can understand and generate human-like responses. A highly intelligent chatbot by the name of ChatGPT first appeared in late 2022, showcasing a cutting-edge capacity to react to difficult questions by creating text-based queries. Today, a variety of organizations, including journalists and content writers, have begun to investigate ChatGPT's possibilities for delivering text material on a variety of themes and participating in discussions with almost flawless grammatical language (Puspitasari A, et.al. 2024)

ChatGPT is an advanced conversational AI built by OpenAI, based on the GPT (Generative Pre-trained Transformer) architecture. It is designed for open-ended, natural conversations and can handle a wide variety of topics and tasks. ChatGPT works as NLP. It is one of the branches of science Artificial Intelligence that studying communication between humans and computers through natural language (Hormansyah & Utama, 2018). Now days, ChatGPT is very common for students and lecturers in Universitas PGRI Kalimantan. They use it to help them solving any problem about education. The creation of language models, which was pioneered by OpenAI, can be linked to the antecedent history of ChatGPT. To attain artificial general intelligence, the research organization OpenAI has focused a ot of attention on the creation of sophisticated language models. Highly autonomous systems with extraordinary efficiency are referred to as artificial general intelligence when they beat humans at economically advantageous tasks. (Chukwuere, J.E. 2024)

As a product of technology, NLP and its construction in chatbot platforms are widely used in various human interests, including in this discourse the use for sales. Many businesses currently use chatbot artificial intelligence to support company work, one of which is in the marketing sector. Some research related to chatbot development in business is research on chatbot design that is used to improve business performance by recording orders, order processing, customer records, business locations, and financial transactions (Amalia & Wibowo, 2019).

Natural Language Processing (NLP) is a tool to process spoken or written language of human being in everyday conversations through computer. The computational process must be represented into a series of symbols that fulfil certain rules. In the process, NLP will make computer can understand any commands or standard language that is commonly written or performed by humans. The input of the commands entered by the user will be answered by the application of ChatGPT. It can be applied in the form of NLP (Natural Language Processing) which is one of the fields of Artificial Intelligence) to study communication that is by humans with computers through natural language.

Despite these advancements, limited research has focused specifically on using AI to teach English to computer science students. This gap highlights the need to study AI-driven language acquisition methods tailored for the needs of computer science learners.

3. Method

This study used an experimental approach to analyse the effectivity of AI tools in teaching English to computer science students. We assessed the effectiveness of AI-driven tools Namely ChatGPT. It is Used to simulate real-life written conversations in English and help students practice to write English sentences using technical terminology in computer science. The research follows a qualitative data collection technique. This approach allows for a comprehensive analysis of the impact of AI tools on students' learning experiences. This is also used to gain insights into students' perceptions, experiences, and feedback on using AI tools in the learning process. The study aims to answer the following research questions: What are the roles of AI tools in teaching English for computer science? The researcher will observe the students while they complete tasks (e.g. technical-English writing tasks) to compare engagement, focus, and the efficiency of AI in assisting with language challenges. This study involved the computer science students of STKIP PGRI Banjarmasin enrolled in English language courses at the first semester. The research aims to provide insights into how AI tools can enhance English language learning for computer science students by tracking their progress, improving their engagement, and providing personalized assessments. The findings could contribute to the development of more effective AI-based language learning strategies tailored to the unique needs of computer science students.

4. Results and Discussion

The results indicated substantial improvements in English proficiency and language confidence among the participants. Key findings include:

AI Technology Can Improved Technical Vocabulary:

Using AI in teaching English to computer science students can significantly improve their technical vocabulary. AI tools can adapt to each student's learning pace and knowledge level. For computer science students, AI can generate exercises focused on technical terms like "algorithm," "encryption," or "compiler." By customizing content, students are exposed to vocabulary relevant to their field, ensuring they learn words that are practical and meaningful to them.

Here are some exercises generate by AI focused on technical terms like **algorithm**, **encryption**, and **compiler**, designed to enhance understanding and retention of these terms: This type of exercise typically very important to be implemented both by teacher and student.

a. Match each technical term to its correct definition:

Technical Term	Definition
Algorithm	A step-by-step procedure for solving a problem or completing a task.
Encryption	A process of converting data into a coded form to protect it from unauthorized access.
Compiler	A program that translates source code written in a programming language into machine code.

b. Complete the sentences using the correct technical term (**algorithm**, **encryption**, or **compiler**):
   1. The _____ ensures that sensitive data sent over the internet is protected from hackers.
   2. A sorting _____ is used to organize data in ascending or descending order.
   3. Without a _____, the code written in Python would not run on a computer.

c. Decide whether each statement is true or false:
   1. An **algorithm** is only used in computer science.
   2. **Encryption** ensures that only authorized users can read the data.
   3. A **compiler** can execute the code directly without translating it into machine language.

d. Scenario-Based Questions
   1. You are designing a password manager. Which process would you use to protect users' passwords: **algorithm**, **encryption**, or **compiler**? Explain your choice.
   2. Your team needs to organize a list of user data efficiently. Would you use an **algorithm**, **encryption**, or **compiler**? Why?

e. Word Formation
   Form sentences using the following technical terms:
   1. Algorithm 2. Encryption 3. Compiler
   Example: "The programmer used a **compiler** to convert the source code into an executable file."

f. Crosswords or Word Search
   Include technical terms as part of a puzzle where students need to find words like **debugging**, **syntax**, **database**, **algorithm**, **encryption**, and **compiler** in a grid or complete a crossword with their definitions.

These exercises not only test knowledge but also encourage critical thinking and practical application of technical vocabulary.
Here is an example list of **relevant vocabulary for computer science students** learning English. This vocabulary also generates by AI (Chat GPT) and It may able to generate more:

- **CPU (Central Processing Unit)**: The brain of the computer that executes instructions.
- **Cache**: A small, fast memory for storing frequently used data.
- **Motherboard**: The main circuit board connecting all computer components.
- **Peripheral**: External devices like a mouse, keyboard, or printer.
- **Bus**: A communication system that transfers data between components.
- **Encryption**: The process of converting data into a secure, coded format.
- **Firewall**: A system that blocks unauthorized access to a network.
- **Protocol**: A set of rules for data communication (e.g., HTTP, FTP).
- **IP Address**: A unique identifier for a device on a network.
- **Server**: A computer that provides data or services to other computers.
- **Client**: A device or program that accesses services from a server.
- **Packet**: A unit of data sent across a network.
- **DNS (Domain Name System)**: Translates domain names into IP addresses.

This vocabulary list is directly applicable to computer science contexts, making it highly relevant for both academic and professional communication in English.

AI Technology Can Increase Student Engagement

AI can increase student engagement in teaching English to computer science students, we can analyze the following points with practical examples and evidence-based reasoning: AI tools adapt content to individual learning levels, interests, and progress. For computer science students, AI platforms can integrate technical content, such as programming vocabulary and concepts, into English lessons.

Evidence:

- Adaptive learning systems like Duolingo and Grammarly improve engagement by tailoring tasks to the learner's proficiency.
- Example: A computer science student might receive exercises like analyzing the syntax of programming languages while learning English grammar.

Impact:

When lessons feel relevant to their field of study, students are more likely to stay engaged.

AI can integrate gamified elements into learning, like quizzes or challenges where students decode programming jargon or explain concepts in layman's terms. **Layman's terms** refers to simple, easy-to-understand language that avoids technical jargon, complex terms, or specialized vocabulary. It's a way of explaining something so that anyone, regardless of their background or expertise, can understand it.

Example:

- **Technical Language:** "The compiler translates high-level programming code into machine-readable instructions."
- **Layman's Terms:** "A compiler is a tool that changes the code you write into a language the computer can understand."

Using layman's terms is especially helpful when communicating with people who may not have expertise in a specific field, such as when explaining complex topics to beginners, non-technical audiences, or clients.

AI Technologies Can Tailor Learning Experiences

Tailor learning experience means customizing or personalizing the learning process to fit the unique needs, abilities, preferences, and goals of individual students. Just like a tailor adjusts clothing to fit someone perfectly, educators or tools (like AI) adjust teaching methods, materials, and activities to suit each learner's specific requirements.

For example:

- If a student is struggling with technical English vocabulary, the learning experience might focus more on that area.
- For an advanced learner, the content might include more complex technical discussions or writing tasks.

By tailoring the learning experience, students are more likely to stay engaged, progress at their own pace, and achieve better outcomes.

AI can tailor the learning experience for computer science students studying English at least by these five ways:

1. Focusing on relevant vocabulary.

   Teaching relevant vocabulary is crucial when helping computer science students learn English because it ensures the language, they acquire is directly applicable to their academic and professional needs. Relevant vocabulary refers to words, terms, and phrases that are specifically aligned with a student's field of study or work. For computer science students, this includes technical jargon, industry-specific terminology, and commonly used expressions in software development, hardware, networking, data science, and more. By focusing on relevant vocabulary, teachers empower computer science students to seamlessly integrate language learning into their technical expertise, ensuring they are prepared for both academic success and professional growth.

2. Adapting difficulty levels to match student abilities.

Adapting difficulty levels in education means tailoring learning materials and tasks to align with a student's current knowledge, skills, and progress. For English learners, especially computer science students, this approach ensures that lessons are neither too easy (causing boredom) nor too difficult (causing frustration). Instead, it creates an optimal learning environment that keeps students challenged and motivated. Adapting difficulty levels ss important because: 1) **Enhances Engagement**: Students remain interested when lessons are at the right difficulty level for their abilities. 2) **Promotes Confidence**: Success with appropriately challenging tasks builds self-esteem and encourages continued learning. 3) **Optimizes Learning**: Gradually increasing complexity ensures steady progress without overwhelming the learner. 4) **Reduces Dropout Rates**: Students are less likely to feel discouraged and disengage from learning. To adapt difficulty levels in Teaching English to Computer Science Students can be done by: Assess Student Abilities and gradually increase vocabulary complexity. Adapting difficulty levels in teaching English ensures that computer science students gain the language skills needed for their field without feeling overwhelmed or disengaged. By meeting students where they are and challenging them appropriately, educators can create a supportive and effective learning environment.

3. Offering real-time feedback and corrections.

Real-time feedback and corrections involve providing immediate responses to a student's errors or achievements during the learning process. This approach helps students identify and address mistakes promptly, improving their understanding and reinforcing correct usage. In teaching English to computer science students, real-time feedback ensures that they can quickly correct language errors and communicate technical ideas effectively. Offer Real-Time Feedback and Corrections can be done by giving oral feedback. For example: Correct pronunciation or usage during conversations or presentations. Or use prompts to guide students toward the correct answer rather than simply providing it. *Example*:

A: Student: "The algoritm is not efficient."

B: Teacher: "Good sentence! Remember, the correct spelling is **algorithm**, not **algoritm**. Let's repeat that together."

Leverage AI-powered tools to give real-time corrections in grammar, spelling, and sentence structure. For example: **Grammarly:** Highlights errors and offers explanations. **Duolingo:** Provides instant feedback on vocabulary and sentence formation during exercises. And **Code Comments in English:** Tools like GitHub Copilot can correct technical phrasing in programming.

Offering real-time feedback and corrections helps computer science students improve their English skills quickly and effectively. By addressing errors immediately, teachers can enhance comprehension, build confidence, and ensure students are equipped to use English in technical and professional contexts. This personalized and interactive approach makes the learning process more efficient and engaging.

4. Providing contextual and multimodal learning resources.

Contextual and multimodal learning resources are tools, materials, and activities that combine meaningful real-world scenarios with diverse forms of media (text, visuals, audio, video, and interactive elements). For computer science students learning English, these resources can bridge the gap between theoretical knowledge and practical application, making learning more relevant, engaging, and effective. **Contextual learning** means teaching concepts by relating them to real-world situations or specific fields of study. For example, when teaching computer science students, English vocabulary and grammar lessons can incorporate scenarios. **Multimodal learning** involves using various formats (e.g., visuals, videos, interactive simulations, and written content) to appeal to different learning styles and reinforce understanding. For example, students can read an article on artificial intelligence, watch a related tutorial, and then practice describing AI concepts verbally or in writing.

Providing contextual and multimodal learning resources makes English education more practical and engaging for computer science students. By combining real-world relevance with diverse formats, educators can ensure students not only grasp language concepts but also apply them effectively in technical and professional settings.

5. Tracking progress and personalizing assessments.

Tracking progress and personalizing assessments are key components in creating an effective and student-centered learning environment. In the context of teaching English to computer science students, these practices help monitor individual progress, tailor learning experiences to specific needs, and ensure that students are mastering the necessary language skills at their own pace. Tracking progress refers to monitoring a student's development over time, understanding their strengths and areas for improvement. For computer science students learning English, tracking progress involves observing how they acquire technical vocabulary, grammar, writing, and speaking skills in relation to their field. This enables teachers to adjust lessons to ensure continuous growth. Personalizing assessments means tailoring tests, quizzes, assignments, and projects based on each student's individual needs, learning pace, and abilities. Rather than applying a one-size-fits-all approach, personalized assessments provide the opportunity for students to demonstrate their knowledge and skills in a way that aligns with their learning journey and current proficiency.

Tracking progress is important because it can: 1) **Identify Gaps in Learning**: Teachers can pinpoint specific areas where students struggle, such as technical vocabulary or grammar. 2) **Motivation and Confidence**: Seeing progress, even in small steps, encourages students to keep learning.3) **Adaptation to Student Needs**: Teachers can adjust teaching methods to suit individual student needs, ensuring they remain engaged. 4) B**ette**r **Outcomes**: Tracking ensures that no student is left behind, and all are moving toward their learning goals. On the other hand, personalizing assessments is used to:1) **Address Individual Strengths and Weaknesses**: Customizing assessments lets teachers focus on areas where a student may need more practice (e.g., vocabulary, speaking, or writing).2) **Varied Assessment Types**: Not all students show their understanding the same way. Personalizing assessments lets students showcase their skills through written tests, oral presentations, or practical tasks. 3) **Fairer Evaluation**: Personalization makes it easier to assess students based on their learning needs, rather than comparing them to a general standard.

Tracking progress and personalizing assessments are powerful methods for ensuring that students, particularly those studying English for computer science, are constantly improving in a way that is suited to their personal learning journey. By using these methods, educators can foster an environment where students are motivated, confident, and fully engaged in both their language learning and their technical education.

By integrating these capabilities, AI creates a customized, engaging, and efficient learning environment for technical English mastery.AI offers diverse learning materials, such as videos, interactive exercises, and audio lessons, tailored to different learning styles. For computer science students, this might include tutorials on technical presentations or listening exercises based on coding podcasts. Multimodal resources accommodate individual preferences, keeping learning engaging and effective.

5. Conclusion and Suggestion

AI offers promising applications for teaching English to computer science students, providing benefits such as 1) improving technical vocabulary, 2) increase student engagement and 3) tailor learning experience by a.) Focusing on relevant vocabulary, b) Adapting difficulty levels to match student abilities, c) Offering real-time feedback and corrections, d) Providing contextual and multimodal learning resources, and e) Tracking progress and personalizing assessments. As AI

technology advances, it will likely play an increasingly vital role in language education, particularly for fields where technical language proficiency is crucial.

To maximize the potential of AI in language learning for computer science students, educators should consider the following:

1. Implement AI Tools Across Curriculums: Incorporate chatbots, NLP, and personalized learning platforms to create a tailored language learning environment.
2. Balance AI with Human Instruction: Combine AI tools with human instructors to address complex language nuances and ensure a comprehensive learning experience.
3. Focus on Technical Vocabulary: Tailor AI language resources specifically for technical and programming terminology essential for computer science.

References

Amalia, E. L., & Wibowo, D. W. (2019). Rancang Bangun Chatbot Untuk Meningkatkan Performa Bisnis. Jurnal Ilmiah Teknologi Informasi Asia, 13(2), 137–142. https://doi.org/10.32815/jitika.v13i2.410

Chukwuere J. E, (2024): Today's Academic Research: The Role of ChatGPT Writing. Jurnal of Information System and Informatics Vol. 6 No.1 https://doi.org/10.51519/journalisi.v6i1.639

Hormansyah, D. S., & Utama, Y. P. (2018). Aplikasi chatbot berbasis web pada sistem informasi layanan publik kesehatan di malang dengan menggunakan metode tf-idf. Jurnal Informatika Polinema, 4(3), 224–228. https://doi.org/10.33795/jip.v4i3.211

Macartey, J, 2027: What is artificial Intelligence? http://wwwformal.stanford.edu/jmc/

Nuryadin, Riki and Marlina, 2023, The Use of AI (artificial Intelegence) in Education (literature review) Indonesian Jurnal for Primary Education Vol. 7 No 2 tahun page 143 -158

Puspitasari, A., Paradhita, A. N., Tineka, Y. W., Sulistyowati, V., Noriska, N. K. S., & Haryanto. (2024). Natural Language Processing (NLP) Technology for Chatbot Website. *Jurnal Penelitian Pendidikan IPA, 10*(SpecialIssue), 319–324. https://doi.org/10.29303/jppipa.v10iSpecialIssue.8241

STUDENTS' RESPONSES OF MUHAMMADIYAH 3 BANJARMASIN JUNIOR HIGH SCHOOL TO LOCAL WISDOM BASED LEARNING IN SCIENCE SUBJECTS

Muhammad Rendy Fathurrahman, Ervia, Siti Ramdiah
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Biology Education Study Program
Banjarmasin, Indonesia
mrendyf2602@gmail.com
erviavia103@gmail.com
sitiramdiah@upk.ac.id

Abstract. Local wisdom-based learning in science subjects is relevant in the modern era to improve students' understanding of science concepts while linking them to the surrounding culture and environment. The problem is the lack of studies that explore how the application of local wisdom can influence students' interest, understanding and motivation in learning science. This study examines the response of Muhammadiyah 3 Banjarmasin Junior High School students to local wisdom-based science subjects. The focus of this study is to understand how often teachers relate science materials to the culture and environment around students, and how students respond to this approach. This study will collect data on students' views on the importance of local wisdom in science learning. This research uses a quantitative approach with a survey method. The number of research subjects was 41 7th grade students of Muhammadiyah 3 Banjarmasin Junior High School. The instrument used was a closed questionnaire and was distributed in the class of students under study. The questionnaire has 20 questions with a scale from 1-4 which is assessed based on the criteria "strongly disagree to strongly agree". The results of this study showed that students chose a positive response to local wisdom-based science learning. As many as 73.17% of students agreed that science learning associated with local wisdom made them more interested in protecting the environment. Most students also agreed that the application of local wisdom can increase creativity (68.29%), help them remember science material (51.22%), and provide additional insight into the environment and local culture (85.37%). Overall, the results of this study show that local wisdom-based learning not only improves students' understanding of science concepts, but also strengthens environmental awareness and appreciation of local culture.
Keywords: Local Wisdom-Based Learning, Response, Science

1 Introduction

Natural Science (IPA) is one of the subjects contained in the junior high school curriculum. Natural Science is closely related to nature and the various events that occur in it. Natural Science is not only a unity in the form of facts, concepts, or principles, but also a process of discovery. Science learning is a method that provides students with scientific knowledge, perspectives, skills, and values (Yantol et al., 2018). Through science learning, students are expected to master science conceptually and recognize natural phenomena that occur around scientifically.

Science learning needs to be pursued so that there is a balance between scientific knowledge itself and the cultivation of scientific attitudes, as well as values that exist and develop in society. Learning experiences that show more links between conceptual elements will make the science learning process more effective. By introducing students to everyday experiences, science learning becomes more interesting and fun for students because they gain knowledge directly from what they observe

(Laksana, et al., 2019). Thus, through science learning students can understand the surrounding environment and can apply science concepts to everyday life and can scientifically explain natural phenomena that occur around them, so that learning becomes more effective. One alternative way for students to easily understand the surrounding environment is by integrating local wisdom in science learning.

Local wisdom is one of the elements of Indonesia's cultural wealth that should be preserved. Local wisdom is the intellectual heritage of a community that is directly related to their living environment, so it can be used as a more relevant educational tool. Efforts to preserve local wisdom can be done by introducing local wisdom values to students, especially for junior high school students as a foundation for shaping student character (Foa, et al, 2024). Local wisdom-based learning has great potential to increase students' learning motivation. The concept of local wisdom-based learning is to link learning with local/regional wealth in the form of knowledge, insights, customs, culture that is inherited and maintained as an identity (Foa, et al, 2024).

The integration of local wisdom in science subjects can provide a more holistic insight into natural phenomena and increase students' awareness of the importance of maintaining the ecosystem. Local wisdom-based learning not only integrates science, but also cultural values and traditions that exist in society. In science learning, it is necessary to create an atmosphere that is directly related to students' experiences so that students can be more active in the learning process. By integrating local wisdom, science materials can be presented in a context that is closer to the geographical conditions and local culture, especially in the Banjar region.

The local wisdom-based approach is not new in the world of education, even many subjects have integrated local wisdom in it. Local wisdom in science subjects aims to improve the quality of education in a way that is more relevant and interactive for the local community. However, the implementation of local wisdom-based learning in science subjects in formal schools is still relatively new and requires careful evaluation to determine its impact on the learning process. The problem is the lack of studies that explore how the application of local wisdom can influence students' interest, understanding and motivation in learning science.

This study aims to explore how students respond to learning methods that link science materials with local wisdom. This research focuses on the response of Muhammadiyah 3 Banjarmasin Junior High School students to local wisdom-based learning in science subjects. This research is expected to provide an overview of the effectiveness of the approach and its contribution to increasing students' motivation and understanding in learning science. This research is expected to make a positive contribution in the field of education, especially the integration of local wisdom in science subjects.

2 Methods

This research uses a quantitative approach with survey method. This approach makes it easier to identify students' perceptions more clearly, so that the data obtained can be used to analyze students' tendencies towards local wisdom-based science learning. The survey method was chosen because it allows data collection from a large number of respondents in a relatively short time. The instrument used is a closed questionnaire and is distributed directly in the class of students under study. Questionnaires that have been filled in will be collected back. The questionnaire has 20 questions with a scale from 1-4 which is scored based on the criteria “strongly disagree to strongly agree”. The scoring rules can be seen in **Table 1**.

Data collection was conducted on Wednesday, October 16, 2024 in grade 7 of Muhammadiyah 3 Banjarmasin Junior High School. The number of research subjects was 41 students from grade 7 of Muhammadiyah 3 Junior High School Banjarmasin. The data obtained from the questionnaire were analyzed descriptively by calculating the percentage of answers in each category (strongly disagree to strongly agree). Using a 4-point scale for 20 statements, the total possible score ranges from 20 to 80. The score categories can be seen in **Table 2**. A picture of the activities during data collection can be seen in **Figure 1**.

Table 1 Scoring rules

Score	Categories
1	Strongly Disagree
2	Disagree
3	Agree
4	Strongly Agree

Table 2 Student response rate criteria

Score	Responses rate
20-35	Very Low
36-50	Low
51-65	High
66-80	Very High

Figure 1: Data collection

3 Results

Local wisdom is a cultural characteristic of a region or an idea that includes how to interact with other humans, humans and their environment, and humans with their belief system (Endayani, 2023). The integration of cultural values and national character is very important in the learning curriculum, so that students can understand the concept of culture in their area. Science learning based on local wisdom is learning that unites schools with the culture that exists in the community. The learning process through local wisdom will make students more familiar with their own local culture and foster an attitude of environmental care (Sumarni, 2024).

The results of this study show that the integration of local wisdom in science learning received a positive response from students of Muhammadiyah 3 Banjarmasin Junior High School, with a significant increase in their interest and motivation to learn. Students felt more connected to the material being taught. It increases students' interest and motivation, enhances students' creativity, and provides additional insights into the environment and local culture. Questionnaires identified that students were more active and participated and showed better understanding compared to conventional learning methods.

A total of 73.17% of 41 students agreed that local wisdom-based science learning makes them more interested and encourages interest in protecting the environment. This finding is consistent with the literature which shows that learning approaches that are relevant to local culture can improve

students' understanding and learning outcomes. In the implementation of local wisdom-based learning, students are focused on understanding the concepts and principles of science so as to improve student understanding (Putri et al, 2023). The implementation of local wisdom-based learning is also able to increase student interest and motivation through linkages with local culture (Amaliyah, 2023).

The study by Shufa dan Adji (2024) supports this result by stating that the integration of local culture in learning can encourage the development of creative, critical and innovative thinking that is relevant to students through the local context. Furthermore, as many as 51.22% of students felt that the application of local wisdom helped them in remembering science materials, in accordance with previous findings showing that local experience-based learning facilitates the recall of scientific concepts (Laksana, et al., 2019).

In addition, as many as 85.37% of students stated that this approach added to their insight into the environment and local culture. These results are reinforced by a study from Putri et al. (2023), which showed that local wisdom-based learning can increase students' awareness of the surrounding environment and conserve the wisdom values that exist around them. In the Banjarmasin area, which is rich in cultural diversity and natural resources, this approach can provide a concrete context, deepen students' scientific understanding, and strengthen their environmental awareness.

Overall, this study supports the integration of local wisdom in science learning to strengthen students' interest and understanding of science and increase their connection to the environment. The importance of local wisdom in education lies not only in cultural recognition, but also in developing students' positive attitudes towards the environment. With this approach, students not only understand scientific concepts, but also gain a deeper appreciation of local culture as well as the drive to protect their environment (Foa, et al, 2024).

4 Conclusion

The integration of local wisdom in science subjects can provide a more holistic insight into natural phenomena with a context that is closer to local geographical and cultural conditions. The results showed that students responded positively to local wisdom-based science learning. As many as 73.17% of 41 students agreed that local wisdom-based science learning makes them more interested and encourages interest in protecting the environment. Furthermore, 51.22% of students felt that the application of local wisdom helped them in remembering science materials. In addition, 85.37% of students stated that this approach broadened their knowledge about the environment and local culture. Overall, the results of this study indicate that local wisdom-based learning not only improves students' understanding of science learning concepts, but also strengthens environmental awareness.

5 References

Amaliyah, N. (2023). Implementasi Pendekatan Pembelajaran Berbasis Kearifan Lokal dalam Meningkatkan Minat Belajar Siswa di MTS Miftahus Sudur Campor Proppo. *Jurnal Pendidikan Sosial Humaniora*, *2*(3), 129–147.

Endayani, H. (2023). Model Pendidikan Berbasis Kearifan Lokal. *Pema (Jurnal Pendidikan Dan Pengabdian Kepada Masyarakat)*, *3*(1), 25–32.

Foa, A. J., Dinatha, N. M., Itu, K. E., & Moza, M. A. (2024). Nilai Kearifan Lokal dalam Pembelajaran IPA SMP. *Jurnal Citra Pendidikan*, *4*(2), 1735–1745.

Laksana, D. N. L., Seso, M. A., & Riwu, I. U. (2019). Content and Flores Cultural Context Based Thematic Electronic Learning Materials: Teachers and Students' Perception. *European Journal of Education Studies*, *5*(9), 145–155.

Putri, A., Azzahra, U., & Siregar, Z. S. (2023). Implementasi Pembelajaran Sains Berbasis Kearifan Lokal dalam Pembelajaran Biologi: Sistematika Literatur Review. *Prosiding Seminar Nasional Biologi*.

Shufa, N. K. F., & Adji, T. P. (2024). Pembelajaran Terintegrasi STEAM berbasis Kearifan Lokal: Strategi Signifikan dalam Meningkatkan 4 Cs di Abad 21. *Prosiding Seminar Nasional Ilmu Pendidikan*, 55–67.

Sumarni, M. A., Jewarut, S., Silvester, Melati, F. V., & K. (2024). Integrasi Nilai Budaya Lokal Pada Pembelajaran di Sekolah Dasar. *Journal of Education Research*, *5*(3), 2993–2998.

Yantol, R., Diplan, Kartini, N. H. (2018). Upaya Meningkatkan Hasil Belajar IPA dengan Model Pembelajaran Scramble-Media Visual Peserta Didik Kelas IV SDN 4 Panarung Tahun Pelajaran 2017/2018. *Jurnal Hadratul Madaniyah*, *5*(1), 27–31.

Development of Web-Based Learning Media on The Reproductive System Material in Biology Subjects at MA Darul Imad

Muhammad Yusuf, Abidinsyah, Rabiatul Adawiyah
University of PGRI Kalimantan, Faculty of Social and Humanities
Biology Education Study Program,
muhammadyusufsn142@gmail.com
abidinsyah@upk.ac.id.
rabiatuladawiyah@upk.ac.id

Abstract. Based on the results of the analysis of teacher and student needs at MA Darul Imad, there are difficulties in learning caused by the less-than-optimal use of learning media used because learning more often uses LKS and textbooks which make students feel bored during learning. Various existing learning media, web-based media provide opportunities to increase enthusiasm for learning in biology subjects. Web- based learning media is very easy to use and access because only a link is needed to use it. For this reason, research was conducted on the development of web-based biology learning media on the reproductive system material at MA Darul Imad. The purpose of this study was to determine the feasibility and response of teachers and students regarding the web-based learning media that I developed. The type of research conducted is research and development, the resulting product is a web- based biology learning media on the reproductive system material at MA Darul Imad. The development model used is the ADDIE model with stages, namely: Analysis, Design, Development, Implementation, Evaluation. The test subjects in this study were 24 students of MA Darul Imad Class X C. The data collection instrument used a validation questionnaire from experts, teacher and student responses. The data analysis technique uses several criteria that will indicate the level of feasibility and response from teachers and students. The learning media product produced in the research and development in the form of web-based learning media on biology subjects can be accessed via the link: mediapembelajaran.muhammadyusuf.online. This type of development research uses the ADDIE model as a stage in each process. The results of the learning media that have been developed get a score of 80.9% so that it is categorized as feasible from the validators and gets a score of 89.6% so that the response from teachers and students is categorized as very satisfied.
Keywords: development, biology learning media, web

1. Introduction

Learning media are materials and tools that can be used to convey messages or information. According to Kristanto (2016) media is an important factor in improving the quality of learning. This is due to the development of technology in the field of education which demands efficiency and effectiveness in learning. To achieve an optimal level of efficiency and effectiveness, one of the efforts that needs to be made is to reduce or even eliminate the dominance of the verbalistic lesson delivery system by using learning media.

Teachers are expected to be able to use learning media that can make students understand the main topic, as well as the material studied in learning activities directly in the classroom. With the development of learning media, it will make it easier for teachers to teach and students to understand the material faster, Pratiwi (2020). Because biology is one of the subjects that contains many concepts that must be understood by students, learning media is very necessary for teachers and students.

Based on the results of the analysis of the needs of teachers and students at MA Darul Imad, there are difficulties in learning caused by the less-than-optimal use of learning media. Because learning more often uses LKS and textbooks which make students feel bored during learning. Information was obtained that the learning activities carried out were rarely using learning media. And learning activities are still focused on the material in the LKS and textbooks.

This condition is caused by several things, including the lack of availability of learning media and the limited time for teachers to find and create learning media. The lack of use of learning media can have an impact on the lack of student activity in learning, especially in biology subjects. A similar thing was found by Harini, at al (2015) who stated that students who are less active in learning, and have difficulty responding to learning materials which have an impact on not achieving the specified KKM, so that students are more active in learning, there must be variations and one of them is using learning media.

One of the media that can be used in the world of education is by using the web. The web is one of the innovations in the world of information technology whose contribution and impact are very large on changes in learning resources, with the web learning activities are no longer just listening to explanations of material and descriptions of material from teachers, but students can also enjoy other activities such as listening, seeing, reading, observing, asking, collecting data, associating and communicating. According to Ramadhan (2023) the learning that is carried out can be less effective and students are less enthusiastic in learning if learning media is not used. By creating different learning activities, students will not get bored easily because the learning is clearer and easier to understand.

Reproductive system material is often considered trivial because the discussion is considered taboo to describe. And the media for this material is very rarely found in schools, even in laboratories at the college level is not yet available. In the media of statues or mannequins, the organs of the body always cover and eliminate the reproductive organs. Therefore, I developed this media to be an addition and choice for biology subject media.

Several relevant studies and previous studies that have similarities in title, content, discussion and topics that I will examine. In Pratiwi (2019) the material was collected into one and typed using Microsoft Word which was collected from various citation sources, both books, journals, and other references. The material will be posted on the blog web page via the admin panel page. In the Januarisman (2016) the researcher used two research methods, namely Borg & Gall and the Alessi & Trollip development method. The product in the form of web-based learning media in science subjects uses WordPress CMS (Content Management System) software. Meanwhile, other research results from Pratiwi (2019) related to the development of web-based media contain materials and videos that are processed into html form which will then be processed with the VSCODE application. From the research above, each media has differences in both the method of creation, media design applications and content on the web media that I created and the completeness of the features in it, even the material is also different, but my research uses online media, namely web-based. Seeing the problems above, teachers are expected to be able to use learning media during the learning process in class so that they can attract students' attention and be useful in the learning process in class. Based on the background that I have explained above, research on the development of web-based learning media on the reproductive system material in biology subjects is important to be carried out as an alternative to overcome the lack of availability of learning media in schools.

2. Method

The research design used is to produce a specific product and test the effectiveness of the product, namely research and development (R&D). This research design uses the ADDIE research and development method which consists of five stages. In fact, there are many other development training models.

The researcher processes the development of this web-based learning media to create educational products and learning media with the ADDIE development model which has five stages, including analysis, design, development, implementation, and evaluation. The five connected and sequential components of the ADDIE development model require the process to be sequential and the initial stage or analysis to the fifth stage, namely evaluation. Compared to other design approaches, the five stages of development are quite easy. This development design model is basic and well-structured, so it is easy to understand and use (Winaryati 2021).

3. Results and Discussion

The presentation of product trial data consists of expert validation results, each of whom is competent and understands the data that is an expert in the field. The validation results of two media

experts, validation results from two material experts, and validation results from two language experts. As well as the results of the trial response data from the assessment questionnaire by teachers and students. The presentation of the questionnaire results from each validator of media, material, and language experts is presented in the table below.

Table 4.1 Validation Data Results

No	Validation Aspect	Results	Category
1	Media Validator 1 Muhammad Hidayat, M.Kom Validator 2 Fujianor Maulana, S.Pd, M.Si	 83% 75%	 worthy worthy
2	Material Validator 1 Nana Citrawati Lestari, S.Si, M.Pd Validator 2 Dr. Siti Ramdiah, M.Pd	 82% 60%	 worthy quite decent
3	Language Validator 1 Dr. Haswinda Haspriyanti, S.Pd, M.Pd Validator 2 Johan Arifin, M.Pd.	 94% 87%	 very worthy very worthy
Amount		481	
Average		80,1%	
Category		worthy	

The presentation of response data from teachers and 24 students is presented in the table below.

Table 4.2 Response Data Results

	Name	Results	Category
1.	Mahrita Aryani, S.Pd	94%	very worthy
2.	Erniatul Mardiah	100%	very worthy
3.	Jamhuri Ilmi	100%	very worthy
4.	Rafi Ramadani	100%	very worthy
5.	Nor Syifa	100%	very worthy
6.	Selmi Mawarni	100%	very worthy
7.	Nanda Alika	100%	very worthy
8.	Sari Jamilah	96%	very worthy
9.	Zahratun Nida	90%	very worthy
10.	Muhammad Ridha	96%	very worthy
11.	Muhammad Fajriansyah	96%	very worthy
12.	Misbah	92%	very worthy
13.	Mukharamah	94%	very worthy
14.	Maulana	94%	very worthy
15.	Muhammad Zainal Abidin	88%	very worthy
16.	Ovina Zahwa	92%	very worthy
17.	Muhammad Agil	86%	very worthy
18.	Mersa Nadia	96%	very worthy
19.	Rizqa Amalia	78%	worthy
20.	Rizqa Dewi	88%	very worthy
21.	Aulia Rahma	92%	very worthy
22.	Husna Maulida	92%	very worthy
23.	Amira	86%	very worthy

24.	Novi Amelia	90%	very worthy
25.	Almira Kurniati	90%	very worthy
	Amount		2.242
	Average		89,6%
	Category		very worthy

The assessment of the developed learning media consists of several assessment steps, namely media expert validation consisting of 3 assessment aspects, namely presentation, appearance, and compatibility aspects carried out by two lecturers, getting results of 83% from validator 1 and 75% from validator 2. Validation of material experts consisting of 4 assessment aspects, namely material, presentation, language, and contextual aspects carried out by two lecturers, getting results of 82% from validator 1 and 60% from validator 2. Language validation consisting of 2 aspects, namely content and language carried out by two lecturers, getting results of 87% from validator 1 and 94% from validator 2. Feasibility is obtained by adding up all the results of the validation questionnaire from media, material and language experts. The total results of the questionnaire from the six validators amounted to 481. The average feasibility result was 80.1%, so the web-based learning media that I developed is included in the feasible category. As in the Januarisman (2016) that web-based learning media must have characteristics such as interactivity, independence, ease of access, and the availability of enrichment in the use of technology so that learning media contains many diverse and useful features.

Web-based learning media is said to be feasible for several reasons related to advantages in terms of accessibility, effectiveness, flexibility, and advantages in its features. Categorized as feasible because the media has been assessed and in the assessment process there are suggestions and inputs. So that the resulting media is evaluated and improved according to suggestions and inputs such as adding features. Improvements to grammar, punctuation, symbols, and words in the content of the material in the learning media. Updates to the references to the materials used, simplification of the material and a summary of the overall discussion that is made simple and full of pictures to be better than before.

The assessment of the response from biology subject teachers consisting of 4 aspects got a result of 94% and was included in the very satisfied category. The assessment of student responses consisted of 3 aspects, namely usefulness, ease, and satisfaction. Getting a total result of 89.5% from 24 students, so it is included in the very satisfied category.

Teacher and student responses were obtained by adding up all the questionnaire results from teachers and students. The total number of responses from teachers and students was 2,242. The average response from one teacher and 24 students was 89.6 so that the web-based learning media that I developed was included in the very satisfied category.

The satisfaction criteria obtained were also based on direct expressions from teachers and students that the learning media created was good to continue to be developed. The features on the media are also diverse which makes the media interesting to use. There was even a request to add other discussions of biology subjects. Satisfaction can be seen from several benefits of this learning media, including:

a. Students can access learning materials anytime and anywhere, as long as they have an internet connection.
b. Web-based learning media can be designed to be interactive, with features such as quizzes, videos, simulations, and discussion forums that can increase student engagement.
c. Materials can be adjusted to the needs of individual students, allowing for more personal and adaptive learning.
d. Students can learn independently and develop independent learning skills that are important for lifelong education.

In fact, web-based learning media that can support biology learning activities are still very limited.

Learning media used based on analysis results needs, teachers still often use textbooks, LKS, overhead projectors, whiteboards and LCDs. Teachers have not implemented web-based biology learning media in teaching and learning activities, even though biology subjects, especially at the high school/vocational high school level, contain a fairly broad scope of material.

Problems related to the limitations of learning media are certainly very much in contrast to the development of increasingly modern and sophisticated technology. The sophistication of technology should make it easier for teachers and students to access quality resources. Developing quality and digital-based learning media in learning is important in building an information-based education system. The urgency of this problem is not only found in a small number of schools but in almost all schools (Januarisman, 2016).

The media that has been developed has met the criteria for web learning media based on the presentation by Hartiwi (2024) web-based learning media used in this study is a learning tool or intermediary that uses a site (website) that can be accessed via the internet. This media presents a discussion of learning materials and audio, video, visuals. The media that I have developed contains many features that make it different from other web-based media.

The difference lies in the many features such as downloading materials, requesting materials, having learning videos, and a new appearance. In accordance with the explanation of Muthmainnah (2021) that in education technology can be used as a practice to facilitate the learning process and improvement through the creation, use, management of projects, technology, and appropriate resources. As a teacher we should be able to utilize technology to find and even create learning media. Education should aim to teach students in efforts to obtain knowledge, information, skills, and other attitudes that must be achieved by students. Education is also expected to provide motivation and encouragement to students to increase their interest in learning. Students are the main and first factor in education, they become the subject that is the center of education. The teacher's task is to create a permissive learning situation, it is hoped that the character of students will be more comfortable with learning in the classroom. Therefore, educational activities must be developed in order to achieve the ability, potential, and strength to learn Abidinsyah (2016). To achieve all that, there needs to be an innovation in learning, namely by using web-based learning media as in the results of my research above that the learning media received screen criteria by experts and received very satisfied responses from teachers and students.

4. Conclusion

The results of the research on the development of web-based learning media conducted at MA Darul Imad are as follows:

1. The development of web-based learning media in biology subjects at MA Darul Imad has been declared feasible.
2. The responses of teachers and students to the development of web-based learning media were declared very satisfied.

References

Abidinsyah. (2016). Curriculum 2013 as the Manifestation of Character-Based Constructive Dynamics. *Florea: Journal of Biology and Its Learning*, *3*(2), 1–8. e-jurnal.unipma.ac.id

Harini, Sri Utami Dwi, and S. S. (2015). The Use of Environmental Media to Improve Students' Learning Outcomes and Students' Activity of Class XI-TKJ of SMKN 1 Semen Kediri. *Proceeding Biology Education Conference: Biology, Science, Environmental, and Learning*. https://scholar.google.com/scholar

Hartiwi, J. (2024). Analysis of Blended Learning Based Learning in Lectures at ITBA Dian Cipta Cendikia. *Learning: Journal of Innovation in Educational Research and Learning*, *4*(1), 35–42. https://www.jurnalp4i.com/index.php/learning/article/view/2746

Januarisman, E. and G. A. (2016). Development of Web-Based Learning Media for Natural Science Subjects for Grade VII Students. *Journal of Educational Technology Innovation*, *3*(2), 166–182. http://journal.uny.ac.id/index.php/jitp accessed

Kristanto, A. (2016). *Learning media*. Bintang Surabaya.

Muthmainnah, dkk. (2021). *Learning Model and Design System*. Muhammad Zaini Publishing Foundation Member of IKAPI.

Pratiwi, O. (2019). *Development of Web-Based Biology Learning Media for Grade XII Evolution Material at SMA Negeri 1 Meulaboh*. UIN Ar-Raniry Banda Aceh.

Prawita, A., Purwo, A., & Utomo, Y. (2020). Analysis of Directive Speech Acts in Mata Najwa Youtube Channel " Because of Corona : Why Indonesia Is Not Like Singapore ". *Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, *4*(1), 101–110. http://journal.unj.ac.id/unj/index.php/aksis/article/view/15380/8852

Ramadhan, Dika Novan, dkk. (2023). Implementation and Development of Reading, Writing, and Arithmetic Game Learning Media to Improve Literacy and Numeracy at SD N 04 Kemuning. *Scientific Journal of Teaching Campus. Muhammadiyah University of Surakarta*, *3*(1), 13–25. https://doi.org/10.56972/jikm.v3i1.81

Winaryati, Eny, dkk. (2021). *Circular Model of RD&D (Educational and Social RD&D Model)*. KBM Indonesia Banguntapan.

The Analysis of Educational Value in Detachment Movie Directed by Tony Caye and Written by Carl Lund

Muhammad Agung Bijaksono, Yulieda Hermaniar
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
English Language Education Study Program
Banjarmasin, Indonesia
magungbijaksono@gmal.com
yuliedahermaniar@upk.ac.id

Abstract: The objective of this research is to identify the educational values found in a popular literary form, namely the movie **Detachment.** This research uses descriptive qualitative approach. The data are obtained from the movie and transcript dialog of the movie. The technique of collecting data is in the form of documentation method. The subject of this research is the Detachment Movie directed by Tony Kaye and written by Carl Lund. The process in analyzing the data is done by organizing and preparing data for analysis, read or look at all data, start coding all of the data, used coding process to generate a description, interrelating theme, and interpreting the meaning of theme. The results of the analysis show that the most prominent value found in the movie is love and affection. Other identified values include kindness and friendliness, respect, self-confidence, honesty, and bravery. Some tentative suggestion can be proposed as follows; for the teacher, expand the medium of learning using movie as the learning media; for the student, they are able to know the negative and positive from the movie the watch and not watching a movie as entertainment only; future researcher, are able to use this research as resources.
Keywords**:** Education Value, Detachment Movie

1. Introduction

From birth through death, education is a process of lifelong learning that influences a person's personality. Anyone in the family, school, or community can pursue an education. In the home, school, and community context, education can be provided in informal, non-formal, and formal ways. Informal education typically comes from the family environment, while formal education is typically received through school. As their children's primary or primary educators, parents have a crucial role in the family environment. This type of education focuses more on the character and behavior of the students. One effective and creative method for implementing this type of education is using movies.

Besides, one of the popular literary works is the movie. A movie is a recording of moving images that tells a story, viewed on a screen or television. However, the researcher chose the movie in this research, because the movie has many interesting sides that we can see, like the action, audio, visual, location, situation, technology, etc (Aoudah, 2016). Therefore, it is easier for the audience to grasp the messages of the movie itself. In today's student environment where everything is easy, one form of entertainment that is very easy to get now is movies. Nowadays it is easy to watch a movie. Meanwhile, movies can be material for learning media especially with educational value.

Movies serve as an educational medium that effectively convey messages, making it easier for audiences to understand and absorb educational content. There are many advantages to convey education in movie. As Harmer states that movie can help to see language in use, pick up a range cross cultural clues, allow everyone to entry into a whole range of other communication worlds included how the rules of behavior in social and business situations. Certainly, with support their parents, from movie or film which they see, children can get education include in the movie. Movie is one of literature that can be used to convey education. Because movie is not only as interesting media in learning but also can be introduced for the people with educational values. Then, watching movie can help to develop motivation of people in learning English (Viska Tri Cahya, 2019). I It is important for students to

understand the educational values in movies, as they can relate to the characters and emulate their actions. Extracting these values helps students improve their morals and behaviour in social interactions orals and behavior in socializing.

The relationship between literary works and educational values, the main character is a substitute teacher and the setting is in a school, that's why the researcher chose this movie as the object of analysis. Literary works can provide not only academic information, but also information about the noble character of a person who fights for human rights which is shown by the attitudes and actions of people in literary works which is movie that helps to make become a better person. Therefore, Researchers are interested in examining research with the following titles: "The Analysis of Education Value in Detachment Movie Directed by Tony Kaye and Written by Carl Lund".

2. Method

This particular type of study uses qualitative descriptive research. Because the researcher intends to characterize and analyze the educational values in the Detachment movie, the researcher uses qualitative descriptive methods. The researcher first identifies the many kinds of educational values contained in the Detachment movie before going on to describe them. There are two types of data sources: primary and secondary. The movie provides the source of the main data for the analysis. On the other hand, the secondary data supported the primary data by coming from additional sources such as transcribed dialog. In this research, the documentation method is used to collect data. The goal of the documentation method is to obtain relevant information from books, videos, and other materials. The documentary approach was used by the researcher to analyze the data in this research. This approach aims to identify the original source of information in the form of documents that are relevant to further analysis. By using a documentation method, data is gathered from many sources such as the internet, videos, transcriptions, and books. In this instance, the researcher used a video and transcription dialogue. Thus, in order to gather data for this study, the researcher decided to use the documentation approach. For data analysis, the researcher adopted. (Creswell, 2016)qualitative analysis method, which includes six steps: (1) organizing and preparing data for analysis, (2) reading and reviewing all data, (3) coding the data, (4) generating descriptions through the coding process, (5) interrelating themes, and (6) interpreting the meaning of the themes.

3. Result and Discussion

The Result, there are eleven education values that found in the movie in total. The most prominent value found in the movie is love and affection, with five instances identified. Following with other value, they are two Kind and Friendliness, one Respect, one Self Confident, one Honesty, and one Brave. Discussions, the most value that is found in the movie is Love and Affection with five data. Love and affection are Love and Affection is positive feelings that can be embraced and expressed towards other people and things. You can show your love to dear friends, dear neighbors, and dear friends who love to hate us and emphasize the lifelong responsibility to convey to the family. Love and affection are pleasant feelings for other people or things that you may experience or express. The sensation of enjoying and giving attention to someone or something is referred to as affection.

In previous research conducted entitled "An Analysis of Education Values in Nemo Movie" one of the values he is found is Love. In this research the finding of the value is Love and Affection, basically the same value, the differences is in Love and Affection just more information about affection.

Based on explanation above, Love and affection is the feeling that can be expressed toward other people. For example, that found in the movie, example that show love and affection, In the movie main character Henry Barthes is really love his father, his father is old have dementia and traumatized that threaded in nursing house. In a while Henry always visit his father and accompanied his father to sleep, even until the last time with his father.

Next value that has been found kind and friendliness with two data, Kindness is a person's friendly attitude towards others and things. He admits that good and loving attitudes are more commendable than rude attitudes. Kind and friendly are also defined as a positive attitude toward other

people or things. It is more admirable to be kind and sympathetic than to be rude and aggressive. Tenderness, especially in younger or weaker people, can signal this and the ability to build and implement new relation.

In the previous research conducted entitled “An Analysis of Education Values in Nemo Movie”. In his research, hi found kind friendliness value in his research. While in this research also found kind and friendliness value in the movie.

Kindness and friendliness refer to treating others with a positive and supportive attitude. For example, that found in the movie show kind and friendliness: Erica asks Henry for money but Henry hesitant to give money, Henry asks to go to his house to get some food instead. Shows Henry even with another people that just he meets if other need helps and he are able to help, he always helps others.

Next value that has been found is respect. A Respect isa way of treating or thinking about something or someone. It also can define as act in a way which shows that you are aware of someone’s right, wishes etc. Characteristics of respect are treat others with respect, be tolerant and accepting of differences, use good manners, not bad language, be considerate of the feelings of others, don’t threaten, hit or hurt anyone, deal peacefully with anger, insults, and disagreements.

In the previous research respect appear in two study conducted by (Suryatin, 2020)entitled “An Analysis of Education Value in Life of Pi Movie”. Entitled “An Analysis of Education Values in Nemo Movie”. Based on that can be concluded respect value is commonly appear generally in a movie.

Respect involves acting in a way that acknowledges and honors someone else's rights and dignity. The example that shows respect in the movie: In short of speech as speaker we should show respect to audience, in the movie when Mr. Mathias as Supervisor speak in opening speech, then Mr. Mathias said about how he respects the teacher profession.

Then, the value that found in the movie is Self-Confident with one data has been found. Self-confidence is a human attitude that manifests itself as the limit of ability recognition. The characteristics of self-confidence mean that believing in them means that confident people believe in themselves and are very confident that their lives have a specific purpose. Confidence also is one of manner to believe to their ability. Characteristic of confidence are believed in themselves it’s means that confident people believe in themselves, and they strongly believe that their life fulfills a special important purpose in the world.

In previous research that is conducted entitled “An Analysis of Education Values in Nemo Movie”. He also found the value is self-confident. In his research the value divided into two main category and self-confident is part of Value of Being. in this research self-confident is also part of Value of Being.

Base on the explanation above, following is the example of self-confident that found from the movie: in this scene when Henry Barthes is going to teach the class for the first time. He walks from corridor to in front of class and faced by a new face of student that just meets today. When he come from corridor into class, he shows how confident he is because he knows he have a lot of experience to teaching a new student.

Then next value that has been found is Honesty, Honesty is one of the manners for human beings to educate themselves to courageous confess, say, or provide records suitable to truth and reality. Honesty may be executed closer to others, institutions, society, ourselves. Strength and self-belief come from deep due to the fact there has been not anything to hide.

In the previous research respect appear in two study conducted by (Gendis Madu Astuti, 2021) entitled “An Analysis Educational Values in ‘Sing’ Movie”. An Analysis of Education Values in Nemo Movie. They have been found honesty value in their research that in this research in line with their research. Base on explanation before, following is the example of Honesty that found from the movie: As a principle of the school Principle Carol tell the truth about student condition to Henry as a new substitute teacher.

The final value identified is bravery. Bravery, or courage, refers to the attitude of persevering and performing one's best even in difficult circumstances. Courage can also be interpreted as the act of overcoming dangers, difficulties, and weaknesses and struggling and maintaining something that is considered good and right. Brave is a attitude which appear from human that can be a dare to try things that either though difficult. Brave also can define as one of action to struggle and maintain something

which believed as something good and right with pass a danger, difficulty and weakness. Brave can apply to oppose the flow is moving towards one, courage to say no, courage to provide, courage to admit the mistake and courage to require apologize. To measure bravery from someone, it can know from the action also can know from the statement to.

In the previous research respect appear in two study conducted entitled "An Analysis of Education Values in Nemo Movie". In his research he also found the brave value. In his research the value also divided into two main categories and Brave is part of Value of Being. In this research Brave is also part of Value of Being. Base on explanation before, following is the example of self-confident that found from the movie: when Henry first time comes in to the class, he confronted by one of the students. Henry calmly faces the situation.

As an additional discussion that needs to be known, according to Qualitative research has strengths and weaknesses. The main strength of qualitative research lies in the flexibility of the researcher's style to describe the research flow with very open research problems. Because in qualitative research new possibilities can occur when the research is carried out. Meanwhile, the weakness of qualitative research lies in how carefully the researcher captures important moments or data when the research occurs. Therefore, this research is not intended to generalize, other researchers who examine the same themes and objects may have different data results.

One thing to point in this research is differentiation about culture between American and Indonesia especially culture in educational field. Differentiation about student delinquency, in America the mischievous as show in the detachment movie the student really braves to against the teacher even until approaching face to face in front of the teacher meanwhile in Indonesia the mischievous is about the student did not follow the rule and disobeying the teacher. And differentiation about how the teacher teaching in the class between America and Indonesia, in America as shown in the movie the teacher explains the material study and after that the teacher give a student chance to ask about the material study and give the home work in necessary, actually there is not much difference between America and Indonesia especially that show in the movie. In the ending part in the movie show the farewell between the teacher and student this culture has similarity in Indonesia for example in Indonesia have culture call *pesta Perpisahan.*

Last thing that has to mention in this research is about the movie, the movie not suitable to all ages. The movie is suitable for student that reach 17 year or more, because the movie contain scene that not appropriate to imitate. The student that reaches 17-year-old is more likely area able to differentiating which one is bad and good even though still need to guide by an adult or teacher.

4. Conclusion

After analyzing the movie, the researcher could conclude up this chapter by addressing the research focus, which is: what are the educational values that can be present in Detachment movie? The researcher discovered various forms of educational value after analyzing the film and obtaining the necessary data. The information was categorized into different categories with educational value, each of which describes the data's presentation in the film. In this research, there are nine education values that found in the movie in total. The most prominent value found in the movie is love and affection, identified in five instances. Following with other value, they are two kind and friendliness, one respect, one self-confident, one honesty, and one brave. These are the educational values identified in the movie *Detachment*.

5. Acknowledgements

This paper was fully supported by Universitas PGRI Kalimantan, Faculty of Social and Humanities, English Language Education Study Program.

References

Aoudah, H. (2016). *A Study of Social Values in The Legend of Korra; A Film Directed By Michael Dante Dimartino And Bryan Konietzko*. Universitas Mataram.

Creswell, J. W., &Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Gendis Madu Astuti. (2021). *An Analysis of Educational Values In "Sing" Movie*. University Sultan Maulana Hasanuddin Banten.

Suryatin, E. (2020). The shift in the use of Greetings by the Banjar Millennial Generation in the city of Banjarbaru. Inscription. *Journal of Linguistics*, *5*(1), 39–51.

Viska Tri Cahya. (2019). *An Analysis of Educational Value In Moana Movie*. University Lampung.

The Strategies Used by English Teacher to Encourages Students to Speak at SMAN 1 Tebing Tinggi

Megawati, Norliani
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
English Language Education Study Program,
Banjarmasin, Indonesia
norliani@upk.ac.id

Abstract. The purpose of this research is to find out what are the teacher strategies use in teaching speaking English SMAN 1 Tebing Tinggi. This research used in descriptive qualitative. Technique of collecting the data observation checklist. The data analysis used data condensation, data display and data drawing and conclusion.This study focuses on: What are the strategies used by English teacher to encourage student to speak at SMAN 1 Tebing Tinggi. The aim of this study is to describe a strategies teacher to encourage students to speak. This research is qualitative research, and population of the research was SMAN 1 Tebing Tinggi and the sample was XI Science 25 student.In this section, And as a result, teachers implement a variety of identified strategies that include group or mate work, teacher control, hard reading, and role-playing. However, it is known that teachers more often use combined strategies to improve student speaking skills and overall, more effective strategies for students to speak more actively and create a pleasant atmosphere, that is, all applied by teachers except for voice recording strategies that are not applied in class but outside the classroom in applying students practice themselves at home
Keywords: Teacher Strategies; Speaking

1. Introductions

Language is the means by which humans communicate or engage with others. Language allows us to convey our feelings and ideas. It is a language that the listener can readily understand, therefore language is essential for a person's communication, whether expressed through writing or orally. Similarly, with speaking, speaking is the act of communicating with others through language (Fulcher, 2015). This implies that this activity includes two or more individuals, with participants acting as both hearers and speakers, requiring them to respond quickly to whatever they hear and contribute at a fast rate of speed, with each participant having an intention or set of intentions. Besides that, according to (Ur,1996) One of the four language abilities, speaking, is the most crucial since people who acquire a language are referred to as speakers of that language (Ur, 1996). It means that the students have to master it but there are many students but there are many students who are lack to speak English. Teachers should use several strategies to deal with students to reduce their difficulty in speaking and to help them become fluent. English teachers must actively develop students' speaking skills by incorporating communicative language practice and media use into lessons and offering ample practice opportunities.

2. Method

According to (Sugiyono,2008) there are two parts of the collection of research data namely population and sample. The population of this research was SMAN 1 Tebing Tinggi and the sample was class XI Science, they are 25 students, consisting of 12 male students and 13 females. Then for sample data is the portion of the population taken to represent the population in its entirety that is used by respondents in a study. The researchers used these samples according to the conditions in the classroom when learning took place.

According to Miles, Huberman and Saldana (2014:13), qualitative data analysis consists of three plots of activity which are data condensation, data display, drawing, and verify conclusion.

According to Miles, Huberman and Saldana (2014:13), data condensation directs the process of selection, focus, simplification, abstract, written field records, interviews, transcripts, documents, and other empirical material. In the process of data condensation, researchers obtain data by performing sheet observations during research activities, in this step researchers identify data with the formulation of research problems based on the strategies used by English teacher to encourage student to speak at SMAN 1 Tebing Tinggi.

The next step after data condensation is to present data or display data. In qualitative research, data presentation is done in the form of brief descriptions, tables and paragraph sentences. Miles and Huberman (2001) stated that the most commonly used to present data in qualitative research are narrative texts. Data display of this research are table and narrative text.

The final step is to make conclusions and verification. Making conclusions can be defined as the process of collecting data content in the form of statements. Researchers draw conclusions based on checklist observation data carried out during two meetings. Researchers draw conclusions based on data and what they have collected, then analyse everything to draw conclusions.

In this step, the researchers wrote down the conclusions based on the observation data and compared the first and second observations. This observation confirms answers to research questions about the strategies teacher to encourage students in dealing with less active students speaking English. The conclusion of this study uses qualitative descriptive to focus on the strategies used by English teacher to encourage student to speak at SMAN 1 Tebing Tinggi.

Table 1. Instrument of the Research

No	Teachers Strategies	Indicators	Yes	No
1	Groupwork	1. Form groups 2. Give tasks to groups 3. Each group performs tasks 4.Teachers evaluate students		
2	Teachers controlled	1. Groups that have been divided 2. Tasks are divided into groups. 3. The teacher gives freedom to students, or the teacher only guides students through the student learning process. 4. evaluation		
3	Reading aloud	1. Individual/group. 2. assignment to students. 3. students read loudly with intonation, reading marks and expressions 4. evaluation.		
4	Role play	1. grouping 2. choosing appropriate roles 3. conducting dialogue 4. Evaluation		
5	Tape recorder	1. person, 2. recorded voices while speaking, 3. Then listened back, 2 evaluations		

3. Results and Discussions

Based on the above discussion, the teacher uses only 4 strategies, namely, teachers using group work, controlling teachers during learning, reading aloud, and role play. For the initial phase of the table, more explaining the preparations that the teacher makes for the students to enter before entering the learning process, and for the second table, ore focused on students to speak in person, in pairs and groups. Based on the results of the discussion above, there is a strategy that the teacher does not use, namely tape recorder because it is only used outside the classroom to support student activity.

The Result of the first observation

No	Teachers Strategies	Indicators	Yes	No
1	Groupwork	1. Form groups 2. Give tasks to groups 3. Each group performs tasks 4.Teachers evaluate students	✓ ✓ ✓ ✓	
2	Teachers controlled	1. Groups that have been divided 2. Tasks are divided into groups. 3. The teacher gives freedom to students, or the teacher only guides students through the student learning process. 4. evaluation	✓ ✓ ✓ ✓	
3	Reading aloud	1. Individual/group. 2. assignment to students. 3. students read loudly with intonation, reading marks, and expressions. 4. evaluation.	✓ ✓ ✓ ✓	
4	Role play	1. grouping 2. choosing appropriate roles 3. Conducting dialogue 4. Evaluation	✓ ✓ ✓ ✓	
5	Tape recorder	1. person, 2. recorded voices while speaking, 3. Then listened back, 4 evaluations		✓ ✓ ✓ ✓

Based on data observations from the researchers above, there are four teacher strategies to encourage student to speak namely, the teacher uses group work, teacher control during learning, reading aloud, and role-play.

Table 2 The Result of the second observation

No	Teachers Strategies	Indicators	Yes	No
1	Groupwork	1. Form groups 2. Give tasks to groups 3. Each group performs tasks 4.Teachers evaluate students	✓ ✓ ✓ ✓	
2	Teachers controlled	1. Groups that have been divided 2. Tasks are divided into groups. 3. The teacher gives freedom to students, or the teacher only guides students through the student learning process. 4. evaluation	✓ ✓ ✓ ✓	
3	Reading aloud	1. Individual/group. 2. assignment to students. 3. students read loudly with intonation, reading marks and expressions. 4. evaluation.	✓ ✓ ✓ ✓	
4	Role play	1. grouping 2. choosing appropriate roles 3. conducting dialogue 4. Evaluation	✓ ✓ ✓ ✓	
5	Tape recorder	1. person, 2. recorded voices while speaking, 3. Then listened back, 4 evaluations		✓ ✓ ✓ ✓

This second data observation is not so much different from the first observation, there are four teachers' strategies encourage student to speak English, namely, teachers using group work, controlling teachers during learning, reading aloud, and role play.

4. Conclusions

In conclusion, research conducted on teachers' strategies in dealing with encouraging students to speak English, the researchers revealed the findings of teachers applying various identified strategies that include group or mate work, teacher control, reading aloud, and role-playing. However, it is known that teachers more often use combined strategies to improve student speaking skills and overall, strategies used to further encourage students to speak as well as enhance school programmes teachers implement overall strategies except for voice recording strategies that are not applied in class by teachers, although voice recordings are applied by students independently outside of school hours or at home.

Reference

Bailey, 2000:25. *Speaking is interaction where speakers intend to build meaning through producing, receiving and processing information*.

Bailey, K., & Nunan, D. (2000). *Practical English language teaching speaking*.

Brown, G., & Yule, G. (1999). *Teaching the Spoken Language. Cambridge*:

Brown, H. D. & Abeywickrama, P. (2010). *Language assessment: principles and classroom practice (2nd ed.)*. New York: Pearson Education Inc.

Brown, H. Douglas. *Principles of Language Learning and Teaching*.4th Ed. New York: Pearson

Brown, H.D. 2004. *Language Assessment Principles and Classroom Practices*. New York: Pearson Education, Inc. Cambridge University Press.

Cameron, L.2001. *Teaching Languages to Young Learners*. New York: Cambridge University. Education and Longman, (2000).

Fulcher 2003:23. *Speaking is the use of language communicate.*

Fulcher, G. 2003. *Testing Second Language Speaking*. London: Longman.

Harmer, J. (2001). *How to Teach English, Seventh Impression*. Malaysia: Longman.

Hornby, A. S. (2000). *Oxford Advanced Learner's Dictionary of current English (6th ed.).*

Juhana. 2012. *Psychological Factors That Hinder Students from Speaking in English Class (A Case Study in a Senior High School in South Tangerang, Banten, Indonesia).* Thesis. The English Department, Indonesia Open University.

Kaelan. 2005.*Metode Penelitian Qualitative, Pustaka Setia Bandung Milles, M.B. and Huberman, M.A. 1984. Qualitative Data Analysis*. London: Sage Publication

Kayi, Hayriye. 2006. *Teaching Speaking*

Larsen-Freeman, D. (2009). *Teaching and Testing Grammar*. In Long, M.H. & Catherine, J. Doughty (ed.), *The Handbook of Language Teaching (pp. 518-542).* Malde, MA: Wiley Blackwell.

Larsen-Freeman, Diane. *Techniques and principles in language teaching*. (2nd edition) Oxford: Oxford University Press.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis:* A method sourcebook (Third edition). Second Language.

Oxford: Oxford University Press.Huckin, T. N. & Olsen, L. A. (1991). *Technical writing and professional communication for non-native speakers of English*. New York: McGraw Hill.

Sugiyono (2008). *Metode Penelitian Pendidikan: Pendidikan kuantitatif, Kualitatif, dan R & D.* Bandung: Alfabeta.

Tasmia. (2019*). Students' Problems In Speaking English At Eight Grade Of Riyadhul Amien Islamic Boarding Junior High School Muaro Jambi. State Islamic University Of Sulthan Thaha Saifuddin Jambi*.

Ur, P. (1996). *A Course in language teaching*: Practice and Theory. Cambridge

Development of Interactive Learning Media Based on Articulate Storyline 3 on Computer Network Hardware Materials

Muhammad Raju Al Amin Maulana[1], Muhammad Rizki Zulkarnain[2], Dina Afriani[3]
Universitas PGRI Kalimantan, Faculty of Science and Technology,
Information Technology Education Study Program[1,2,3]
Banjarmasin, Indonesia
rajujaro023@gmail.com,
rizkizulkarnain@upk.ac.id,
dinaafriani@upk.ac.id

Abstract. When learning Computer Network Hardware at SMK Bina Banua, Banjarmasin, media has not been used. This is the researcher's assumption as one of the reasons why many students still have difficulty understanding the material. Learning media is an important component in the education system that enriches the learning process and offers innovative methods to improve student understanding. Therefore, researchers developed learning media based on Articulate Storyline 3, Computer Network Hardware material. This research has reached the stage of testing media eligibility that has been developed. The research method used is R&D adapted from the Borg and Gall model with five stages: preliminary study, planning, initial product development, testing and evaluation, and final product and deployment. This research produces interactive learning media products for Computer Network Hardware material, in APK format. The results of the feasibility test: material expert validation results are 4.70 in the Very Good category, media expert validation results are 4.67 in the Very Good category, individual trial results are 4.64 in the Very Good category, and field trial results namely 4.82 in the Very Good category. Therefore, it can be concluded that this learning media is suitable for use in the learning process
Keywords: learning media, research and development, articulate storyline 3, media eligibility

1. Introduction

In the era of increasingly information technology, understanding Computer Network Hardware has also become very important for class X students of the Computer and Network Engineering Skills Program (TKJ) at SMK Bina Banua Banjarmasin. Computer Network Hardware is a device used to connect two or more computers in a computer network so that each connected computer can share data, files and other resources, for example using routers, switches, and so on. Computer Network Hardware is the main foundation in understanding and applying information and communication technology (ICT) in everyday life, both in the context of education and the world of work.

There are still many students at class X TKJ have difficulty understanding Computer Network Hardware material. Learning does not yet use concrete media that can attract students. The lack of visual examples such as pictures makes it difficult for students to understand the material, making students confused about recognizing each component, tool and computer network hardware. So, when students occupy higher classes or enter school internships, some of them still don't understand some computer network hardware. These problems certainly create challenges for teachers to be able to present complex material in a way that is interesting and easy for students to understand. A teacher must choose the right media in learning so that learning activities become more effective and efficien (Sari, 2024). The media used in the teaching and learning process will have an influence on students in understanding the subject matter presented by the teacher. By utilizing appropriate learning media, it is hoped that student's absorption of the material being taught will increase (Herfani, Zulkarnain, & Afriani, 2023).

In the digital era, of course learning requires media that can attract students' attention. Learning media is an intermediary used by a teacher to convey learning so that it can attract students' attention when learning. Learning media is a learning aid that can attract students' attention during learning, so

that students do not feel bored when participating in the teaching and learning process (Fitri & Ardipal, 2021); Rowntree (Fadilah, Nurzakiyah, Kanya, Hidayat, & Setiawan, 2023). Learning media becomes an intermediary in conveying learning objectives. The benefits of learning media in particular: the delivery of learning material can be uniform, the learning process becomes more interesting, the learning process becomes more interactive, the amount of teaching and learning time can be reduced, the quality of student learning can be improved, the learning process can occur anywhere and at any time, a positive attitude students towards the learning process can be improved, and the teacher's role can change in a more positive and productive direction Suwarna, etc (Fadilah, Nurzakiyah, Kanya, Hidayat, & Setiawan, 2023). The use of learning media by utilizing technology is very important to support student learning success.

There are many learning media now, one of which is interactive learning media. Interactive learning media is a tool that presents learning material and allows interaction between users and the media. This media is very effective in the teaching process because it can reduce student boredom. Apart from that, the use of interactive learning media also helps students understand the material more easily because of its attractiveness, so that students become more focused during the learning process (Gunawan, et al., 2022). Interactive learning is a learning method or technique used by teachers when presenting learning material, the teacher is the main actor in creating an educational interactive situation, namely interaction between teacher and student, student and student and with learning resources in supporting the achievement of learning goals, Rohmalina Wahab (Firdausia, Setiawan, & Maulidnawati, 2023). Interactive learning media can be a solution to support learning in the classroom. One of the interactive media that can be used is Articulate Storyline, because this software is very interesting when used as an interactive learning medium. And this software can involve students in learning so that students can be active and make learning easier for students to understand (Yasin & Ducha, 2017). Articulate Storyline can be used as a learning medium in the classroom or as a learning medium for students themselves. Therefore, researchers developed interactive learning media based on Articulate Storyline 3 which is expected to be a solution to existing problems (Yumini & Rakhmawati, 2015).

2. Method

This type of research is Research and Development (R&D). R&D serves to validate and develop products. Validating a product means that the product already exists, and researchers are only testing the effectiveness or validity of the product. Developing products in a broad sense can take the form of updating existing products so that they become more practical, effective and efficient or creating new products that have not previously existed (Sugiyono, 2022).

This research uses the Borg and Gall model which has been modified by Wibowo and Nugroho into 5 stages: (1) Preliminary study, consisting of needs analysis and curriculum analysis. At this stage, it is carried out to obtain information about the actual conditions occurring in the field so that information can be obtained. use and need for learning media in classroom learning; (2) Planning, consisting of determining media development goals, determining learning materials developed in media and compiling media assessment instruments; (3) Initial product development, consisting of initial design planning (material framework , concept maps and interface design), create media, validation of material experts and validation of media experts; (4) Trial and Evaluation consisting of individual trials and field trials; (5) Final product and distribution, which is produced in the form of learning media based on the Articulate Storyline 3 application on Computer Network Hardware materials.

The instruments used are validation sheets (material and media) and trial sheets (individual and field). The instrument was created using a Likert-5 scale. Material expert validation was tested by two material experts, media expert validation was tested by two media experts, and one to one evaluation and field trials evaluation were tested by students. The validation results, both material and media expert validation, as well as the results of one-to-one evaluation and field trial evalution are analyzed to determine the eligibility of the media being developed. The media eligibility categories used as a reference for analysis are:

Table 1 Category of Media Eligibility

Mean	Category
$\bar{X} > 4{,}01$	Very Good
$3{,}34 < \bar{X} \leq 4{,}01$	Good
$2{,}66 < \bar{X} \leq 3{,}34$	Enough
$1{,}99 < \bar{X} \leq 3{,}34$	Not Enough
$\bar{X} \leq 1{,}99$	Very Less

The mean score ($\bar{X}$) is calculated using the formula:

$$\bar{X} = \frac{\Sigma x}{N}$$

where $\bar{X}$= mean; Σx = number of score; N = number of indicator.
This category was created referring to Sudijono's media eligibility guidelines (Nugraha & Muhtadi, 2015). The minimum limit for product eligibility is good, as a result of assessments from material experts, media experts and students. The product developed is said to be eligible for use if the overall final assessment results for each learning aspect, content aspect, display aspect and programming aspect are at least good.

3 Results And Discussion

The results of research and development of Android-based Computer Network Hardware learning media consist of several parts, including the following:

1. *Home Page*

This initial page contains a greeting, a form to fill in student personal data so that student personal data can appear on the next page, save and continue buttons to continue to the next page.

Figure 1: Home Page

2. Pop-up

If students do not fill in their name or class on the home page, a pop-up page will appear with an error inputting their personal data. Apart from that, there is a close button to exit on this page so that students can re-enter their data.

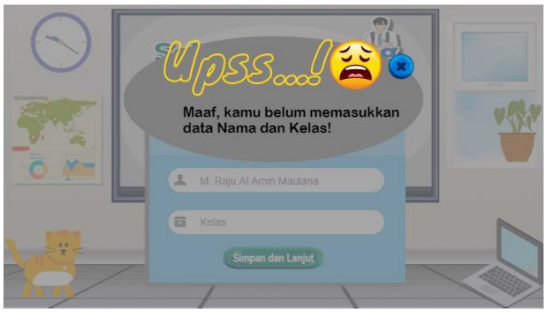


Figure 2: Pop up

3. Menu

On this page there is the identity of the school and media, the name of the participant/student and their class when they have filled in the personal data form on the home page. On this page there is also a description of the material and there is a mute/unmute button (reducing and increasing the volume of the music), a menu button which will be directed to the pop-up menu page and a back button which will be directed to the home page.

Figure 3: Menu

4. Pop-up Menu

On the pop-up menu page there are several menu options including Introduction, Material, Instructions, Evaluation and Developer Profile.

Figure 4: Pop-up Menu

5. Introduction Page

On this page there are Pancasila student profiles, Learning Objectives Flow, subjects, learning materials, Learning Achievements and Learning Objectives, along with a home button to return to the pop-up menu page.

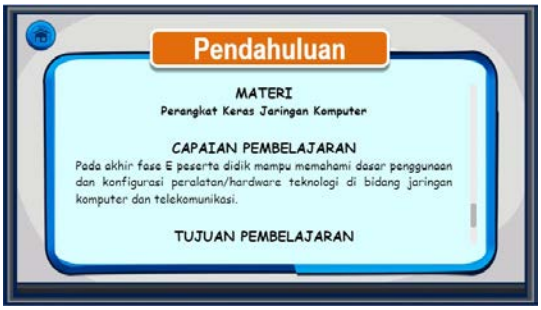


Figure 5: Introduction Page

6. Material Page

On the material page there is the content of the material complete with learning videos. On this page there are also several buttons including a home button to return to the pop-up menu page, a button to move to the previous page and the next page, as well as a button or icon to enlarge the image and play the learning video.

Figure 6: Material Page

7. User Manual Page

The user manual page is a page that contains a collection of buttons and image icons and descriptions to make it easier for users/students to recognize the buttons in this learning media application. On this page there is also a home button to return to the pop-up menu page.

Figure 7: User Manual Page

8. Evaluation Instructions Page

The evaluation instructions page contains instructions before carrying out an evaluation, both offline and online. On this page there are buttons to start offline and start online to go to the evaluation filling page and there is a home button to return to the pop-up menu page.

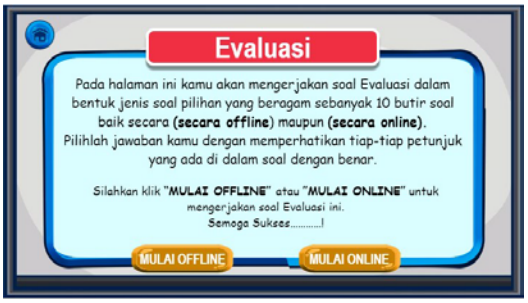


Figure 8: Evaluation Instruction Page

9. Evaluation Page

On this page there are two different pages, the offline and online evaluation pages.

Figure 9: The Offline Evaluation

Figure 10: The Online Evaluation

10. Score Page

On this page there are also two different pages, the offline evaluation score page and the online evaluation score page. This page will appear when the user/student has finished carrying out the evaluation on the evaluation page.

Figure 11: The Offline Evaluation Score

Figure 12: The Online Evaluation

11. Developer Profile Page

On the developer's profile page there is the university logo, developer's photo and the developer's personal data. On this page there is also a home button to return to the pop-up menu page.

Figure 13: Developer Profile Page

After the media is developed, the eligibility of the media is measured. The results of material expert validation:

Table 2 The Results of Material Expert Validation

Assesment Aspect	**Number of Indicator**	**1st Validator**		**2nd Validator**		**Mean**	**Category**
		Score	**Mean**	**Score**	**Mean**		
Learning Aspects	9	42	4.67	43	4.77	4.72	Very Good
Content Aspect	8	38	4.75	37	4.62	4.69	Very Good
		Mean				**4.70**	**Very Good**

The results of media expert validation

Table 3 The Results of Media Expert Validation

Assesment Aspect	**Number Indicator**	**of1st Validator**		**2nd Validator**		**Mean**	**Category**
		Score	Mean	Score	Mean		
Display Aspect	11	52	4.72	51	4.63	4.68	Very Good
Programming Aspect	12	57	4.75	55	4.59	4.67	Very Good
		Mean				4.67	Very Good

Product revisions were made to this learning media based on suggestions given by the validator, providing evaluation or taking grades online to make it easier for teachers if they had a need to take student grades in the product that had been developed

Next, one to one evaluation and field trial evalution were carried out using 10 indicators. The mean score obtained from the results of individual trials on 5 students was 4.64, very good category. Meanwhile, the average score obtained from the results of field trials on 19 students was 4.82, very good category. Overall results obtained:

Table 4 The Assesment Results of Media Eligibility

Mean	Category
Material Expert Validation	Very Good
Media Expert Validation	Very Good
One to One Evaluation	Very Good
Field Trials Evaluation	Very Good

All stages of the assessment are in the very good category, so it can be said that the learning media developed is eligible for use.

The learning media developed is eligible for use in the learning process because this media contains several texts, images and videos related to computer network hardware material so that this media can help teachers in conveying learning material. As stated by Trimansyah, one of the reasons for strengthening learning at this time must be supported by interactive multimedia, namely that visualization in the form of text, images, audio, video and animation will be better remembered and captured by students (Trimansyah, 2021). Apart from that, this media is interactive by adapting to students' learning styles. Surjono stated that the interactivity of a learning media is an important thing because interactivity will encourage active learning and will support the media to become more interesting and increase student learning motivation (Suhartini, Ayu, & Ramli, 2022).

4. Conclusion

The process of developing Interactive Learning Media Based on Articulate Storyline 3 Computer Network Hardware Material at class X TKJ SMK Bina Banua Banjarmasin, goes through several stages which have been carried out including, introduction, planning, media development, validation and testing and the final product. The development of this learning media product was carried out with the help of Articulate Storyline 3 software, which was then converted into an Android application in Apk format. The learning media developed is eligible for use as learning media because it exceeds the minimum limit for product eligibility, in the good category.

Reference

Fadilah, A., Nurzakiyah, K. R., Kanya, N. A., Hidayat, S. P., & Setiawan, U. (2023, Maret). Pengertian Media, Tujuan, Fungsi, Manfaat dan Urgensi. *Journal of Student Research (JSR)*, 01-17.

Firdausia, S., Setiawan, I. P., & Maulidnawati, A. (2023, Januari). Pengaruh Penggunaan Model Pembelajaran Interaktif (Explicit Instruction) terhadap Karakter dan Hasil Belajar Siswa pada Pembelajaran Tematik Murid. *ALENA – Journal of Elementary Education, 1*(1), 1-14.

Fitri, F., & Ardipal. (2021). Pengembangan Video Pembelajaran Menggunakan Aplikasi Kinemaster pada Pembelajaran. *Jurnal BASICEDU, 5*(6), 6330-6338.

Gunawan, Sultani, D. I., Silalahi, C. A., Suherlan, A., Dwi, D. F., Mukhlis, Nirmawan. (2022). *Media Pembelajaran Interaktif Sederhana untuk MI/SD.* Yogyakarta: K-Media.

Herfani, S., Zulkarnain, M. R., & Afriani, D. (2023). Pengembangan Media Belajar Mandiri Matematika Materi Segitiga dan Segiempat Berbasis Android. *Jurnal Pendidikan Sultan Agung, 3*(1), 42-52.

Nugraha, A. N., & Muhtadi, A. (2015, April). Pengembangan Multimedia Pembelajaran Matematika pada Materi Bangun Ruang Sisi Datar untuk Siswa SMP Kelas VIII. *Jurnal Inovasi Teknologi Pendidikan, 2*(1), 16-31.

Sari, F. A. (2024, Juli-Desember). Pentingnya Media Pembelajaran dalam Sistem Pembelajaran. *ENTINAS: Jurnal Pendidikan dan Teknologi Pembelajaran, 2*(2), 414-421.

Sugiyono. (2022). *Metode Penelitian dan Pengembangan, Research and Development.* Bandung: Alfabeta.

Suhartini, E., Ayu, W. I., & Ramli, B. M. (2022, Desember). Pengembangan Media Pembelajaran Berbasis Articulate Storyline 3 Materi Gaya pada Siswa Kelas IV SDN 009 Sungai Kunjang. *Kompetensi: Jurnal Pendidikan dan Humaniora, 15*(2), 225-232

Trimansyah. (2021). Kecendrungan Media Pembelajaran Interaktif. *FITRAH: Jurnal Studi Pendidikan, 12*(1), 13-27.

Yasin, A. N., & Ducha, N. (2017, Mei). Kelayakan Teoritis Multimedia Interaktif Berbasis Articulate Storyline Materi Sistem Reproduksi Manusia Kelas XI SMA. *BioEdu: Berkala Ilmiah Pendidikan Biologi, 6*(2), 169-174.

Yumini, S., & Rakhmawati, L. (2015). Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline pada Mata Diklat Teknik Elektronika Dasar di SMK Negeri 1 Jetis Mojokerto. *Jurnal Pendidikan Teknik Elektro, 4*(3), 845-849.

Text And Context Of The Iwurung Jue Dance In The Dayak Ma'anyan Custom Wedding Ceremony In Warukin Village

Milke Triana[1], Gita Kinanthi Purnama Asri (Adinda)[2], Suwarjiya[3]
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Dance Art Education Study Program
Banjarmasin, Indonesia
milketriana@upk.ac.id
gitakinanthipa@upk.ac.id
suwarjiya@upk.ac.id

Abstract. The Iwurung Jue dance plays a role in the Dayak Ma'anyan Wedding Ceremony in Warukin Village. This dance can become an important part of people's lives because it has its own characteristics. This research aims to study the text and context of the Iwurung Jue dance in the Dayak Ma'anyan wedding ceremony in Warukin Village. The method used in this research is descriptive qualitative method. Data collection techniques using observation, documentation, and interview techniques. The research results obtained are that the Iwurung Jue dance is not only filled with dance and music, but in it there are chants of poetry and rhymes sung by the mantir and the dancers in response, after the dancers have recited the rhyme, the music is played and the dancers take the position of the motion style to be executed. pull. Iwurung Jue dance in the context of various beliefs, namely this dance does not require any religion to perform it. The Iwurung Jue dance in the traditional Dayak Maanyan Warukin wedding can obtain some relevant political contexts. Dance as an understanding of cultural values, one of the efforts to be able to recognize cultural values is not enough just by reading or being given an explanation, but it is also possible to be able to participate by playing an active role to feel physically by practicing in an existing studio.
Keywords: Text and Context, Iwurung Jue Dance, Dayak Ma'anyan Wedding Ceremony, Warukin Village.

1. Introduction

Culture with the basic word culture comes from the Sanskrit language "Buddhayah", which is the plural form of buddhi which comes from "budi" or "reason". So culture is the entire system of ideas, actions and human works in the context of community life that are made the property of humans by learning (Koentjaraningrat, 2000:181).

Dance is one of Indonesia's cultural heritages and one form of performing arts that has been around for a long time from ancient times to the present. In ancient times, dance was the most important part of community life related to the human life cycle and in maintaining survival. The relationship with behavior that marks the transition of a person's life level, both individually and in groups. In the human life cycle, it is carried out as an expression of gratitude to God, rejecting disaster from the threat of supernatural dangers, both from outside and from the surrounding environment, and as an acknowledgement that the person concerned has become a new citizen in his social environment, for example like dance in birth rituals, circumcision, marriage and death.

Marriage is one of the important moments in human life. Humans experience changes in individual life stages during their lives, called the life cycle, namely childhood, adolescence, marriage, old age, and death. From the various opinions put forward by performing arts experts, the one chosen by the researcher is Soedarsono's opinion in his book entitled "Indonesian Performing Arts in the Era of Globalization" which has studied and observed various formulations of functions that have been put forward by performing arts experts. One that can be found in South Kalimantan is the existence of a wedding tradition in Tabalong Regency, precisely in Warukin Village, which has a unique ceremonial procession. In the ceremony there is a dance, namely the Iwurung Jue dance. This makes it interesting

to trace the text and context of the dance. Textual study means that the phenomenon of dance is seen as a relatively independent physical form (text), which can be read, studied or analyzed textually or "textually" according to the concept of understanding. (Hadi, 2007:23). Contextual study or approach to dance art means that the art phenomenon is viewed or its context with other disciplines. This study has developed for quite a long time and is often dominated by anthropologists according to their fields because this science is included in the field of science that is humanistic, namely science that wants to understand all human activities in relation to socio-culture, so the characteristics of its approach are holistic or comprehensive. (Hadi, 2007:97).

Based on the background above, this study is entitled "Text and Context of Iwurung Jue Dance in the Dayak Maanyan Traditional Wedding Ceremony in Warukin Village". Because in it there is text and context where the text is something related to the form of structure, technique and style choreographically along with aspects of the dance form, while the context in it relates this to science such as politics, economics, tourism, beliefs, and education.

2. Method

This study uses qualitative descriptive, namely research data collected in the form of information or images of events are described and arranged in a comprehensive manner. This study is about the Text and Context of the Iwurung Jue Dance in the Dayak Ma'anyan Traditional Wedding Ceremony in Warukin Village using a Qualitative research type.

The subjects in this study were Mr. Yulius Mince as the Head of the Traditional Institution and Mr. Pundat, the head of the Pantingk studio and the dancers of the Pantingk Nawuraha studio who danced the Iwurung Jue dance as sources who provided the research materials studied.

Data collection instruments in the form of observation grids, interviews, documentation from primary data sources and secondary data. The location of the research was in Warukin Village, Tanta District, Tabalong Regency.

Primary data in this study were obtained directly from the main sources in the field. Data can be in the form of recordings of interviews, video recordings of research, research notes, observations in the field, and others.

Secondary data is supporting data for primary data, obtained through scientific books related to the object of research, theories related to the problem to be studied, journals, theses, or articles that are relevant to the problem being studied.

3. Results and Discussion

Results

Structure of Dayak Maanyan Traditional Wedding Ceremony

According to the stages in the Dayak Maanyan Warukin traditional wedding ceremony, there are several preparations in it, namely (1) *pangantanean* (proposal), (2) *Paadu Pamupuh* (Engagement) and (3) *Piadu* (marriage). *Pangantanean* (proposal) is the initial stage where the families of both parties are brought together by bringing their respective representatives of the usbah. In this stage, the family of the man conveys the intention and purpose of carrying out the proposal process, it is the usbah who plays a role in conveying the purpose. *Paadu Pamupuh*/engagement is the second stage of the meeting between the extended families of both parties, in this activity each family brings usbah-usbah from each prospective bride and groom, this is also done by the customary paner/customary dialogue where the usbah is the spokesperson to convey the genealogy of the bride and groom's families witnessed by the traditional headman, traditional mantir, family and local community. *Piadu* (marriage) stage is the stage where the groom is escorted or paraded by the family to the bride's house. There is structure in this part, (1) *neu pangantin upu* (welcoming the groom), the groom and family stop at the banyang/lawang skepeng to be greeted by dancing and poetry (2) entertainment (giring-giring dance). (3) *ngantara wurung jue* (looking for the juai/jeu bird). (4) bagunung perak (procession symbolic marriage) (5) wadian bulat(traditional attraction performance), (6) the *turus tajak* stage, this stage is an activity where the family and community give money to the bride and groom, then it is counted by the family and then

given to the bride and groom to start a new life and initial provisions for marriage. (7)*Nutup uwan*/covering gray hair is an activity of the bride and groom covering gray hair to their biological grandmother, using a cloth/bahalai that has been provided. This procession aims for the parents to be blessed with a long life and be able to witness their grandchildren starting a new life with the marriage that is taking place. (8)Miwit Pangantin (eating together) there is a lot of rice on one plate and one chicken, in this event the parents of the groom feed the bride and vice versa. And then followed by the extended family to eat together. (9)Nyamut Adu (ngunduh mantu) is an event after completing the Dayak Maanyan Traditional wedding ceremony, where after 3 days after the wedding takes place, the bride and groom are accompanied by the bride's parents and usbah to visit the groom's parents' house, usually in this series a party can be held or not (only close family will witness it)

Iwurung Jue Dance in the Dayak Maanyan Warukin Traditional Wedding Ceremony

The Dayak Maanyan wedding in Warukin is not complete if there are no traditional dances that support a traditional wedding event. Like the Iwurung Jue dance, the Iwurung Jue dance is a dance that is often performed during traditional weddings, this dance is danced by the balian bawo and balian dadas, where in this activity there are several stages, namely (1) *neu pangantin upu* (welcoming the groom). (2) entertainment. (3) *ngantara wurung jue* (looking for the juai bird). (4) bagunung perak. (5) wadian bulat.

Neu pangantin is an activity to welcome the groom and his family to the bride's house/hall. There is a banyang or *lawang sekepeng* as a procession to open the way to the hall (a tradition of welcoming guests using a rope stretched in front of the house/hall). This ritual is led by the balian bawo, he chants poetry and is then accompanied by music and dance. If the stretched rope has been cut, the groom's family can enter the hall.

Figure 1. Family activities accompanying the groom to the bride's house in a procession. (Milke Triana Documentation, 2021)

Figure 2. Activities for implementing *lawang sakepeng/kuntau* by each party family representatives (Milke Triana Documentation, 2021)

When the bride and groom and family enter the hall, this is where the entertainment procession is carried out and the bawo and dadas dancers perform it starting from various movements that are danced alternately bawo and dadas, poetry, and leutan. Then after that the two extended families also join in dancing in the place that has been provided. Usually this dance is a giring-giring dance.

Figure 3. Entertainment activities, the typical Dayak Ma'anyan giring-giring dance (Milke Triana Documentation, 2021)

Ngantara Wurung Jue/Iwurung Jue, this activity is carried out by the balian or dancers. The sacred and lively atmosphere is accompanied by poetry, music, dance and Dayak Maanyan chants. The task of the dadas dancers is to find the real bride. The bride is likened to the Jue bird. This procession begins with the dancers looking for the shadow bride who will be paired with the groom for 5 times after which the real bride is taken out of the house and picked up by the dancers who are then paired with the groom.

Figure 5. Activity of searching for a fake bride by dancers, carried out by the balian (Milketriana Documentation, 2021)

Figure 6. Activities of the balian/dancers picking up the bride from inside the house to the wedding dais (Milke Triana Documentation, 2021)

Figure 7. The bride and groom are placed side by side and given advice from the balian/dancer (Milke Triana Documentation, 2021)

Then the procession continues with the silver mountain to fulfill customary law. The peacock mountain is a depiction of a tree of life in the household of the Dayak Maanyan Warukin tribe, decorated with paper and metal money. Money as a symbol of wealth is part of the provisions in marriage. An attraction dance called wadian bulat is performed afterwards, there is something unique in this dance, the dancers fold their body parts such as their feet, hands, and even their heads.

Figure 8. Gunung Perak Procession (Milke Triana Documentation, 2021)

Figure 9. Balian Bulat performance (Milke Triana Documentation, 2021)

Iwurung Jue Dance Text in the Dayak Maanyan Traditional Wedding Ceremony in Warukin Village

Textual means that the dance phenomenon is seen as a physical form (text) that is relatively standing alone, which can be read, examined or analyzed textually or "in the text" in accordance with the concept of understanding, (Hadi, 2007: 23). In this study the study of text is centered on choreography analysis. This is the same as all dishes in this dance or the form of presentation.

In terms of choreography, the Dayak Maanyan Warukin dance is one of the traditional dances originating from Central Kalimantan. The Iwurung Jue dance has strong cultural values and involves movements that depict the daily life of the Dayak people who are closely related to their natural surroundings. Jue means the Juai bird which is an endemic fauna in Central Kalimantan.

The choreography of the Iwurung Jue dance in the Dayak Maanyan traditional wedding in Warukin village is divided into two, namely the main aspect and the supporting aspect, the main aspect includes energy, space and time and the supporting aspect of the Iwurung Jue dance includes

accompaniment, make-up, and costumes as well as the dance performance venue. There is repetition combined with an emphasis on energy, space and time.

The Iwurung Jue dance movements are performed simply but look attractive and natural. The improvisational movements of the dancers are often seen in hand movements and foot stomping. In analyzing the movement form of the Dayak Warukin Dance, it is important to see how the movements are organized, combined, and interact with each other. The choreographer ensures that the movements flow smoothly, blend with the music, and reflect the cultural characteristics and traditions of the Dayak tribe. In addition, it is also necessary to pay attention to the rhythm, tempo, and energy needed in each movement to create a dynamic and attractive appearance.

Table 1. Analysis of Motion Forms

No	Various Motion Name	Description	Picture
1	Step 1	Step 1 is the movement of footsteps, the right foot first starts stepping forward, after that the left foot purses backward back, and vice versa.	
2	Step 2	Step 2 is a step movement where the right foot is swung forward alternately with the left foot and the body is shaking.	
3	Step 4	Step 4 is the movement of the right footsteps raised in place and then carried out alternately with the left foot.	

In the Iwurung Jue dance, movement techniques are very necessary for dadas or bawo dancers because they have a variety that must use movement techniques. In this study using the technical analysis is from the bending techniques found in the motion of neut/poetry and curvature techniques in the cadungal motion. And divided into terminology of upper motion techniques, middle part motion techniques and lower motion techniques. As for the motion technique is:

Table 2. Analysis of Technique

No	Motion technique name	Description	Picture
1	Upper motion technique	The upper motion technique on the head does not have techniques when moved, but the upper mobile just follows the movement of the hand.	
2	Hand movement techniques	Hand movement techniques for female dancers hand placed in front of the chest, then shake forward and back to ring the bracelet,	
		The technique of male dancers is. The hands are on the direction down while pushing the bracelet.	
3	The technique of bending	The hand when going to start the technique of bending the hand, the left hand is straightened forward and the right hand bent to the left, after that if the curve has begun then the hand left down and up.	
4	The technique of the arches of the hand	when going to start the curvature technique, the left hand is placed in front of the chest, and the right hand is curved to the right, and vice versa	

5	Lower movement techniques	in the body and hips the female dancer's body is lowered with the dancer's hips directed to the right, while dancing the body position is moved following the feet.	
6	Footwork technique	The footwork technique for female dancers is that the feet are placed like the letter T, then the various foot steps are started. While the footwork technique for male dancers, follows the music.	
7	Moving technique	This technique uses step 1 bawo and dadas.	

The Iwurung Jue Dance has a distinctive movement style and has its own meaning, the Warukin interior movement style expresses daily activities. Female dancers are called dadas dancers while male dancers are called bawo dancers. Energetic and dynamic movements depict the life full of enthusiasm and courage of the Dayak tribe. Reflected in footsteps, hand movements, and body movements involving jumps, turns, and stretches. These movements are arranged from the right proportions and rhythms to create an aesthetic appearance and style of movement that blends with the music.

Textually, the Iwurung Jue dance is presented in groups, with floor patterns adjusting to the wedding activity area. This dance does not have a set or rules regarding who can dance, because this dance involves men and women and age is not a benchmark.

The dance space used by the dancers has large and small volumes, in large volumes it can be seen in the dadas and bawo varieties, while small volumes can be seen in the sapaking pe'e movements and the dancers can produce the impression of the dance being wide and small.

In the analysis of the time structure of the Iwurung Jue dance, it can be seen from the tempo of the movement, which includes slow, medium, and fast. This can be seen from the music, where movement and accompaniment are interconnected.

The Context of the Iwurung Jue Dance in the Dayak Maanyan Traditional Wedding Ceremony in Warukin Village

The study or contextual approach to dance means that the phenomenon of art is viewed or its context with other disciplines. This study has developed quite a long time and is often dominated by anthropologists in accordance with their fields because this science is a Humanities field, namely the science that wants to understand all human activities in relation to socio-cultural, the characteristics of the approach are holistic or comprehensive. (Hadi, 2007). The existence of the Iwurung Jue dance in its context with beliefs, means how a form of ceremony is related to beliefs or religion.

Ukur (1971: 63) said that among the Dayak Maanyan Warukin tribes, customary law was divided into two categories, namely Niba Welum Customary Law (Customary Law in the Field of Life) and Niba Matei's customary law (Customary Law in the Field of Death).

The results of the religious or belief system and art are closely related, where in every ritual of the community there is also an art that complements it, in the religious system of the original belief of

Dayak Maanyan, God is called the Talamana Tuah Hukat (Alatala) as the highest ruler, brings safety and life (Effratta: 2022) The people of Warukin Village, especially those of Dayak Maanyan descent, make the Iwurung Jue dance a form of gratitude, therefore in the Dayak Maanyan Warukin traditional wedding ceremony, the Iwurung Jue dance is always held. In this dance, it does not require only a certain religion to perform it, meaning that all believers can carry out this traditional ceremony as long as the person is a member of the Dayak Maanyan tribe. This dance is created so that the bride and groom will live like a jie bird that has loyalty, purity, majesty, personal hygiene of all things and awareness to threats also have loyalty to their partners

This dance is a part of ethnic dance. Ethnic dance is a culture that has recently grown in line with changes in social conditions that are 'local or regional'. This view is a typical aspect of culture of every community. The presence of dance as a 'distinguishing' aspect, so as to show aspects of characteristics that are typical, this is possible to show aspects of joy (Hidajat, 2021) The Iwurung Jue dance in the Dayak Maanyan Warukin traditional wedding can obtain several relevant political contexts. However, it is important to note that this analysis is general and this phenomenon can vary depending on the specific political situation. Here are some ways in which the Iwurung Jue Dance of Dayak Maanyan Warukin can gain political context

The Iwurung Jue Dance in education becomes a context that creates diverse knowledge about dances in Warukin village. The educational context can be a means of introducing culture from an early age, this is because dance helps instill the character values of discipline, communication, and responsibility. Dance is also a means to develop the ability to express oneself through movement, perception skills, knowledge, artistic and aesthetic understanding.

The existence of the Iwurung Jue dance in the Dayak Maanyan Warukin traditional wedding ceremony becomes a tourism context that causes tourists and art activists to come and watch this traditional ceremony if they know when the Iwurung Jue dance event is held. The Dayak Warukin Dance in the context of diverse tourism can be interpreted as a form of interaction and integration between Dayak culture and other cultures around it. This diverse tourism context can include interaction with other tribes in the Central Kalimantan region, interaction with cultures outside the region, or even the influence of modern culture.

4. Conclusion

Iwurung Jue dance is a dance that is present in the wedding procession of the Dayak Maanyan community in Warukin Village, Tabalong Regency. In the presentation offered by group. Composition of a mixture of dancers between men and women. The hallmark of this dance can be seen from the movements of dancers taken from Dadas and Bawo's motion using the bracelet property. Done at the time of the Nyama Iwurung JE procession, namely catching the bridegroom from the people who watched. Iwurung JE's dance is not only filled with dances and music, but in it there are poetry and rhymes that are sung Mantir and dancers in a reply, after dancers sing the rhymes, the music is played and the dancers take the position of motion style that will be drawn.

Iwurung Jue dance in the context of trust, this dance is not specifically for just one belief or religion that carries it out. In the sense that all adherents of trust can carry out with the record of the person one of the Maanyan Dayak tribes. Iwurung Ju's dance in the Dayak Maanyan Warukin traditional marriage, can obtain several relevant political contexts. However, it is important to note that this analysis is general and this phenomenon can vary depending on the specific political situation. Dance as an understanding of cultural values One of the efforts in order to recognize cultural values is not enough just by reading or being given an explanation, but it is also possible to be able to participate by playing an active role to feel physically by practicing existing violations.

Conclusions should state concisely the most important propositions of the paper as well as the author’s views of the practical implications of the results.

References

Bandem, I Made (2000). *Tracking identity in the midst of global culture in the local global Journal of Indonesian Performing Arts Year X-22*. Bandung: MSPI

Effrata, E. (2022). *Fenomologi Sosial Suku Dayak Maanyan. Jurnal Sociopolitico*, 4(1), 13-22.
Hadi, Y. Sumandiyo. (2007). *Text dance study and context.* Yogyakarta: Library Book Publisher.
Hidajat, Robby. (2020). Characteristics of ethnic dance in cultural development in Indonesia. *Proceeding in International Webinar: Dance & Music Education Theme: Local Character Forming in Performing Art(1-10).*
Jazuli, M. (2008). *Cultural Arts Education Dance Learning Supplements.* Semarang: Semarang State University.
Koentjaraningrat. (2000). *Introduction to Anthropology*. Jakarta: PT. Rineka Cipta.
Lestari, R. M. (2018). *The function of the Balean Dadas dance in the Aruh Ritual Ceremony in South Kalimantan.* Yogyakarta: Yogyakarta State University Department of Dance Education.
Moleong, L. J. (2019). Moleong. Metode Penelitian Kualitatif.
Soedarsono, R. M. (2003). Performing arts from a political, social and economic perspective.Yogyakarta.Gajah Mada University Press
Rohidi. (2011). *Art Research Methodology.* Semarang: Cipta Prima Semarang.
Ukur, F. (1971). *Challenges the Dajak tribes.* Jakarta: Gunung Mulia.
Wiguno, S. T. (2020). The form of presentation and function of the Ebo dance in the Aruh Ritual Ceremony in Warukin Village, Tabalong Regency. Banjarmasin: Lambung Mangkurat University: *Unpublished Thesis.*

Exploring the Challenges of Small Group Discussions in Eighth-Grade Writing Instruction

Nicholas Jeanova[1], Tri Winindyasari Palupi[2]
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
[1,2]English Language Education Study Program
Banjarmasin, Indonesia
3062012012@mhs.stkipbjm.ac.id,
triwp@upk.ac.id

Abstract. English language teaching often incorporates various pedagogical approaches to teach language proficiency. Among these approaches, small group discussions have been one of methods due to their potential for fostering interactive learning environments. However, implementing small group discussions in classroom settings has challenges, particularly for English teacher. This study explores the challenges faced by English teacher when implementing small group discussions especially at SMPN 3 Gunung Bintang Awai, aiming to shed light on the factors influencing the successful integration of this teaching method. The research methodology employed in this study involves a combination of observation and interviews. Observations are conducted during English classes where small group discussions are being implemented. The researcher observes the dynamics of the classroom environment, focusing on the interactions between the teacher and students, as well as identifying any challenges encountered by the teacher in facilitating effective group discussions. Additionally, interviews are conducted with the English teacher to gather insights into their experiences, perceptions, and strategies in implementing small group discussions. After following several steps, including observation, interviews, and data analysis, it was found that there are indeed several challenges faced by English teacher when implementing small group discussions in the eighth grade at SMPN 3 Gunung Bintang Awai. The challenges are; difficulty in forming group, off-topic discussion, classroom management issue, and managing student participation. There are also some suggestions, for the English teachers: should prepare materials for small group discussions in writing classes, create a comfortable, interactive atmosphere, and support students; for students: should cooperate, focus, and participate actively; for future researchers: be able to use this study as a guide for similar research in writing field.
Keywords: Small group discussion, Writing Instructions, English teacher.

1. Introduction

In recent years, there have been major changes in the teaching and learning of English, especially in writing skills. The focus has shifted from the traditional teacher-centered approach to a more student-centered method that fosters active engagement and collaborative learning. This shift emphasizes the importance of critical thinking and creativity, encouraging students to express their ideas more freely.

According to Harmer (2004:87), writing is a thinking process that generates, organizes, and exchanges, one's ideas with the reader. The process approach to writing claims that writing instruction includes "the entire process of writing-invention, drafting, feedback, and revision and not just the product". Therefore how to write a successful paragraph involves the following steps : planning, drafting, revising, and editing a paragraph.

Writing and small group discussions go hand to hand in the process of teaching effective communication skills. While writing enables students to articulate their ideas on paper, small group discussions complement this by fostering collaborative dialogue and collective problem-solving. Through discussions, students refine their writing by exchanging feedback, exploring diverse perspectives, and brainstorming ideas. This integration enhances both the mechanics of writing and critical thinking skills essential for effective communication.

According to Sagala (2007:19), small group discussion is a collaborative communication process in which a small group of people come together to share ideas, opinions, and information about a

specific topic or issue. This includes active participation, open dialogue, and exchange of different perspectives among group members. The purpose of small group discussion is to facilitate joint learning, problem-solving, decision-making, and exploration of different perspectives. Small group discussions often promote the development of critical thinking, effective communication, teamwork, and interpersonal skills. This interactive format allows participants to participate in meaningful discussions, share knowledge, clear doubts, and reach comprehensive conclusions and solutions through mutual agreement.

Small group discussions have the potential to improve students' writing skills; therefore, much attention has been focused on incorporating small group discussions as a teaching method in English classes. Small group discussion has gained a lot of attention as an effective teaching method in English classes as it has the potential to improve students' writing skills. Teachers recognize the value of collaborative learning and engagement and are increasingly using small group discussions to encourage students' writing skills. Small group discussions create a collaborative, interactive environment that gives students the opportunity to express their thoughts, share ideas, receive feedback, and refine their writing through peer interaction. Implementing small group discussions for teaching writing is not without its challenges. These challenges can affect the overall effectiveness of the method and require careful consideration and management by the teacher to ensure that all students benefit from the collaborative learning experience.

The researcher was interested to identify the challenges in implementing small group discussion for learning writing, especially in junior high school, especially in grade eight. Through a brief interview with the English teacher, grade VIII of SMPN 3 Gunung Bintang Awai learned about recount text and narrative text and used small group discussion in several meetings. In fact, teachers faced challenges in implementing small group discussion in teaching writing at SMPN 3 Gunung Bintang Awai. Therefore, this study aims to describe the challenges faced by English teachers in using small group discussions in their instructional practice, especially in writing.

Teacher Challenges in Teaching Writing

According to Moses and Maslawati (2019), there are some challenges faced by English teachers in teaching writing skills. These challenges provide a critical foundation for understanding the obstacles that teachers encounter in the classroom.

a. Hard to motivate students
   Currently, teachers have difficulty in motivating students. It is not because of student misbehavior, but because students are not interested in writing. When students choose to feel uninterested in learning, it is a sign of lack of motivation.
b. Different levels of students in the classroom
   Indeed, the fact that there are different levels of students in the classroom is another challenge for teachers to teach writing. A different level of students will make it challenging for teachers to handle all their levels at the same time. Different levels of writing ability will require teachers to use different approaches. Consequently, teachers find it difficult to plan their lessons and prepare appropriate activities for the students..
c. Parental indifference
   Students who do not get the warmth and affection from their parents will be unsuccessful in their learning process. This is due to the lack of guidance, motivation and support from parents.
d. Lack of professional
   Lack of professional experience is another challenge faced by the teachers. Having a lack of professional experience will lead to stress and tension in teaching.
e. The multiple roles of the teacher
   It depends on the level of previous experience and training. It takes time for teachers to adjust to their students well. Teachers can prepare such as new teaching materials, lesson plans, learning methods, and provide appropriate comments or reflections.
f. Lack of students’ interest

Developing writing skills has always been a challenge. Some students feel bored and uninterested because they need to know many aspects such as punctuation, grammar, vocabulary, spelling and sentence structure to write a good piece.

Research conducted by Almubark (2016) investigated the problems of writing skills that teachers faced in teaching writing skills. Such insights are essential for developing effective strategies to address these challenges: 1). The grammar difficulties faced by the students; 2). Lack of vocabulary among the students; 3). The topics in the textbooks for writing skills are not attractive and persuasive enough; 4). The lack of motivation among the students to improve their writing skill; 5). Strategy among the students in the classroom still does not help the students; 6)Limitation of credit hours; 7) Number of students in each class; 8) Mother tongue interference among student; 9) One of the major obstacles in acquiring a second language is the mother tongue or L1 interference; 10) Lack of regular workshops and training conducted by the schoo; 11) Teachers' competence in using devices/equipment in learning writing; 12) Intensive writing exercises and teachers' regular assessment; 13) Previous knowledge about the English language writing skills among the students

Small Group Discussion

A small group is a small member of humans, who work together through interaction whose interdependent relationship allows them to achieve a mutual goal. Sagala (2012:20) defines that "group discussion team is more effective if the group consists of 3-4 students, enable student gives their opinions or ideas to other students easily. Moreover, Brown (1988) stated that small group provides opportunities for students' initiation, for face to face, give and take, for practice in negotiation of meaning for extended conversation exchanges. So, the students are more confident to give opinions in each of their small groups. They meet as small gatherings or as breaks out of large meetings and are offered many opportunities for creative, flexible interchange of ideas and lively, meaningful participation. The main point in setting up a discussion is to make sure that each group member participates.

Steps of Implementing Small Group Discussion in Teaching Writing

Implementing small group discussions in a writing class can significantly enhance students' collaborative learning experience and writing skills. According to Malia (2017) here's how you can implement each step mentioned:

a. Forming Groups and Preparation
    1. Begin by forming small groups of three to four students who work well together.
    2. Allow students to arrange their desks in a small circle to facilitate interaction.
    3. Encourage the groups to plan and make choices about their project independently.
    4. It may be beneficial for each group to elect a chairman to lead the discussion and decision-making process.
b. Assigning Leaders and Individual Support
    1. Separate individuals from their original groups and assign them as leaders for new groups.
    2. These individuals can provide valuable assistance and guidance to new groups, especially those with less experience.
c. Setting Well-Defined Tasks
    1. Define clear and achievable tasks for each group to accomplish.
    2. Early reinforcement through successful completion of tasks can enhance student satisfaction and participation.
d. Working with Each Group
    1. Work with each group individually, systematically exploring the progress of their project.
    2. Sit down with groups to discuss their work, ensuring students feel supported and motivated.
e. Providing Resource Materials
    1. Offer a variety of resource materials, such as texts, pictures, or realia, to aid in discussions and understanding.
    2. Provide materials for creating visual aids or other presentation tools for group reports.

f. Reporting and Discussion
   1. Once groups have completed their tasks, ask them to report and discuss their findings with the class.
   2. Encourage brief, lively information-sharing sessions where groups can suggest ideas and insights.

By following these steps, teachers can effectively implement small group discussions as a cooperative learning technique in teaching writing, promoting active participation, collaboration, and meaningful interaction among students.

2. Method

This research used descriptive qualitative research. The researcher analyzes the data to describe the challenges faced by English teacher when implementing small group discussions in teaching writing at the Eighth Grade of SMPN 3 Gunung Bintang Awai.The location of this research is SMPN 3 Gunung Bintang Awai at Jalan Ampah-Muara Teweh, Desa Patas 1, Kec. Gunung Bintang Awai, Kab. Barito Selatan, Prov. Kalimantan Tengah.. The subject of this research is an English Teacher who teach at the Eighth Grade of SMPN 3 Gunung Bintang Awai.

Data Source refers to the origin from which data is collected for research. The researcher used primary data as the main data or the source in this research. Primary data is the data obtained by the researcher as the main data for analysis. In this case, the primary data used by the researcher is observation and interview data

In this case, the researcher observed the Eighth Grade students of SMPN 3 Gunung Bintang Awai to know the activity while joining the class. The observations were conducted three times to ensure thorough and reliable data collection, capturing a comprehensive view of the student activities and behaviors during class.

The other data source that used by the researcher is the interview data. The interviews will be conducted specifically with English teachers at SMPN 3 Gunung Bintang Awai. Research will only be carried out once after observation is made so that the data obtained is more accurate. The interview media used is through the WhatsApp application and will be based on interview guidelines that have been prepared.

3. Result and Discussion

a. The Observation

Based on the results of the observations conducted by the researcher three times, it can be concluded that the English teacher faces challenges in teaching writing using Small Group Discussion. These challenges include:

1. Difficulty in Group Formation
   The division of groups by gender makes it difficult for some students to form groups. Additionally, the formation of new groups is more time-consuming due to student absences and the increasing number of students and groups.
2. Off-Topic Discussions
   Students discuss with their groups but do not respond to each other and prefer to talk about non-material topics. In their respective groups, they tend to stray from the writing material taught by the teacher. When asked to write the provided material, they become noisy and continue to discuss unrelated topics.
3. Classroom Management Issues
   Students become noisy when given writing assignments by the teacher. This increased noise and distraction are exacerbated by the teacher's difficulty in controlling and monitoring the class due to other activities especially in writing with many students in the class.

b. The Interview

Based on the results of the interview conducted by the researcher with English teacher who teach at the Eighth grade of SMPN 3 Gunung Bintang Awai, it can be concluded that the English teacher faces challenges in teaching writing using Small Group Discussion. These challenges include:

1. Difficulty in Group Formation

Noise disruption during group formation, particularly when students move furniture, poses a significant challenge. Additionally, gender-based grouping can lead to unfairness and hinder interaction among students. Consequently, monitoring each group and ensuring balanced participation becomes increasingly difficult amidst these obstacles.

2. Classroom Noise and Off-Topic Discussions
   A noisy classroom environment, especially during discussions, significantly distracts from the learning process. Furthermore, off-topic discussions detract from the focus on assigned writing tasks, disrupting the flow of the lesson and hindering students' ability to stay on track with their assignments.
3. Managing Student Participation
   Encouraging active participation from standout students while addressing passive ones is a delicate balance that requires careful consideration. Additionally, providing direct assistance to groups based on individual abilities necessitates to ensure that each student's learn effectively.
4. Classroom Management
   Difficulty arises in monitoring every group at once, especially during in-class assignments, as the teacher must ensure that each group receives sufficient support and guidance.Balancing the monitoring of multiple groups with attending to other matters becomes demanding, necessitating efficient time management and prioritization of responsibilities.

Based on both the observations and the interview conducted by the researcher, there are evidences that the English teacher at SMPN 3 Gunung Bintang Awai faces significant challenges in teaching writing using Small Group Discussions. These challenges underscore the complexity of the challenges that faced by English teacher when implementing small group discussion.

1. First, the difficulty in group formation arises from various factors such as the division of groups by gender, student absences, and noise disruption during the formation process. This impedes the formation of cohesive groups and hampers the effectiveness of discussions especially in writing that take long time to learn.
2. Second, off-topic discussions present a significant challenge as students tend to stray from the assigned material and engage in unrelated topics during writing activity. This lack of focus detracts from the learning objectives and disrupts the flow of the lesson especially in writing.
3. Third, classroom management issues, including noise disruption and difficulty in controlling the class in forming group until teaching and learning process, further exacerbate the challenges faced by the teacher. Students become noisy during writing assignments or activity, hindering the learning environment, and the teacher's ability to effectively monitor and manage the class is compromised due to other responsibilities.
4. Fourth, managing student participation requires a delicate balance between encouraging active engagement and addressing passive behavior in writing activity such as students does not contributing anything in discussion. Providing individualized support to students based on their abilities adds another layer of complexity to the teaching process.

Discussion

Based on the observations and interviews conducted by the researcher, there are four challenges faced by English teacher when implementing small group discussions to teach writing in the eighth grade at SMPN 3 Gunung Bintang Awai. These challenges highlight the practical difficulties encountered in fostering effective writing skills through group activities.

The first challenge is the difficulty in forming effective groups. This challenge arises because, in small group writing activities, the balance between one group and another significantly impacts the overall success of the exercise. Teachers often face difficulties in forming group due to the uncooperative behavior of some students. For instance, students tend to prefer joining groups with their close friends or with peers of the same gender, rather than mixing with others. Additionally, organizing these groups can be time-consuming as it requires balancing various factors such as skill levels, personalities, and learning styles. The extended time spent on group formation can detract from the actual time available for writing instruction and activities, thereby diminishing the effectiveness of group-based learning in writing. Furthermore, Ayabei, Omulando, and Barasa (2019), states that ingroup work, there is a large discrepancy in participation among different group members. It is

common to find one or two students taking on most of the workload, while other members essentially freeload. This imbalance not only affects the group's productivity but also the learning outcomes for individual students, as freeloaders miss out on the collaborative learning experience. This can lead to conflict and resentment among group members, potentially creating a negative classroom atmosphere. Moreover, students can be very selective when forming groups, leading to an unequal distribution of group members. This selectivity often results in the formation of cliques, which can exclude less popular or less confident students, thereby exacerbating social divisions within the classroom.

The second challenge is managing students who frequently engage in off-topic discussions during writing activities. This issue consistently presents problems for teachers, as unrelated conversations can disrupt the writing process and hinder students' ability to focus on their tasks. Off-topic discussions often lead to increased noise levels, which can create a chaotic classroom environment, making it difficult for students to concentrate on their writing. This challenge is particularly pronounced in small group writing sessions, where students feel more comfortable speaking freely. For teachers, the difficulty lies in balancing natural social interactions with keeping students focused on their writing objectives. Effective management strategies are essential to ensure that discussions remain productive and aligned with the goals of the writing lesson. Similarly, Lehman and Cade (2010) states that off-topic discussions are a common challenge, especially in groups where students are already familiar with each other. This familiarity can make the lesson topic seem less engaging as students may prefer to talk about personal interests instead. To mitigate this, teachers must prepare their materials thoroughly and present them in an engaging manner. Strategies such as setting clear expectations, using interactive activities, and regularly monitoring group discussions can help keep students on track. Additionally, incorporating elements that interest the students within the lesson plan can make the content more relevant and captivating, thereby reducing the tendency for off-topic conversations.

The third challenge is the issue of classroom management, which becomes particularly difficult when students are uncooperative during writing lessons. Effective classroom management in writing instruction involves not only organizing how the class operates but also managing time to ensure each student receives adequate attention. Teachers must balance instructional time, administrative tasks, and individualized support while maintaining a positive and productive environment for writing. With the shift towards student-centered learning models, students have more flexibility and control over their learning. In this context, teachers must be adept at guiding self-directed writing activities, fostering collaboration, and managing potential conflicts or distractions that may arise. Consequently, the complexity of classroom management in teaching writing increases, demanding a higher level of skill and adaptability from teachers to ensure a successful and engaging writing experience for all students. Hasibuan (2019), from this research previous study also find that this difficulty in managing the class come especially from the condition and time . It is proven some students are noisy and walked towards another friend, duration of students permission to go to the toilet too often. There are some reasons why the teacher feels difficulty in managing the class because, some students who don't like English immediately given up and condition of the students not appropriate with time that given in teaching and learning English because each student had different capability in receiving the materials. There are some students participate actively in writing class, but the other didn’t. So the teacher repeat explained the materials for the students understand until the students got the point of the lesson.

The fourth and final challenge is managing student participation, a crucial aspect of implementing small group writing activities. The primary goal of using small groups is to foster active student engagement and effective participation in the writing process. However, teachers often find it difficult to manage student participation during these sessions. Some students may not participate effectively due to various reasons, such as being inherently passive in class, relying too much on their group members, or being disruptive. Additionally, the teacher's ability to monitor and support multiple writing groups simultaneously is often limited, making it challenging to ensure that all students are equally involved and benefiting from the activity. Effective strategies and close monitoring are essential to encourage balanced participation and ensure that each student contributes to and learns from the group writing activities. This is also supported by the statement of Aslan and Sahin (2020), who noted that several factors influence student participation in the classroom. Among these are the selection of uninteresting topics by the teacher, the repetitive sequence of activities from the beginning to the end of the lesson, which can lead to student boredom, and the large class size that makes classroom management challenging. Additionally, lengthy class periods can result in student fatigue and decreased

participation. The teacher's teaching methods and strategies also significantly impact student participation, particularly in motivating and encouraging a desire to learn.

From the results of this study, several weaknesses were identified such as the English teacher at SMPN 3 Gunung Bintang Awai experienced difficulties in teaching writing using small group discussions, managing students with diverse backgrounds or characteristics, adjusting teaching techniques, and aligning with the implemented curriculum, among other factors. These weaknesses were specific to the school where the research was conducted. If other studies on the same topic do not find similar weaknesses or findings, it may be due to different research environments or other external factors. This research can also be expanded by further researchers to develop or investigate strategies for addressing the challenges faced by English teachers in implementing small group discussions in teaching writing.

4. Conclusion

On the basis of the research problem, it can be concluded that English teachers at SMPN 3 Gunung Bintang Awai indeed face challenges in implementing small group discussions to teach writing. These challenges consist of four main issues, which are: difficulties in forming groups, discussions that do not fit the topic, classroom management issues, and managing learners. The conclusion is also based on the thorough data analysis conducted by the researcher.

After summarizing the results of the study some of these suggestions are aimed at English teachers who may face similar challenges.

Teachers are recommended to prepare adequate materials for teaching when using small group discussion method in writing class, create a cooperative and interactive classroom atmosphere, pay more attention to the lesson content when teaching attentively for effective learning, and always be the best support for students in class especially in teaching writing.

Then, students are suggested to be more cooperative in learning, both in class and in small groups. They should be able to read the situation to know when is the right time to discuss topics outside the lesson and when to focus more seriously in learning especially in writing class. In addition, students should always be active participants in the classroom to ensure that the learning process is effective.

References

Arikunto, S. (2002). *Prosedur Penelitian: Suatu Pendekatan Praktek, Edisi Revisi V. Jakarta: Rineka Cipta*.

Aslan, R., Sahin, M. (2020). I Feel Like I Go Blank: Identifying The Factors Affecting Classroom Participation in an Oral Communication Course. Ankara: Middle East Technical University.

Ayabei, G, J., Omulando, C., Barasa, P. (2019). The Use of Group Work in the Teaching of Writing Skills in Secondary School in Keiyo North Sub Country, Kenya. Kenya : The International Journal of Humanities & Social Studies.

Creswell, J. (2012). Educational research: Fourth Edition. Boston: Pearson Education.

Finnochiaro, M. (1996). English as a Second/Foreign Language: From Theory to Practiced, Fourth Edition. New Jersey: Prentice Hall.

Fowler, H, W. (1980). A Dictionary of Modern English Usage. Oxford: Oxford University Press.

Harmer, J. (2004).The Practice of English Language Teaching. England: Pearson Education Limited. (p. 87)

Harmer, J. (2001). The Practice of English Language: Great Britain. Pearson longman. (p. 118-119)

Hasibuan, R. (2019),. The Implementation of Small Group Discussion in Writing Narrative Text at Class X of SMA Negeri 2 Padangsidimpuan in Academic Year 2019/2020. Medan: State Islamic University of Sumatra Utara.

Kothari, C.R. (2004), Research Methodology:Methods and Techniques. New Delhi: New Age International. (p. 23)

Kurikulum 2013. (2013). *Permendikbud No.54/2013*.

Lapp, D., Bender, H. (1975). Teaching and Learning: Philosophical, Psychological, Curricular Application. New York: MacMillan Publishing C., Inc.

Lehman, B., Cade, W. (2010). Off Topic Conversation in Expert Tutoring : Waste of Time Learning Activity?. Educational Data Mining USA : Pittsburgh.

Miles, M, B., Huberman, A, M., Saldana, J. (2014). Qualitative data analysis: A Methods Sourcebook. Singapore: SAGE Publications. (p. 31-33)

Moses, R, N., Maslawati, M. (2019). Challenge Faced by English Teacher on Writing Skills in ESL Context: A Literature Review, Journal of Education.

Muthoharoh, S. (2006). The Use of Small Group Discussion in Teaching Writing (Narrative Texts) to Senior High School Students: A Case Study of The Tenth Grade Students of SMA Walisongo Pecangaan Jepara in The Academic Year Of 2006/2007. Semarang: University of Semarang.

Nurhidayati. (2015). Teaching Procedural Text Writing through Group Discussion at Grade XI SMAN 5 Kota Serang. Serang: University of Sultan Ageng Tirtayasa.

Patel, M, F., Jain, P, M. (2008). English Language Teaching: Methods, Tools, and Techniques. Jaipur: Sunrise Publisher & Distributor.

Sagala, S. (2012). *Konsep dan Makna Pembelajaran Untuk Membantu Memecahkan Problematika Belajar dan Mengajar*. Bandung: Alfabeta. (p. 19-20)

Siswanti, F, H. (2012). The Use of Small Group Discussion. Surakarta: English Education Deoartment of Teacher Training and Education Faculty Sebelas Maret University.(p. 225-228)

Spratt, M. (2010). English for the Teacher: A language development course. Cambridge: Cambridge Teacher Training And Development. (p. 27)

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: CV. Alfabeta.

The Use of Natural Language Processing in the Banjar Mantra as an Effort to Preserve Regional Languages

Novia Winda, Erni Susilawati
Universitas PGRI Kalimantan Faculty of Social and Humanities,
Indonesian Language dan Literature Education Study Program
Banjarmasin, Indonesia
noviawinda05@upk.ac.id
ernisusilawati@upk.ac.id

Abstract. Today, mantras are no longer an integral part of the younger generation's lives, leading to concerns about regional language shifts. This language shift occurred due to migration, industrialization, urbanization, prestige, and the use of Indonesian in schools. his language shift is marked by a decline in the number of young speakers and their preference for languages considered more prestigious. So that mantras as part of the old genre of Banjar Literature in the Banjar people of South Kalimantan using regional languages as a medium began to be rarely used by native speakers. Gradually, these mantras are becoming unknown within the community. The preservation of the Banjar language through mantras should be done to take care of regional languages as the nation's cultural heritage. We can preserve the Banjar language by utilizing language technology, such as Natural Language Processing. The purpose of this research is to preserve regional languages.
Keywords: mantra, *NLP*, preservation of the Banjar language

1 Introduction

The city of Banjarbaru is synonymous with the city of Education because of various public and private universities. This also causes many visitors to live to study science. Then the determination of Banjarbaru as the capital city of South Kalimantan Province made an increase in the number of population migration to Banjarbaru City.

Based on the population census of the city of Banjarbaru in 2021 as many as 258,753 people (Bappeda Banjarbaru, 2024).The high growth in the population in this city is due to the high migration to the city of Banjarbaru. This large population holds significant potential for development if its quality is optimized. This situation is in line with the Human Development Index (HDI) report in 2023 which reached 74.66. Based on the BPS South Kalimantan report, the city of Banjarbaru topped the HDI growth value of 81.25 with the category of "very high." HDI is an important indicator to measure the success of the government in its efforts to build the quality of life of humans or residents in an area.

Banjarbaru is home to a diverse population, comprising Banjar (56.17%), Javanese (32.78%), Sundanese (1.71%), Madurese (1.36%), Batak (1.27%), Dayak (1.15%), Bugis (0.84%), and other ethnicities (4.72%) (Wikepedia Free Encyclopedia, 2024).Based on these facts, the people of Banjarbaru City have a high possibility of making a language shift. The diversity of people who inhabit the city of Banjarbaru affects the language used in communicating. The language in this community will survive (Chaer, 2010) if speakers use language in their daily life or there is a shift in language because residents begin to change or leave their language.

Today's mantras are no longer an important part of the younger generation. So that this situation leads to a polemic of regional language shifts. This language shift is driven by migration, industrialization, urbanization, social prestige, and the widespread use of Indonesian in schools. This language shift is characterized by a decrease in the number of young speakers of the language and they tend to use languages that are considered more prestigious. So that mantras as part of the old genre of Banjar Literature in the Banjar people of South Kalimantan using regional languages as a medium began to be rarely used by native speakers. Gradually this mantra is no longer known by the community.

The preservation of the Banjar language through mantras should be done to take care of regional languages as the nation's cultural heritage. We can preserve the Banjar language by utilizing language technology, such as Natural Language Processing. Several previous studies that applied Natural Language Processing to the creation of translation applications (Hasanuddin, 2016: Dar, 2023) in the creation of an online Malay translation dictionary Riau-Indonesian-English. Then the creation of an Indonesian to Bima translation application (Istiqamah & Soyusiawaty, 2017: Dar, et al: 2023), the creation of a Balinese dictionary for tourists (Dewi, 2021; Dar, 2023) and the creation of a Malay translation application for the Panai-Indonesian Dialect.

Based on the background of the problem that has been described. This research aims to make a Banjar-Indonesian translation application by applying Natural Language Processing. Development of a sentence parsing application for the synthesis process of sentences in Banjar literature in the form of mantras. This research will be a contribution of Banjar Language and Literature to natural language processing which is useful for preserving regional languages.

2. Method

This study applies the sequential Waterfall method (Dar, 2023) .There are 5 stages carried out in this study. Namely: system needs analysis, design, implementation, testing, and system maintenance.

Figure 1 Waterfall Method

3. Results and Discussion

Protection of Regional Language

Indonesia has 718 regional languages with different conditions of vitality (survival ability). Dozens of languages are endangered due to the continuous decrease in the number of speakers. This situation will result in the loss of the nation's heritage wealth. Because language as a medium is no longer able to be an intermediary in the process of inheriting cultural values in it.

In the early middle of the twentieth century, efforts to protect endangered languages became an important focus of study among linguists, even becoming a United Nations Action Plan through UNESCO. Language protection efforts are crucial because language is an inseparable aspect of cultural and social identity.

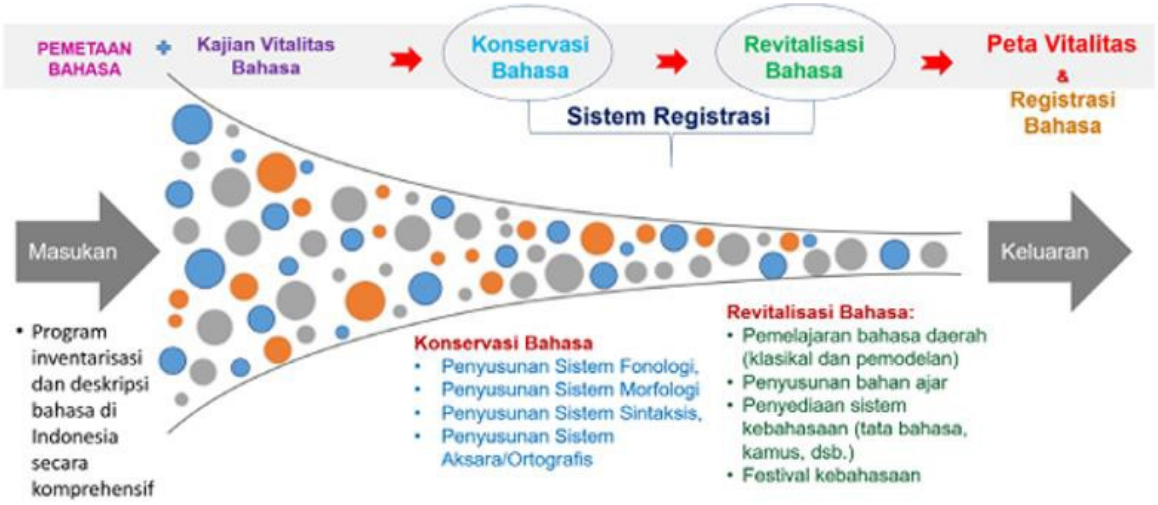
This study has also developed rapidly and spread widely in the framework of conservation and revitalization with the core goal of developing, creating new domains and functions, and even saving languages.

In the last three years, there have been 11 regional languages in the archipelago extinct (Caecilia M, 2020).This extinct regional language comes from the provinces of West Papua, Papua, Maluku, and North Maluku. This situation is our common concern so that regional languages remain sustainable.

According to Law Number 24 of 2009, regional languages are those passed down through generations and used by Indonesian citizens in various regions across the nation. Regional languages are the backbone of Indonesian culture in which there are regional cultural values and characters. So that regional languages must be maintained, maintained, and preserved.

Efforts to protect regional languages are handled seriously and systematically by the (Ministry of Finance of the Republic of Indonesia, n.d.). We can see this from the Outline of the Language Protection Program.

Figure 2 Outline of the Language Protection Program



Based on the language map by the Language Development and Development Agency, it is hoped that the protection of regional languages will be maximized, vitality, conservation, and language revitalization. Likewise with the Banjar language as part of the regional language, through this language protection program, it is hoped that the Banjar language will be well protected. So that the Banjar language remains sustainable.

Banjar Language and Mantra

The Banjar language is spoken by the Banjar tribe originating from South Kalimantan. Some experts state that the Banjar language belongs to the Malay language group, East Borneo. The Banjar language is divided into two dialects, namely Banjar Kuala and Banjar Hulu. The Banjar language functions as a lingua franca.

In its development, the Banjar language is suspected of experiencing contamination from the intervention of Indonesian and Foreign Languages (Wikipedia Free Encyclopedia, 2024). Language retention, language shift, and language extinction are symptoms of language that continue to take place in an area with a heterogeneous population. The city of Banjarbaru has a heterogeneous population, consisting of the Banjar tribe, the Javanese tribe, the Sundanese tribe, the Madura tribe, the Batak tribe, the Dayak tribe, the Bugis tribe, and other tribes Based on this fact, the people of Banjarbaru City have a high possibility of making a language shift.

This linguistic shift has led to the gradual erosion of cultural heritage. For example, mantra as one of the Banjar oral literatures that is spread from word of mouth. Nowadays, it is no longer an important part of the younger generation. Because the younger generation does not directly intersect with the Banjar mantra. In fact, the mantra contains cultural heritage values. So that this situation leads to a polemic of regional language shifts.

This language shift occurred due to migration, industrialization, urbanization, prestige, and the use of Indonesian in schools. This language shift is characterized by a decrease in the number of young speakers of the language and they tend to use languages that are considered more prestigious. So that mantras as part of the old genre of Banjar Literature in the Banjar people of South Kalimantan using regional languages as a medium began to be rarely used by native speakers. Gradually this mantra is no longer known by the community.

Mantras are a form of traditional literature categorized as oral literature. The general feature of the spread of oral literature through mouth, born in a society that is still rural, describes the culture, a local community, anonymous, many versions, spoken orally and with the use of local dialects. Mantras in the Banjar community reflect socio-cultural values and the traditional way of life in the region. Through mantras, cultural values about beliefs or religions can be explored (Y a y u k , 2 0 0 6)

Mantras according to Koentjaraningrat (Ganie, 2009) are part of occult techniques in the form of

words and voices that are often meaningless, but are considered to contain magic or the power of damnation. Medan states that it is possible to name a mantra as a form of literature (old) because the conditions of a literary form are fulfilled in the mantra. (Jalil, 2001) argue that mantras are the beginning of traditional forms of poetry. According to Waluyo (1995) there are several main characteristics of mantras, namely: (1) very careful selection of words; (2) sounds are tried repeatedly with the intention of strengthening the suggestion of words; and (3) many words that are less commonly used in daily life with the intention of strengthening the suggestion power of words. If recited aloud, the mantra creates a magical sound effect, the sound is amplified by rhythm and rhythm that is usually only perfectly understood by expert handlers.

Based on the opinions of some of the above experts, spells can be concluded to be old literature and have magical effects. Mantras are believed by certain circles for various needs of life. Based on several previous studies, mantras are divided into several parts. There are 7 mantras researched by the (Banjarmasin Language Center, 2006),namely: treatment and maintenance mantras, mantras to conquer wild/wild animals, immunity mantras or mantras to repel reinforcements, compassion mantras, mantras to seek sustenance, mantras to play, and *tutulak*. Then Ganie (Ramadania & Jamilah) argues that there are 14 types or varieties of Banjar mantras, namely the call (kariau), the power (kasumbi), the compassion (pakasih), the source of hatred (pambanci), the call of the ancestral spirit (kasumbi), the silencer (pambukkam), the deterrent (panangkal), the rejection (panulak), the antidote (panawar), the buffer (buffer), the lure (papikat), the conqueror (pirunduk), affirming (pikaras), and the oath of serapah (oath of sarapah). Here is an example of a mantra:

1. Mantras for harvesting rice

Bacaan Batampung Tawar Banih

"Allahumma shalli alaa Muhammad
Allahumma shalli alaa Sayyidina Muhammad
Allahumma shalli alaa rasulika sayyidina waa nabiyina wahabibina wasyafi'ina waa maulana Muhammad.
Awal-awal, awal shalawat.
Awal Nur, Nur Muhammad.

2. Mantras for beauty

Pur sinupur	Pur sinupur
Bapupur di piring karang	Berbedak di piring karang
Bismillah aku bapupur	Bismillah aku berbeda
Manyambut cahaya si bulan tarang	Menyambut cahaya si bulan tarang

Pur sinupur	Pur sinupur
Kaladi tampuyangan	Kaladi tampuyangan
Bismillah aku bapupur	Bismillah aku berbedak
Banyak urang karindangan	Banyak orang jatuh cinta
Pupurku si ulam-ulam	Bedakku si ulam-ulam
Tunggangan burung kandarsih	Kendaraan burung kandarsi
Aku bapupur saparti bulan	Aku berbedak seperti bulan
Barang siapa mamandang aku berhati kasih	Barang siapa memandang aku berhati kasih
Tunduk kasih sayang umat	Tunduk kasih sayang umat
Nabi Muhammad	Nabi Muhammad
Samuanya mamandang kapada aku	Semuanya memandang kepada aku
Barakat La ilaha illallah	Berkat La ilaha illallah
Muhammadurrasulallah	Muhammad rasul Allah

Mantra ini dibaca dengan tata cara yang kurang lebih saat membaca mantra bapupur (berbedak) pada mantra sebelumnya

Natural Language Procesing (NLP)

The industrial revolution 5.0 focuses on the integration of advanced technologies such as AI Iot, and technological robot technology with human expertise and innovation that can drive the development of production systems that are more efficient, flexible, sustainable, and improve welfare. This aims to

create a production system that is more adaptive to changes in market demand, focuses more on customer experience, and optimizes the use of limited natural resources. Overall, the Industrial Revolution 5.0 is expected to provide many benefits to the industry, customers, workers and society in general, such as increasing productivity, quality, and production safety, improving occupational safety, creating new job opportunities and reducing negative environmental impacts.

Natural Language Processing is part of AI which is artificial intelligence that allows computers to process natural language as used by humans (Istiqamah, 2017in Dar, 2023)). The goal of NLP is to create computational models from languages. So that there is interaction between humans and computers through natural language equipment, namely through machine translation (Resmawan, et al, 2015: Sholikhatin, et al, 2021: Dar et al, 2023). This translation machine functions to translate syntax from the origin language to the destination language, namely Banjar to Indonesian. This translation machine component is made to facilitate natural language processing (Ridwan et al., 2016: Dar et al., 2023).

NLP on Banjar Mantras

The analysis of system needs was carried out to obtain the functional needs of the system in the form of Banjar vocabulary. We can see in the following table.

Table 1 System Functional Requirements

Banjar Words	Indonesian Words
Pur sinupur	Pur sinupur
Kaladi tampuyangan	Kaladi tampuyangan
Bismillah aku bapupur	Bismillah aku berbedak
Banyak nang karindangan	Banyak orang jatuh cinta
Pupurku si ulam-ulam	Bedakku si ulam-ulam
Tunggangan burung kandarsih	Kendaraan burung kandarsi
Aku bapupur saparti bulan	Aku berbedak seperti bulan
Barang siapa mamandang akau akan berhati kasih	Barang siapa memandang aku berhati kasih

We can see in table 1 that there are several words from the Banjar language that are different from Indonesian. So, it is necessary to carry out a language translation process. There are several stages in the processing of this natural language, namely:

1) Developing the program flow of the translator application
   In the flow of the translator application program. On the menu display, users can choose the language, Banjar or Indonesian. On the translation display, users can enter Indonesian which will be translated into Banjar. Then press the translate button into Banjar. If an error occurs, an error message will appear.
2) Activity diagrams
   In this section, the user will input the Indonesian sentence to be translated Then press the translate button to get the translation result. If the saved sentence does not match the database, then a message will appear that the word entered is incorrect.
3) Designing the diagram class
   Diagram classes are designed for the structure of language classes on a translator application system. This class of diagrams is the final part of the natural language learning stage.

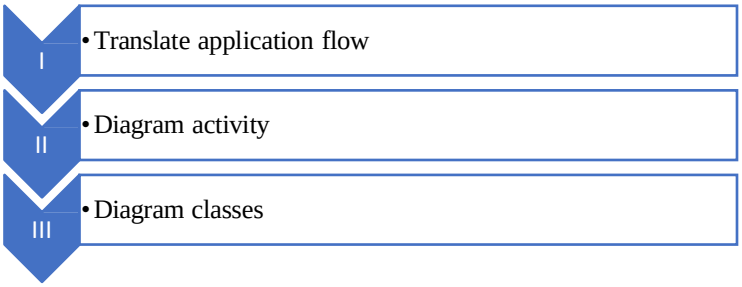


Figure 3 stages of NLP

4. Conclusion and Sugesstion

System design, implementation, and testing have been carried out. From the results of the stages of the Waterfall method, it can be concluded that the Natural Language Processing (NLP) method can be implemented in a command line interface-based word translator dictionary application. T The dictionary application serves as a valuable tool for preserving the Banjar language. This language translation application can be further developed for web-based, Android, and iOS platforms.

References

Banjarmasin Language Center, M. of N. E. B. (2006). *Mantra Banjar*. Banjarmasin Language Center.

Bappeda Banjarbaru. (2024, November 13). *Bappeda Banjarbaru City. Population Data.* Https://Bappeda.Banjarbarukota.Go.Id/Data/Kependudukan/.

Caecilia M. (2020, November 13). In the last three years, there have been 11 regional languages in the archipelago extinct. *Kompas.*

Chaer, A. & L. A. (2010). *Sociolinguistics of early introduction*. Rineka Cipta.

Dar, M. H. et al. (2023). Application of Natural Language Processing in the Creation of Malay Translation Applications for Panai Dialect—Indonesian. *Journal of Informatics: Faculty of Science and Technology, University of Labuhanbatu* , *2*(3).

Dewi, A. A. K. (2021). Application of Balinese Sentence Dictionary for Tourists. *Journey*, *4*(1), 81–96.

Ganie, T. N. (2009). *Old Genre Banjar Poetry with Mantra Patterns.* Banjar Folklor Library.

Hasanuddin, A. (2016). The creation of the Malay-Indonesian-English Online Translation Dictionary uses a natural language processing approach. *1th Celsitech-UMRI*, 134–142.

Istiqamah, E., & S. D. (2017). Application of the Left Corner Parsing Method in the Indonesian to Bima Translation Application. *National Seminar on Information Technology Applications (SNATi).*

Jalil, A., & R. E. (2001). *Mantra Poems*. Unri Press.

Ministry of Finance of the Republic of Indonesia. (n.d.). Legal and Information Section. *Https://Www.Djkn.Kemenkeu.Go.Id/Kpknl-Lahat/Baca-Artikel/16023/Mengenal-Revolusi-Industri- 50. Html.*

Wikepedia Free Encyclopedia. (2024). *Banjarbaru City. Banjarbaru City - Wikipedia Indonesian, the encyclopedia is freely.*

Yayuk, R. et al. (2006). *Banjar Mantra*. Banjarmasin Language Center, Ministry of National Education.

AN ANALYSIS ON BA'AYUN MAULUD TRADITION AS ONE OF ALTERNATIVE SOURCES TO SUPPORT ENGLISH VOCABULARY INSTRUCTION AT ELEMENTARY SCHOOL

Noor Apriliani, Hj. Ida Rusdiana, Fathul Zannah
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
English Language Education Study Program
Banjarmasin, Indonesia
3062012003@mhs.stkipbjm.ac.id,
idarsudiana41@upk.ac.id,
zannahdonk@gmail.com

Abstract. English teachers face a major challenge due to the lack of teaching materials based on local wisdom, making it difficult to find materials that align with the curriculum and are relevant to students' local culture in vocabulary lessons. Conventional approaches, such as memorization and repetition, are often ineffective and lack context. Vocabulary teaching that integrates local culture can provide richer and more meaningful context. The *Ba'ayun Maulud* tradition, with its various cultural aspects, offers a diverse and relevant vocabulary. Additionally, this tradition can increase students' interest in learning by connecting the lesson material with their daily lives. Elementary school English teachers also face challenges in implementing the Pancasila Student Profile. Therefore, this study analyzes the *Ba'ayun Maulud* tradition as an alternative source to support vocabulary learning in English at the elementary school level. This research use qualitative research as the approach and type of research. The research results show that the *Ba'ayun Maulud* tradition makes a significant contribution to English vocabulary learning in elementary schools. This activity not only strengthens children's relationship with God and develops noble morals but also introduces vocabulary relevant to their daily lives and cultural values. Thus, *Ba'ayun Maulud* can support contextual English learning, enrich cultural understanding, and develop children's character.
Keywords: *ba'ayun maulud*, pancasila student profile, elementary school, vocabulary instruction

1. Introduction

Education in Indonesia continues to evolve with various innovations aimed at improving the quality of teaching. English, as an international language and global communication tool, plays an important role in education. However, in its implementation at the elementary school level, there are several challenges that teachers must face. One of the main challenges is the use of relevant and effective teaching materials. English teaching often focuses on textbooks and general materials, without considering the local cultural context that can enrich students' learning experiences (Santrock, 2011). According to data from the Education Assessment Center (2022), only 45% of elementary school students in Indonesia demonstrate adequate English proficiency, indicating an urgent need to improve teaching methods.

Integrating local wisdom into education is an effort that is increasingly receiving attention from researchers and education practitioners. Using locally based teaching materials can help students understand and appreciate their own culture, as well as increase motivation and engagement in learning. Research by Gay (2000) shows that teaching materials that integrate local cultural elements can improve student learning outcomes. However, many English teachers in elementary schools struggle to find and develop teaching materials that align with local wisdom, leading them to frequently use materials that are less relevant to the local cultural context.

Elementary school English teachers are expected to teach four main skills: listening, speaking, reading, and writing. Additionally, there are two important language elements that students must master: vocabulary and grammar. Effective teaching should be able to integrate these four skills and two language elements into various contextual and meaningful learning activities. Specifically for

vocabulary instruction, methods are needed that enable students to understand and use new vocabulary in relevant and engaging contexts (Richards & Schmidt, 2010).

One of the main obstacles faced by English teachers is the lack of locally based teaching materials. This results in difficulties finding materials that are not only aligned with the curriculum but also relevant to the students' local culture. This thesis aims to offer a solution to this problem by proposing the *Ba'ayun Maulud* tradition as an alternative source of teaching materials. *Ba'ayun Maulud* is not just about swinging children or celebrating the birth of the Prophet Muhammad (SAW), but also represents a tradition that embodies values such as mutual cooperation, tolerance, religiosity, environmental concern, social responsibility, and communication. These noble values can shape the character of children and the Banjar community (Nugroho, 2020).

Implementing the Pancasila Student Profile through locally based teaching materials requires teachers' understanding and creativity. Teachers need to develop teaching materials that not only teach English skills but also instill Pancasila values. The *Ba'ayun Maulud* tradition, with its cultural values, can serve as an effective resource for this purpose. Using this tradition in teaching can help students understand and internalize Pancasila values through local cultural contexts, such as by linking English vocabulary with traditional activities.

The *Ba'ayun Maulud* tradition can also be an effective reference for English vocabulary material. Vocabulary is a crucial element in mastering a foreign language, and contextual teaching materials can help students remember and understand vocabulary more easily. By integrating *Ba'ayun Maulud* into vocabulary instruction, students are expected to learn in a more enjoyable and meaningful way. For example, vocabulary related to traditional activities such as "swinging," "celebration," and "ceremony" can be taught through relevant and engaging activities.

This research aims to make a tangible contribution to improving the quality of English teaching in elementary schools through a locally based approach. By exploring how the *Ba'ayun Maulud* tradition can be integrated into English teaching, particularly in vocabulary instruction, this research seeks to provide solutions to the challenges faced by teachers in using locally based teaching materials. Additionally, this research is expected to help teachers effectively implement the Pancasila Student Profile in English teaching at the elementary level. Overall, using the *Ba'ayun Maulud* tradition as teaching material in elementary school English instruction can not only enhance students' understanding of English vocabulary but also support the achievement of the Pancasila Student Profile.

2. Review of Literature

2.1 English Instruction

There are various definitions by (Akdeniz, 2016) defined instruction as the whole process applied for learning to take place and for the evolution of the desirable behavior that learners are awaited to have. (Isman, 2011) pointed out that instruction is a plan of classroom activities in which the activity is arranged. In comparison between the definitions of the two experts, the former definition focuses on the overall process applied in learning, while the later definition focuses on plans for learning activities. Based on these definitions of instruction, English instruction is an action that has been planned and then applied in the process of learning English.

Character education must be taught to all students in Indonesia through every subject that is taught every day, one of the subjects is English. The Minister of Education and Culture of Indonesia, Nadiem Anwar Makarim stated that it would be impossible for students to learn character values if there was no education specifically studying these characters. The Ministry of Education and Culture stated that character education is not only taught by the community or by parents, but the teacher also has a role in teaching character education.

2.2 Definition of Pancasila Student Profile

Pancasila Student Profile symbolizes Indonesian students as individuals committed to lifelong learning, equipped with global competencies, and demonstrating behavior aligned with Pancasila principles. Nadiem Anwar Makarim (2021) emphasized that enhancing student character education can be accomplished through diverse initiatives by the Ministry of Education and Culture, aiming to attain the Pancasila Student Profile. As articulated in the Ministry of Education and Culture's vision and

mission outlined in Minister of Education and Culture Regulation No. 22 of 2020 concerning the Strategic Plan for the years 2020-2024, the Pancasila Student Profile epitomizes Indonesians as lifelong learners with global competencies and conduct grounded in Pancasila values.

Nadiem Anwar Makarim (2021) highlighted that fortifying student character education can be facilitated through various Ministry of Education and Culture policies, focusing on realizing the Pancasila Student Profile, which encompasses six key attributes: faith and devotion to the One Almighty God, noble character, global inclusivity, mutual cooperation, independence, critical thinking, and creativity.

2.3 Definition of Ba'ayun Maulud

Ba'ayun maulud is a tradition rich in meaning and spirituality that has been passed down through generations in the Banjar community, an ethnic group residing in the South Kalimantan region of Indonesia. This tradition celebrates the birth of Prophet Muhammad SAW, which is considered a blessed event and serves as an inspiration for Muslims. *ba'ayun maulud* is a manifestation of the Banjar community's respect and gratitude for the teachings of Islam, which have become an integral part of their lives (Samsiar et al., 2020).

The culmination of *ba'ayun maulud* celebrations is often marked by various activities, including the recitation of the *Maulid* book, dhikr (remembrance of Allah), and collective prayers. The Banjar community gathers to share stories of the life of Prophet Muhammad, reflect on his teachings, and strengthen the sense of brotherhood within the community. Additionally, this religious event is also characterized by lively carnival parades, where participants wear traditional costumes and showcase performing arts depicting the life of the Prophet (Junaidi et al., 2022).

Ba'ayun maulud is not just a religious moment but also reflects the local wisdom and cultural values of the Banjar community. This tradition strengthens their ethnic identity while preserving their deep cultural roots. Participants of *ba'ayun maulud* include not only the elderly but also involve the younger generation, making this celebration a platform for imparting Islamic values and local wisdom from one generation to the next (Norhidayat, 2015; Wahab Syakhrani & Nafis, 2022).

With its uniqueness and richness, *ba'ayun maulud* has become an inseparable part of the cultural heritage of the Banjar community. This tradition serves not only as a worship event but also as a means of uniting the community and preserving the integrity of traditional values within the framework of religion. *ba'ayun maulud* creates a space for the Banjar community to celebrate, honor, and internalize the teachings of Islam together, making it a strong spiritual and social foundation for their daily lives.

2.4 Local Wisdom

According to Bakhtiar (2016) local wisdom is an action based on the views and knowledge of the community in managing local basic materials. In short, this local wisdom is an action that includes the creation, taste, and work of the community in overcoming local problems. Local wisdom is a cultural identity that needs to be introduced to the younger generation through education because it is the local young generation who will be able to defend their own region. He continued, the local wisdom in question could include a region that would be taken in the fields of culture, tourism, crafts, and typical food from the region.

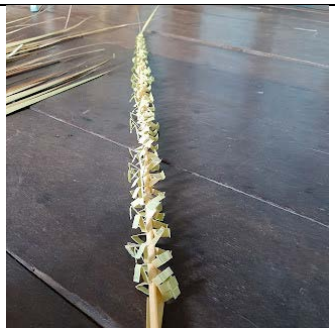
According to Trisna (2019) the existence of local content subjects, arts and culture, is one of the efforts to accommodate the wealth of local culture. Strengthening local wisdom and culture in education can also be done by integrating it both in the aspects of learning methodology and learning content.

3. Discussion

The findings in this study were obtained from observations and interviews conducted by researchers. Data collection through observation lasted for 3 days. Interview data collection took place for three months. The subjects interviewed were five parents whose children had participated in *ba'ayun maulud.* The overall data is displayed in the form of narratives and tables.

Table 1 Observation Result

No	Picture	Banjarese Vocabulary	English Vocabulary	Meaning
1.		Ayunan Pikasih Beranak	Ayunan pikasih beranak	The pikasih baranak swing is a typical swing of the Banjar community. In the *ba'ayun maulud* procession the cloth used consists of 3 pieces of cloth equipped with 3 kakamban (long scarves like a shawl) assembled, this means tasawwuf, tarikat and ma'rifat. The inclusion of the child in the swing is expected that one day he can study religion in depth.
2.		Anyaman Janur	Woven janur	Usually made from woven hanau leaves or nyiur leaves. In various forms of woven janur decoration, there are meanings and hopes of parents for their children in the future.
3.		Hiasan lipan	Lipan decoration	Which is assembled from palm leaves, means that the child does not want to be disturbed, because if disturbed it will bring danger to the intruder.

No	Picture	Banjarese Vocabulary	English Vocabulary	Meaning
4.		Hiasan patah kangkung	Broken kale decoration	Broken kale decoration, is a decoration that illustrates that even though the child is separated from his parents he is able to grow and look for his own life like a kale tree that is broken from its roots, wherever it is placed it will always grow.
5.		Hiasan kembang sarai	Sarai flower decoration	Sarai flower decoration, is a symbolizes the spirit of life or represents the child's sense of purpose.
6.		Hiasan gelang rantai	Chain bracelet decoration	Chain bracelet decoration, is an ornament that illustrates the solidity of brotherhood between fellow tutus / Muslims. This bracelet usually amounts to 25 as prophets and apostles who must be known.
7.		Hiasan ketupat guntur	The thunder walve decoration	The thunder valve decoration, is a symbol and hope that later the child who is swung can equip himself with goodness and his words are heard by others.

No	Picture	Banjarese Vocabulary	English Vocabulary	Meaning
8.		Pagar tigarun	Tigarun fence	Tigarun fence, this part is an assembly of 3 shawls formed zigzag on a bar to support the swing open. With this fence, even if the child makes a mistake, it is hoped that later he can control himself, which means that with self-limitation the child is not easily influenced by teachings from outside about religion.
9.		Jajanan dan duit kartas	Snack and paper money	Snacks and paper money, is the hope that the child will be sought after and happy to give alms.
10.		Piduduk	*Piduduk*	*Piduduk*, is one of the completeness in *ba'ayun maulud*.
11.	 	Baras lawan nasi lakatan	Rice and sticky rice	Rice and sticky rice, it is expected that the child will have enough basic food.

No	Picture	Banjarese Vocabulary	English Vocabulary	Meaning
12.		Intalu itik	Duck egg	Duck eggs, it is expected that the child will have a firm stance and thinking intelligence.
13.		Banang putih	White thread	White thread, a picture of the child's veins, it is expected that he will have a strong bond in the family.
14.		Jarum	Needle	Needle, a picture of the child's bones, it is hoped that even though he will be a small person, he will still provide great benefits.
15.	 	Duit lawan baras kuning	Money and yellow rice	Money and yellow rice, it is hoped that the child will become a bone of contention like small change and yellow rice spread together.
16.		Kelengkapan dapur	Kitchen utensils	Kitchen utensils, this part is specifically for women, it is hoped that the child will be good at cooking and become a good housewife.

No	Picture	Banjarese Vocabulary	English Vocabulary	Meaning
17.		Tangga tebu	Sugar cane ladder	Sugar cane ladder, it is hoped that the child will not encounter difficulties in every stage of his life. The essence and expectations of the child through this *piduduk* as it develops there are several things that change.

Table 2 Observation Color Result

No	Picture	Color	Meaning
1.		Red	Merah
		Yellow	Kuning
		Green	Hijau
2.		Green	Hijau
3		Light Green	Hijau Muda

No	Picture	Color	Meaning
4.		Light Green	Hijau Muda
5.		Light Green	Hijau Muda
6.		Light Green Brown Red-White	Hijau Muda Coklat Merah-Putih
7.		Green Light Green	Hijau Hijau Muda
8.		Red Black Yellow	Merah Hitam kuning
9.		Red Green	Merah Hijau

No	Picture	Color	Meaning
		Purple	Ungu
		Blue	Biru
		Grey	Abu-Abu
		Brown	Coklat
		Light Green	Hijau Muda
10.		White	Putih
11.	 	White	Putih
12.		Light Blue	Hijau Muda
13.		White	Putih
14.		Silver	Perak

No	Picture	Color	Meaning
15.	 	Red	Merah
		Green	Hijau
		Purple	Ungu
		Blue	Biru
		Grey	Abu-Abu
		Brown	Coklat
		Light Green	Hijau Muda
		Yellow	Kuning
16.		White	Putih
		Black	Hitam
		Brown	Coklat
17.		Blue	Biru
		Light Green	Hijau Muda

Tabel 3 Interview Result

No.	Indicator	Elements	Respondents
1.	Devotion to the One Almighty God and Demonstrating Noble Behavior	Religious ethics	Three parents stated that after participating in the *ba'ayun maulud* activity, their children became more diligent in praying. Two parents said that after participating in the *ba'ayun maulud* activity, there was no significant improvement in their children regarding praying.
		Personal ethics	Three parents stated that after participating in the *ba'ayun maulud* activity, their children became more honest. Two parents said that after participating in the *ba'ayun maulud* activity, there was no significant improvement in their children's honesty.
		Ethics concerning humanity	Three parents stated that after participating in the *ba'ayun maulud* activity, their children became more inclined to share and do good deeds for their neighbors or friends.

No.	Indicator	Elements	Respondents
			Two parents said that after participating in the *ba'ayun maulud* activity, there was no significant improvement in their children regarding sharing and doing good deeds for those around them.
		Ethics towards nature	Three parents stated that after participating in the Baayun Mulud activity, their children became more concerned about maintaining environmental cleanliness. Two parents said that after participating in the Baayun Mulud activity, there was no significant improvement in their children regarding their concern for maintaining environmental cleanliness.
		National ethics	Three parents stated that after participating in the Baayun Mulud activity, their children became more diligent in waking up and leaving earlier on Mondays to attend the flag-raising ceremony. Two parents said that after participating in the Baayun Mulud activity, there was no significant improvement in their children regarding waking up and leaving earlier on Mondays to attend the flag-raising ceremony.
2.	Global Diversity	Recognizing and appreciating cultures	Two parents stated that after participating in the Baayun Mulud activity, their children became more interested in Banjar culture, such as folk tales. Three parents said that after participating in the Baayun Mulud activity, there was no significant improvement in their children regarding interest in Banjar culture, such as folk tales
		Communication and interaction among cultures	Four parents stated that after participating in the Baayun Mulud activity, their children began interacting with friends or family from different cultural backgrounds. One parent said that after participating in the Baayun Mulud activity, there was no significant improvement in their children regarding interactions with friends or family from different cultural backgrounds.
		Reflection and responsibility towards diversity experiences	Four parents stated that after participating in the Baayun Mulud activity, their children became more tolerant towards their friends, regardless of their cultural or religious background. One parent said that after participating in the Baayun Mulud activity, there was no significant improvement in their children regarding tolerance towards their friends, regardless of their cultural or religious background.
		Social Justice	Five parents stated that after participating in the Baayun Mulud activity, their children began to help friends in need or share with those who are less fortunate
3.	Mutual Cooperation	Collaboration	Five parents stated that after participating in the Baayun Mulud activity, their children more frequently cooperated with their siblings in

No.	Indicator	Elements	Respondents
			doing household chores, such as cleaning the house or preparing meals.
		Care	Five parents stated that after participating in the Baayun Mulud activity, their children often helped their parents or siblings in need of assistance.
		Sharing	Five parents stated that after participating in the Baayun Mulud activity, their children became more frequent in sharing toys or food with their siblings or friends.
4.	Independence	Self-awareness and awareness of the situations encountered	Five parents stated that after participating in the Baayun Mulud activity, their children became more aware of their own feelings and emotions.
		Self-regulation	Five parents stated that after participating in the Baayun Mulud activity, their children became more disciplined.
5.	Critical Thinking	Acquiring and processing information and ideas	Four parents stated that after participating in the Baayun Mulud activity, their children showed more interest in learning new information, such as folk tales or cultural values of Banjar. One parent said that after participating in the Baayun Mulud activity, there was no significant improvement in their child's interest in learning new information, such as folk tales or cultural values of Banjar.
		Analyzing and evaluating reasoning	Five parents stated that after participating in the Baayun Mulud activity, their children began to ask more questions or contemplate various perspectives when discussing religious values or Banjar traditions with their family.
		Reflecting and evaluating their own thinking	Four parents stated that after participating in the Baayun Mulud activity, their children started to reflect on and evaluate their own attitudes or actions. One parent said that their child has not yet shown signs of reflecting on and evaluating their own attitudes or actions.
6.	Creative	Generating original ideas	Five parents stated that after participating in the Baayun Mulud activity, their children became more inclined to sing songs with lyrics that depict everyday life in their surroundings.
		Producing original works and actions	Five parents stated that after participating in the Baayun Mulud activity, their children became more fond of drawing.
		Having flexibility in seeking alternative problem-solving solutions	Five parents stated that after participating in the Baayun Mulud activity, their children became more inclined to frequently change the rules of play with new rules they come up with themselves.

Tabel 4 Interview about Word Result

No	Pancasila Student Profile	Indonesian	English	Parts of Speech	Meaning
1.	Devotion to the One Almighty God and Demonstrating Noble Behavior				

No	Pancasila Student Profile	Indonesian	English	Parts of Speech	Meaning
	Religious ethics	a. Rajin b. Sholat c. Mengaji	a. Diligent b. Pray c. Recite	a. Adjective b. Adverb c. Adverb	a. Always repeating something b. Prayer comes from the Arabic word shalla, which means prayer or a way of praying to ask God for a request c. Reciting or saying the holy verses of the Qur'an
	Personal ethics	Jujur	Honest	Adjective	It really is what it is
	Ethics concerning humanity	a. Berbagi b. Baik	a. Sharing b. Kind	a. Verb b. Adjective	a. Giving part of one's own property to another person. b. Willing to help; friendly.
	Ethics towards nature	a. Peduli b. Menjaga	a. Care b. Guard	a. Verb b. Verb	a. To pay attention or heed b. Protect; guard; supervise.
	National ethics	a. Rajin b. Bangun c. Berangkat	a. Diligent b. Get up c. Leave	a. Adjective b. Verb c. Verb	a. Consistently working hard; industrious b. To stand or rise from a bed or sitting position c. To go away from; to abandon or let go of something
2.	Global Diversity				
	Recognizing and appreciating cultures	Tertarik	Interested	Adjective	Feeling curious or having a desire to learn or know more about something.
	Communication and interaction among cultures	Interaksi	Interaction	Verb	Reciprocal action or influence.
	Reflection and responsibility towards diversity experiences	a. Tolernasi b. Peduli	a. Tolerance b. Care	a. Adjective b. Adjective	a. The ability or willingness to accept or allow the existence of opinions or behavior that one dislikes or disagrees b. To pay attention to or to consider

No	Pancasila Student Profile	Indonesian	English	Parts of Speech	Meaning
					something important.
	Social Justice	a. Berbagi b. Membantu	a. Sharing b. Help	a. Verb b. Verb	a. Giving a part of one's own to others. b. Giving assistance to someone in need.
3.	Mutual Cooperation				
	Collaboration	a. Bekerja sama b. Membersihkan rumah c. Menyiapkan	a. Cooperate b. Clean c. Prepare	a. Verb b. Verb c. Verb	a. Doing something together with others to achieve a common goal. b. Free from dirt, stains, or garbage c. Making something ready for use or consideration.
	Care	membantu	Help	Verb	To pay attention or to heed
	Sharing	Berbagi	Sharing	Verb	Giving a part of one's own to others.
4.	Independence				
	Self-awareness and awareness of the situations encountered	a. Perasaan b. Emosi	a. Feeling b. Emotion	a. Adjective b. Adjective	a. A state of mind or emotional experience when encountering or perceiving something. b. A surge of feeling that develops and dissipates over a short period.
	Self-regulation	Disiplin	Discipline	Verb	Adherence to rules or regulations; self-control and order.
5.	Critical Thinking				
	Acquiring and processing information and ideas	a. Menunjukan b. Mempelajari	a. Showing b. Learn	a. Verb b. Verb	a. To display or make visible for others to see or know b. To acquire knowledge or skills through study, experience, or instruction.
	Analyzing and evaluating reasoning	a. Bertanya b. Memikirkan	a. Ask b. Thinking about	a. Verb b. Verb	a. To request information or clarification.

No	Pancasila Student Profile	Indonesian	English	Parts of Speech	Meaning
					b. To consider or reflect upon something.
	Reflecting and evaluating their own thinking	a. Merenungkan b. mengevaluasi	a. ponder b. evaluate	a. verb b. verb	a. To think deeply or reflect upon something. b. To determine the value or quality of something based on consideration or assessment.
6.	Creative				
	Generating original ideas	Menyanyi	Singing	Verb	Producing musical sounds with the voice, usually with melody and rhythm.
	Producing original works and actions	menggambar	Drawing	Verb	Creating a picture or image with a drawing tool like a pencil, pen, or paint.
	Having flexibility in seeking alternative problem-solving solutions	mengubah	Change	Verb	The process or result of making something different from its previous state.

This research uses two types of data collection, namely using observation and interviews. From the observational data, it can be seen that the *ba'ayun maulud* event in Banua Halat is a well-organized tradition by the organizing committee. The event includes several stages, such as the opening, the recitation of verses from the Holy Qur'an, speeches from the committee and government officials, the recitation of maulid poetry, religious lectures, and a closing prayer. Although *ba'ayun maulud* itself is not included in the program schedule, it follows the directions of the responsible committee.

Before reaching the main event, several important preparations are made, such as participant registration with varying fees, the construction of swings and poles, and the careful selection of the time and place for the event. Traditionally, the event is held at the Keramat al-Mukarromah Mosque, chosen by the community for its historical and sacred value.

The *ba'ayun maulud* tradition in Banua Halat holds its own philosophical significance for the community, with preparations including pikasih baranak swings, woven palm leaf decorations, tigarun fences, snacks, and *piduduk*. *Piduduk*, which was previously brought by each participant, is now monetized, and only one is prepared symbolically in the mosque. Through *piduduk*, parents convey their hopes and prayers for the safety and blessings for the children who are swung during this event.

Based on the results of the interview, in the activities of ba'ayun maulud can be found Pancasila Student Profile character and also some vocabulary. Which vocabulary can be used as English teaching materials in elementary school. Such as:

1) Devotion to the One Almighty God and Demonstrating Noble Behavior

Based on interviews with parents. The *ba'ayun maulud* activity helps children to get closer to God, understand religious teachings, and develop noble morals. And in baayun mulud activities there are also several vocabularies that can be used as teaching materials by teachers for teaching

basic English in the classroom, such as the words diligent, pray, recite, honest, sharing, kind, care, guard, get up, leave which are very close to them.

2) Global Diversity

Based on interviews with parents. The *ba'ayun maulud* activity makes their children more interested in Banjar culture, such as folklore, which is one of the elements of Recognizing and Appreciating Culture. And in baayun mulud activities there are also several vocabularies that can be used as teaching materials by teachers for teaching basic English in the classroom, such as the words Interested, Interaction, Tolerance, Care, Sharing, Help which are very close to them.

3) Mutual Cooperation

Based on interviews with parents. The *ba'ayun maulud* activity makes their children more cooperative in doing work and collaborating. And in baayun mulud activities there are also several vocabularies that can be used as teaching materials by teachers for teaching basic English in the classroom, such as the words Cooperate, Clean, Prepare, Help, Sharing, which are very close to them. which is a word that is very close to them.

4) Independence

Based on interviews with parents. The *ba'ayun maulud* activity also helps children become more independent in carrying out daily tasks. And in baayun mulud activities there are also several vocabularies that can be used as teaching materials by teachers for teaching basic English in the classroom, such as the words Feeling, Emotion, Discipline, which are very close to them. which is a word that is very close to them.

5) Critical Thinking

Based on interviews with parents. Children showed an increase in critical thinking and a desire to understand the *ba'ayun maulud* tradition in more depth. And in the baayun mulud activities there are also some vocabulary that can be used as teaching materials by teachers for basic English teaching in the classroom, such as the words Showing, Learn, Ask, Thinking about, ponder, evaluate which are very close to them.

6) Creativity

Based on interviews with parents. Their children enjoy singing songs whose lyrics are adapted to their daily activities and drawing which is one of the elements of Generating Original Ideas. And in baayun mulud activities there are also some vocabulary that can be used as teaching materials by teachers for teaching basic English in the classroom, such as the words Singing, Drawing, Change, which are very close to them. which is a word that is very close to them.

Based on the explanation above, in this case the researcher connects the results obtained in this study with the theory. Trisna's theory (2019) states that local content subjects, arts, and culture are important efforts to accommodate the wealth of local culture in education. Strengthening local wisdom and culture in education can be done by integrating these aspects both in methodology and learning content. The results of this study support this theory by showing that baayun mulud is not only a cultural activity but also a rich source for English teaching materials. By integrating vocabulary and concepts related to this cultural activity into English learning, teachers can create a more contextualized and meaningful learning experience, which connects the language being learned with students' local culture.

The conclusion from the interviews with parents shows that the *ba'ayun maulud* activity not only strengthens children's relationship with God and helps them understand religious teachings and develop good morals, but also makes an important contribution to English vocabulary learning. The activity offers opportunities for children to learn and use English vocabulary relevant to their daily activities, such as vocabulary related to morals, culture, cooperation, independence, critical thinking and creativity. For example, vocabulary such as "*Rajin*," "*Sholat*," and "*Mengaji*" in the context of *ba'ayun maulud* can be translated into English as "Diligent," "Pray," and "Recite," which can then be used in English learning in the classroom. Thus, *ba'ayun maulud* not only enriches children's cultural and moral understanding, but also supports contextually relevant English learning.

4. Conclusion

The conclusion that can be drawn from this study is that it shows that *ba'ayun maulud* activities act as an effective resource for teaching English vocabulary. Vocabulary related to moral values,

culture, and daily activities in *ba'ayun maulud* can apparently be translated into English and used as relevant and contextualized teaching materials. Thus, *ba'ayun maulud* offers a useful alternative to improve children's understanding and use of English through vocabulary that is close to their lives.

5. Suggestion

After making the conclusions of this research, the researcher gave several suggestions to the teacher and further researcher.

1. Teacher
   Develop teaching materials and learning resources that combine English vocabulary with elements from *ba'ayun maulud*. For example, create worksheets, vocabulary cards or storybooks that link vocabulary to cultural activities.
2. Further Researcher
   Conduct case studies or experiments to evaluate the effectiveness of using *ba'ayun maulud*-related vocabulary in improving students' English skills. Compare the learning outcomes with conventional methods to measure the impact.

It is recommended that further researchers who use this research as a source and reference material conduct similar research by conducting more in-depth investigations.

References

Akdeniz, C. (2016). Instructional process and concepts in theory and Springer Nature Singapore.

Badan Standar, Kurikulum, Dan Asesmen Pendidikan Kementrian Pendidikan, Kebudayaan, Riset, Dan Teknologi Republik Indonesia (2022): Dimensi, Elemen, dan Subelemen Profil Pelajar Pancasila pada Kurikulum Merdeka

Bakhtiar, D. 2016. Bahan Ajar Berbasis Kearifan Lokal Terintegrasi STM (Sains,Teknologi, dan Masyarakat) Pada Mata Pelajaran Fisika. Seminar Nasional Pendidikan 2016, 4(5): 650-660.

Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.

Junaidi, J., Rahmasari, S., Kependidikan, L. F.-J., & 2022, U. (2022). Pengembangan Bahan Ajar Gerak Harmonik Sederhana Berbasis Etnosains Tradisi Baayun Maulid.

Kemendikbud. (2023). *Kurikulum Merdeka dan Profil Pelajar Pancasila*. Kementerian Pendidikan dan Kebudayaan.

Norhidayat, M. D. (2015). Tradisi Baayun Mulud Di Banjarmasin. Al-Banjari : Jurnal Ilmiah Ilmu-Ilmu Keislaman, 11(1), 51–76. https://doi.org/10.18592/albanjari.v11i1.416

Nugroho, R. (2020). *Tradisi Ba'ayun Maulud dalam Konteks Pendidikan Karakter*. Jurnal Penaiadidikan Budaya.

Pusat Peniln Pendidikan. (2022). *Laporan Hasil Penilaian Penguasaan Bahasa Inggris di Sekolah Dasar*. Kementerian Pendidikan dan Kebudayaan.

Samsiar, S., Zakso, A., & Rustiyarso, R. (2020) Tradisi Naik Ayun Dalam Perspektif Interaksionisme Simbolik (Studi Masyarakat Etnis Bugis Di Desa Punggur Besar Kabupaten Kubu Raya). Jurnal Pendidikan dan Pembelajaran Khatulistiwa (JPPK), 9(7).

Santrock, J. W. (2011). *Educational Psychology*. McGraw-Hill Education.

Sari, D., & Hidayat, N. (2023). *Tantangan Implementasi Profil Pelajar Pancasila dalam Kurikulum Merdeka*. Jurnal Pendidikan dan Pembelajaran.

Trisna, B. N. 2019. Pendidikan 4.0: Perubahan Paradigma dan Penguatan Keaarifan Lokal dalam Pembelajaran Matematika. Math Didactic: Jurnal Pendidikan Matematika, 5(1): 83-92.

Harnessing Artificial Intelligence to Foster Educational Equity and Artistic Expression in Local Communities

Rofik Aksan
UIN Antasari Banjarmasin
Banjarmasin, Indonesia
rofikaksan@gmail.com

Abstract. This research explores the potential of artificial intelligence (AI) in improving educational equity and artistic expression in local communities. In today's digital era, AI offers a variety of accessible tools and platforms to support learning and creativity. Through case analysis, we identify how AI can be used to address educational inequalities, providing wider access for students from disadvantaged backgrounds. Additionally, we highlight the role of AI in enriching the creative process, enabling individuals to express themselves artistically in innovative ways. This research also discusses the challenges and limitations faced when applying AI technologies in educational and arts contexts, including issues of ethics and accessibility. By combining an interdisciplinary approach, we hope to provide concrete recommendations for educators, artists, and policymakers to utilize AI as a tool in realizing social justice and increasing community participation in arts and education.

Keywords: Artificial Intelligence, Educational Equity, Artistic Expression, Local Community, Educational Technology, Accessibility, Creativity.

1 Introduction

Artificial intelligence (AI) has become an integral part of technological developments in various sectors, including education and the arts. With the ability to process large amounts of data and provide timely solutions, AI has the potential to democratize access to education and strengthen artistic expression in local communities. However, there are significant challenges in utilizing AI, especially related to issues of justice and inequality that exist in society (Sari dkk., 2022). In this context, it is important to understand how technology can be used to achieve educational equity and facilitate individual creativity at the local level.

The presence of AI technology in education offers new opportunities to create a more inclusive learning environment. Based on research conducted by Nugroho (2022), the application of AI in education can help identify individual student needs and provide appropriate learning recommendations. This is very relevant, considering that there are still many students in Indonesia who face challenges in accessing quality educational resources. With AI, it is hoped that the learning process can be personalized, allowing students from various backgrounds to acquire the same knowledge and skills.

However, despite the enormous potential of AI to improve educational equity, there are concerns that its implementation could exacerbate existing inequities. Research by Widodo (2023) shows that not all regions in Indonesia have adequate technological infrastructure to support the use of AI. This raises questions about who can actually benefit from this technology and how to ensure that all communities, especially the disadvantaged, have equal access.

Furthermore, in the context of artistic expression, AI offers tools and platforms that can help local artists develop their creativity. According to Hasanah (Mustafa, 2010), the use of AI technology in art allows the creation of more innovative and original works. Artists can use AI to explore new ideas and create engaging art experiences for audiences. On the other hand, it is important to ensure that this technology does not replace the human creative process, but rather strengthens and complements existing artistic expression.

In Indonesia, several initiatives have been undertaken to utilize AI in education and the arts. For example, a number of educational institutions have started to integrate AI in their curriculum to improve

the quality of teaching and learning (Santoso, 2022). On the other hand, the arts community is also starting to explore the use of AI to create works of art that are interesting and relevant to local contexts. Research by (Laila, 2021)shows that art combined with AI technology can create new dialogue between artists and audiences, as well as expand understanding of art itself.

However, the use of AI in education and the arts is not free from ethical challenges. Several studies mention risks related to data privacy, algorithmic bias, and potential discrimination in the use of AI (Rizki, 2023). Therefore, it is important to develop frameworks that can ensure the responsible and ethical use of AI in educational and arts contexts. Policymakers and stakeholders must work together to create clear guidelines on the use of these technologies, as well as involve local communities in the decision-making process.

In an effort to realize educational justice and more inclusive artistic expression through AI, collaboration between various parties is very important. According to Supriyanto (2022), collaboration between government, educational institutions, arts organizations and civil society can create an ecosystem that supports innovation and inclusiveness. By sharing resources, knowledge and experience, all parties can work together to overcome existing challenges and ensure that the benefits of AI technology can be felt by all levels of society.

Seeing the potential that exists, this research aims to explore how AI can be utilized to improve educational justice and artistic expression in local communities. By reviewing various case studies and initiatives that have been carried out, it is hoped that this research can provide useful insights for educators, artists and policy makers in their efforts to create a more just and creative environment. In this way, AI will not only be a technological tool, but also an agent of change that can encourage social progress in society.

In conclusion, the application of AI in education and the arts has great potential to support educational justice and enrich artistic expression in local communities. However, the existing challenges should not be ignored. A holistic and inclusive approach is needed to ensure that all parties, especially the less fortunate, can benefit from this technology. Through collaboration and the development of appropriate policies, AI can be an effective tool in creating a more just and creative society.

2 Method

This research uses a qualitative approach to explore the potential of artificial intelligence (AI) in improving educational equity and artistic expression in local communities. A qualitative approach was chosen because it allows researchers to understand complex phenomena in depth, including individual perspectives and experiences in specific contexts (Bungin, 2020). In this case, researchers aim to collect data related to the use of AI in education and the arts through in-depth interviews, case studies, and document analysis.

In-depth interviews were conducted with various parties, including educators, artists, and policy makers involved in projects that utilize AI. Research by Astuti (2020)shows that in-depth interviews can explore richer information about individuals' experiences and views regarding the use of technology. This interview process was carried out in a semi-structured manner, using a flexible question guide so that respondents could share their views and experiences freely. These interviews were also recorded and transcribed for further analysis.

Case studies are also an important part of this research method. Researchers selected several initiatives that have succeeded in integrating AI in education and the arts in various local communities in Indonesia. According to research by Kurniawan (2014), case studies allow researchers to understand specific contexts and best practices that can be adopted by other communities. Through analysis of these case studies, researchers can identify key factors that contribute to success or challenges in the use of AI.

In addition, document analysis was carried out to complement the data obtained from interviews and case studies. The documents analyzed include project reports, journal articles, and other related publications discussing the use of AI in education and the arts. This is in line with the approach proposed by Sari (Sari et.al., 2022), who states that document analysis can provide additional context and support the findings obtained from interviews. In this way, researchers can examine

multiple perspectives and create a more comprehensive understanding of the issue under study.

The data analysis process was carried out using thematic analysis techniques, which allows researchers to identify themes and patterns that emerge from the data collected. Researchers will read interview transcripts and documents thoroughly, then categorize the information into relevant themes. This method has been proven effective in qualitative research for generating in-depth and detailed insights (Creswell, 2015).

Once major themes are identified, the researcher will summarize the findings and discuss their implications in the context of educational justice and artistic expression. This research aims to produce useful recommendations for educators, artists, and policy makers on how to leverage AI to create more equitable and creative environments in local communities.

Thus, the methods used in this research not only provide a deep understanding of the use of AI in education and the arts, but also provide practical insights for the development of policies and practices that can be implemented at the community level. Through this approach, it is hoped that this research can make a significant contribution to efforts to create educational justice and enrich artistic expression through technology.

3 Research Results and Discussion

Implementation of Artificial Intelligence in Education: Case Studies and Findings

Artificial intelligence (AI) has begun to be implemented in various aspects of education in Indonesia, offering opportunities to improve the quality of teaching and learning. In this research, several case studies were identified to provide an overview of how AI can be integrated in educational environments, as well as its impact on students and educators. One prominent example is the use of AI-based learning platforms that can be tailored to individual student needs. This allows for a more personalized learning process, which is very important in the context of educational justice (Nugroho, 2022).

One case study conducted at a secondary school in Jakarta shows how implementing AI in the curriculum helps students who have learning difficulties. By using AI applications designed to diagnose learning difficulties, educators can adapt teaching materials according to student needs. Research by Sari (2022) shows that this technology not only increases students' understanding of the material, but also increases their learning motivation. Students who previously felt isolated in the learning process are now able to follow the material better, which in turn increases their self-confidence.

Apart from that, the implementation of AI in education also includes the development of a more objective and efficient assessment system. With algorithms capable of analyzing student performance data in real-time, educators can gain deeper insight into student progress. For example, a school in Yogyakarta uses AI to monitor student progress in mathematics. The results of research by (Putra et.al., 2023) show that with an AI-based assessment system, educators can immediately identify students who need additional help and provide timely intervention. This contributes to improving overall learning outcomes.

On the other hand, despite the many benefits offered by AI implementation, there are several challenges that must be faced. One of them is the lack of adequate technological infrastructure in some areas. Research by (Kurniawan, 2014) highlights that not all schools in Indonesia have stable internet access and the necessary hardware to support the use of AI technology. This creates gaps that can exacerbate educational inequities. To overcome this problem, the government needs to increase investment in technological infrastructure, especially in rural and remote areas.

Another challenge faced is resistance from educators in adopting new technology. According to research by Astuti (2020), many educators feel less confident in using AI technology and are worried about losing control over the learning process. Therefore, ongoing professional training and development is important. Training programs designed to improve educators' understanding and skills in using AI can help reduce this resistance and increase implementation effectiveness (Rizki, 2023).

In the context of art, the use of AI is also starting to be considered as a tool to increase creativity and artistic expression. A number of artists and arts institutions have begun exploring how AI can be used to create innovative works of art. Research by Hasanah (2020) shows that collaboration

between artists and AI can produce unique and interesting works. Artists can use AI algorithms to produce works of visual art, music, and even poetry, combining human creative elements with the data analysis power of AI. Not only does this expand the boundaries of creativity, but it also invites audiences to interact with art in new and exciting ways.

On the other hand, the use of AI in art also raises questions about authenticity and copyright. Some people argue that works produced by AI cannot be considered authentic works of art, because there is no human touch in them. Research by Anggraini (2021) Fitria addresses this issue and emphasizes the importance of dialogue between artists, audiences and technology developers to find solutions that can accommodate these concerns. With constructive discussions, it is hoped that a balance can be found between technological innovation and deep artistic values.

From the results of this research, it can be concluded that the implementation of artificial intelligence in education and the arts provides many opportunities to create a more inclusive and fair environment. However, existing challenges need to be addressed through a comprehensive approach. Efforts to improve technological infrastructure, provide training for educators, and create dialogue between artists and technology are important steps that must be taken to ensure that all parties can exploit the full potential of AI.

Overall, the integration of AI in education and the arts can not only improve the quality of learning and creativity, but can also be an effective tool for addressing educational inequities in local communities. With the right support from governments, educators, and society, AI has the potential to drive positive change and create a brighter future for all individuals in society.

The Impact of AI on Educational Equity in Local Communities

Educational justice is an increasingly pressing issue in Indonesia, especially in local communities which often face challenges in access and quality of education. The implementation of artificial intelligence (AI) in education can play a significant role in improving educational equity, by providing solutions that can be tailored to students' specific needs. One way AI can improve educational equity is through providing broader access to quality educational resources. According to research by Putri (2022), the use of AI-based learning platforms allows students in remote areas to access the same educational materials as students in urban areas, thereby reducing existing gaps.

One example of the application of AI in education that increases fairness is the "Smart Classroom" program which is implemented in several schools in isolated areas. By utilizing AI technology, teachers can provide lesson material in an interactive and interesting manner, thereby increasing student interest and understanding. Research results by (Nuraini et al., 2020) show that students who learn in an AI-powered environment show significant improvements in their engagement and learning outcomes. Such programs have the potential to provide equal opportunities for students from various backgrounds to obtain a quality education.

In addition, AI can also help in the identification and support of students who experience learning difficulties. With algorithms capable of analyzing student performance data, AI-based systems can detect patterns that indicate certain difficulties and recommend appropriate interventions. Research by Alfiansyah (2023) revealed that the use of AI in recognizing individual learning needs allows educators to provide appropriate and timely assistance, reducing the risk of students falling behind in the learning process. This is very important in creating educational equity, because each student is unique in the way they learn.

While AI offers much potential to improve educational equity, there are also challenges to be aware of. One key issue is unequal access to technology, which can exacerbate existing inequities. According to research by Haryanto (2022), although many schools in big cities have adopted AI technology, many schools in rural areas still lack adequate infrastructure and resources to implement this technology. Therefore, it is important for the government and related parties to ensure that investment in educational technology is carried out evenly across regions, so that all students can experience the benefits of AI.

Apart from access, awareness and understanding of AI among educators is also an important factor. Without adequate training, educators may not be able to utilize this technology effectively. Research by Santosa (2022) shows that many teachers feel unprepared to use AI in the teaching process due to a lack of knowledge and skills. Therefore, training programs specifically designed for educators

are necessary so that they can adopt and make good use of AI technology in their teaching.

AI's impact on educational equity is also evident in its ability to facilitate collaborative learning. AI-based technology can connect students from different backgrounds and locations, allowing them to collaborate on projects and share knowledge. This not only enhances the learning experience, but also helps build stronger social networks among students. Research by Farhan (2023) shows that AI-supported collaborative learning increases the sense of belonging among students, as well as creating an inclusive learning environment.

With all the potential it has to offer, it is important to continually evaluate and develop AI implementation strategies in education to ensure that its impact is truly positive. Education policies that support the use of technology in inclusive and equitable ways must be a priority. Research by Nisa (2022) underlines the need for collaboration between government, educational institutions and society in formulating policies that encourage the effective use of AI at all levels of education.

Overall, AI implementation has great potential in improving educational equity in local communities. By providing better access to educational resources, supporting the identification of individual learning needs, and facilitating collaborative learning, AI can be an effective tool in addressing the educational challenges faced by students across Indonesia. However, existing challenges, including unequal access and lack of training for educators, must be overcome so that the benefits of this technology can be felt by all parties. With the right and collaborative approach, AI can be one solution in creating a fairer and more inclusive education system for all students.

Artistic Expression Through Artificial Intelligence: Innovation and Creativity

Artificial intelligence (AI) has emerged as an innovative tool in the world of art, opening up new possibilities for artistic expression. Through this technology, artists can explore new forms of creativity, creating work that is not only unique but also challenges traditional boundaries in art. In this context, the use of AI in artistic expression creates space for collaboration between humans and machines, producing works that attract attention and spark discussion among art critics and the general public (Fahmi, 2022).

One way AI contributes to artistic expression is through generative algorithms that can create images, music and poetry. For example, the “DeepArt” project leverages deep learning algorithms to turn ordinary photos into works of art in the style of famous painters. Research by Putra and Rahmad (2023) shows that works of art produced through this process are not only aesthetic but also able to invite deep reflection about the role of technology in creativity. These works often feature new interpretations that can expand our understanding of art and the way we interact with technology.

More than just producing works of art, AI also provides a platform for artists to experiment with new concepts in creating art. For example, the use of AI in the performing arts has become a new trend that allows artists to integrate digital elements into live performances. Research by Iskandar (2021) shows that performing arts using AI technology creates interactive experiences that enrich the relationship between performers and audiences. This interaction can create deeper dialogue and involve the audience directly in the creative process.

However, collaboration between artists and AI also raises important questions about the authenticity and ownership of works of art. Can a work generated by an algorithm be considered an authentic work of art? According to research by Rina (Sari et al, 2022), many artists and art critics argue that although AI can create amazing works, the human touch is still irreplaceable. This shows that the interaction between artists and technology not only produces new works but also invites us to reconsider the definition of art itself.

In the context of arts education, AI also provides opportunities to improve arts teaching and learning. By using AI-based tools, educators can help students develop their creative skills through interactive learning experiences. For example, AI applications that can provide real-time feedback on students' artwork allow them to learn and improve more quickly. Research by Nirmala (2023) revealed that students involved in art projects involving AI showed increased creativity and confidence in their abilities.

However, it is important to remember that the adoption of AI in the arts world is not without challenges. One of them is the public's lack of understanding about this technology. Many people are still skeptical about the value of AI-generated artwork, seeing them as soulless products of machines.

Therefore, it is important for artists and educators to educate the public about how AI can be a tool that enriches the creative process, not replace humans (Sari et al, 2022). This includes dialogue about how AI can be used ethically and how artists can utilize this technology to improve their work.

In conclusion, AI has paved the way for innovation and creativity in artistic expression. From generative algorithms that produce compelling works of art to interactive performances that engage audiences, these technologies are enriching the art world in unprecedented ways. While there are challenges to overcome, collaboration between artists and technology provides incredible opportunities to create thought-provoking work and expand the boundaries of creativity. With the right education and a deep understanding of technology, artists and educators can harness the potential of AI to create richer and more inclusive arts experiences.

Challenges and Opportunities in Applying AI for Social Justice

The application of artificial intelligence (AI) in social justice contexts presents a series of challenges and opportunities that need to be identified and addressed to maximize its positive impact. AI has the potential to support social justice initiatives by increasing efficiency, accessibility, and inclusivity in a variety of fields, including education, health, and public services. However, the challenges faced in its implementation cannot be ignored, because they can hinder the social justice goals to be achieved.

One of the main challenges in applying AI for social justice is the issue of bias in data and algorithms. AI systems are trained using historical data that often reflects existing injustices in society. For example, data processing algorithms used in recruitment systems can reinforce gender or racial bias if the data used reflects similar inequities. According to research by Supriyadi (2022), the existence of bias in algorithms can result in decisions that harm certain groups, thereby exacerbating existing social injustice. Therefore, it is important to develop transparent and fair algorithms and conduct regular audits of AI systems to ensure that they do not repeat the same mistakes.

Apart from bias, lack of access to AI technology is also a significant challenge in realizing social justice. In many areas, especially in rural or less developed areas, adequate technological infrastructure may not be available. Research by Dwi (2023) shows that inequality in access to technology can exacerbate existing gaps, so that marginalized groups of society fall further behind. Therefore, efforts to improve technological infrastructure and provide training on the use of AI to disadvantaged groups should be a priority in implementing AI for social justice.

While these challenges exist, the application of AI also opens up new opportunities to advance social justice. One such opportunity is AI's ability to collect and analyze data at scale, which can help understand and map complex social issues. For example, by leveraging big data, AI can be used to identify areas with low access to education and provide recommendations for appropriate interventions. Research by Rahmawati (2021) shows that the use of AI-based data analysis in government programs can help improve resource allocation and support better decision making.

AI can also be used to empower marginalized communities by creating platforms that allow them to share their stories and voices. For example, projects that use AI technology to gather experiences and opinions from minority groups can help raise public awareness and encourage policy change. According to research by Farida (2022), AI-supported participatory platforms not only provide opportunities for people to have a voice, but also create space for constructive dialogue between various stakeholders.

Additionally, AI can help improve social services by providing better access to citizens. For example, AI-based systems in healthcare can speed diagnosis and improve the quality of care for underserved individuals. Research by Prasetyo (2023) shows that the application of AI in health services, such as disease diagnosis and appointment scheduling, can reduce waiting times and improve treatment outcomes for patients in need.

However, to exploit this opportunity effectively, collaboration between government, the private sector and civil society is essential. The involvement of multiple stakeholders in the development and implementation of AI systems can ensure that these technologies are used for purposes that are consistent with principles of social justice. According to Mardiyah (2023), cross-sector collaboration can create innovation that is more inclusive and responsive to community needs, thereby increasing the positive impact of implementing AI.

Overall, applying AI for social justice has interrelated challenges and opportunities. While there is a risk of bias and injustice that this technology can exacerbate, with the right and collaborative approach, AI can be a powerful tool for promoting social justice. Therefore, it is important for all stakeholders to work together to overcome challenges and exploit existing opportunities, so that we can achieve a more just and inclusive society through technology.

Strategic Recommendations for Leveraging AI in Education and Arts in the Community

Leveraging artificial intelligence (AI) in education and the arts in communities can create significant opportunities to improve access, quality, and inclusivity. However, to achieve the desired results, appropriate strategies are needed so that this technology can be integrated well in the local context. Therefore, it is important to improve the technological infrastructure in communities to support the use of AI tools. The infrastructure in question includes stable internet access and sufficient technological tools, allowing schools and local arts centers to utilize AI effectively. Research by Sari at al. (2022) shows that improving technology infrastructure in remote areas can increase student participation in technology-based learning.

Furthermore, training and education about the use of AI is very necessary for educators, artists and community members. This training should not only cover technical aspects, but also an understanding of how AI can improve teaching and learning and creative processes. According to Dwi (2023), training programs involving technology experts and arts practitioners can provide a better understanding of how to use AI to achieve educational and creative goals. By providing appropriate training, it is hoped that society can make maximum use of AI.

Additionally, developing relevant local content is an important step in implementing AI. In an educational context, teaching materials adapted to local culture and needs can increase student engagement. The same goes for art; AI-based projects that embrace local values and traditions will create more meaningful work. Research by Fajar (2022)shows that contextual content can increase community motivation and participation in arts and education programs. Therefore, it is important to develop content that is relevant to the local community.

Encouraging collaboration between the education, arts and technology sectors is also critical to maximizing AI's potential. Schools, arts institutions, and technology companies must work together to develop programs that integrate AI in learning and art creation. According to research by Rizky (2023), cross-sector collaboration can create more effective innovation and support the sustainability of AI-based programs. With this collaboration, all stakeholders can contribute to creating an environment that supports creativity and education.

Another recommendation is the building of participatory platforms that allow community members to share experiences, works of art, and teaching methods. The platform can use AI to analyze participation and feedback data, providing useful insights for further development. Research by Nisa (2022) shows that participatory platforms can increase a sense of community ownership and involvement in learning and creative processes. With this platform, interaction between community members can become more established and encourage positive collaboration.

It is also important to conduct regular research and evaluations to ensure the effectiveness of using AI in education and the arts. This includes collecting data on the impact of AI on student learning outcomes and the quality of the artwork produced. This evaluation can help identify areas that need improvement and ensure that existing programs remain relevant to community needs. According to analysis by Andi (2021), an evidence-based approach in program evaluation can increase accountability and successful implementation.

Lastly, community involvement in the decision-making process about how AI is used in education and the arts is critical. The opinions and needs of local communities must be an integral part of program planning and implementation. According to Mardiyah (2023), community involvement in program design can increase ownership and support for the initiatives being implemented. Thus, active community participation will ensure that the programs implemented are truly in line with their needs and expectations.

By implementing these strategic recommendations, communities can make the most of artificial intelligence in education and the arts, creating a more inclusive, innovative and competitive environment. Through collaboration and strong commitment, AI can become an effective tool for

improving the quality of life and welfare of society.

4 Conclusion

The use of artificial intelligence (AI) in education and the arts has great potential to improve educational equity and artistic expression in local communities. Through the integration of AI, we can create broader access to quality education and opportunities to explore creativity among individuals who may have previously been marginalized. AI can not only improve the learning process by providing relevant and adaptive teaching materials, but also provide tools that enable artists to explore new and innovative ideas in their work.

However, to achieve optimal results, a comprehensive strategy is needed, from improving technological infrastructure to training for educators and artists. By paying attention to local context and involving communities in every step of implementation, AI-based programs can be designed to be more effective and inclusive. Collaboration between the education, arts and technology sectors is also key to ensuring sustainability and innovation.

In this context, it is important to continue conducting evaluations and research to understand the impact of AI on education and the arts. In this way, we can identify successes as well as challenges faced, and make necessary adjustments. Awareness of the needs and expectations of local communities must always be used as a reference in developing AI programs.

Overall, the application of AI in education and the arts in local communities will not only promote social justice, but also enrich learning experiences and create more creative spaces for all individuals. With the right approach, AI can be a transformative tool in achieving the goals of more equitable and sustainable education and artistic expression.

References

Andi, M. (2021). Evaluasi Program Pendidikan Berbasis Teknologi: Pendekatan Berbasis Bukti. *Jurnal Pendidikan Dan Teknologi*, *12*(3), 45–58.

Anggraini, L. F. (2021). *MODERASI BERAGAMA DALAM MEDIA SOSIAL (Analisis Wacana Model Van Dijk pada Channel Youtube Najwa Shihab) SKRIPSI*. IAIN Purwokerto.

Astuti, L., Wihardi, Y., & Rochintaniawati, D. (2020). The Development of Web-Based Learning Using Interactive Media for Science Learning on Levers in Human Body Topic. *Journal of Science Learning*, *3*(2), 89–98.

Creswell, J. W. (2015). *Research Design, Penedekatan Kualitatif, Kuantitatif, dan Mixed* (5th ed.). Pustaka Pelajar.

Dwi, R. (2023). Pelatihan Teknologi untuk Pendidik dan Seniman: Meningkatkan Kompetensi dalam Era Digital. *Jurnal Inovasi Pendidikan*, *10*(1), 23–37.

Fajar, N. (2022). Konten Lokal dalam Pembelajaran Berbasis AI: Meningkatkan Keterlibatan Siswa. *Jurnal Pendidikan Dan Kebudayaan*, *9*(2), 78–90.

Kurniawan, D. (2014). *Differences in the Use of Website-Based E-Learning Media and Powerpoint Media in Sociology Lessons on Social Interaction Material on Learning Outcomes of Class X Students at the Development Islamic Senior High School*. UIN Syarif Hidayahtullah.

Laila, F. (2021). Inovasi Seni dan Teknologi: Menjelajahi Peran AI dalam Ekspresi Kreatif. *Jurnal Seni Dan Budaya*, *7*(2), 55–67.

Mardiyah, S. (2023). Transformasi Pendidikan dengan Kecerdasan Buatan: Tantangan dan Solusi. *Jurnal Ilmu Pendidikan*, *18*(4), 78–90.

Mustafa, H. (2010). *Adat Istiadat Sunda*. Alumni.

Nisa, L. (2022). Platform Partisipatif untuk Komunitas: Mendorong Kolaborasi dan Inovasi. *Jurnal Komunikasi Dan Masyarakat*, *8*(1), 34–46.

Nuraini, F. I., Santoso, D., Rahmi, N. S., & Kaptania, R. O. (2020). Expressive Speech Acts in “Lakon Politik Republik” Episode of “Mata Najwa” Talkshow. *LEKSEMA: Jurnal Bahasa Dan Sastra*, *5*(1), 1. https://doi.org/10.22515/ljbs.v5i1.1853

Prasetyo, A. (2023). Pengaruh AI dalam Meningkatkan Keterampilan Kreatif Siswa. *Jurnal Psikologi Pendidikan*, *6*(3), 88–100.

Putra, R. E., Kurniaman, O., & Noviana, E. (2023). Development Of Visual Basic For Application (Vba) Quiz Games Learning Media In Social Sciences (Ips) In Elementary Schools. *Education Technology Journal*, *2*(1).

Rizky, F. (2023). Kolaborasi Lintas Sektor dalam Pendidikan dan Seni: Membangun Program yang Berkelanjutan. *Jurnal Kebijakan Pendidikan*, *11*(4), 67–79.

Santoso, R. (2022). Peran Teknologi dalam Mewujudkan Keadilan Sosial di Bidang Pendidikan. *Jurnal Pemberdayaan Masyarakat*, *9*(1), 54–67.

Sari, Rina, & Arief, B. (2022). Infrastruktur Teknologi dan Akses Pendidikan: Tantangan di Daerah Terpencil. *Jurnal Teknologi Dan Pendidikan*, *15*(2), 45–56.

ELESP Students' Perceptions and Challenges of Using AI as a Tool in Generating Digital Storybook of Banjarese Folklore to Promote Local Wisdom

Rara Pasyha Aprilia Fitriana[1], Nadya Fitri Azzahra[2], Davina Rafilah[3]
Lambung Mangkurat University, Faculty of Teacher Training and Education
English Language Education Study Program
Banjarmasin, Indonesia
[1]2210117220031@mhs.ulm.ac.id,
[2]2210117110001@mhs.ulm.ac.id,
[3]2210117120013@mhs.ulm.ac.id

Abstract. This research explores the perceptions and challenges faced by ELESP students in using AI tools to create digital storybook based on Banjarese folklore, aiming to preserve and promote local wisdom. Conducted with fifth-semester students from the English Language Education Study Program (ELESP) at Lambung Mangkurat University, the research aims to evaluate what are the students' perceptions on AI usefulness and ease of use in generating culturally relevant visuals for digital storybook to promote local wisdom and the challenges they encountered. Using descriptive qualitative approach, data were gathered through open-ended questionnaires and project documentation, with thematic analysis applied to interpret the students' responses. Findings reveal that ELESP students appreciated the efficiency and affordability of AI tools, noting that these tools made storybook creation faster and more visually engaging. However, AI-generated images often lack the cultural specificity needed to authentically depict Banjarese elements, such as traditional attire and local symbols. This limitation required students to experiment with prompts and adapt outputs creatively, demonstrating problem-solving skills and resilience. This research provides valuable insights into the use of AI in educational projects aimed at cultural preservation, highlighting the need for culturally sensitive AI tools that support accurate representation of local heritage. The findings offer a foundation for future research on improving AI's role in promoting diverse, culturally rich storybook, benefiting both teachers and students in preserving and sharing local wisdom.
Keywords**:** students' perception, digital storybook, artificial intelligence, Banjarese folklore, local wisdom

1. Introduction

Visual learning—learning through images, graphics, and diagrams—has always been a powerful way for students to understand and remember new ideas. According to Eisner as cited in Yeom (2018), students engage deeply when they work with storybook that combine both text and images, as this helps them think critically about what is being said and how it is visually represented (Yeom, 2018). Read as cited in Yeom (2018) noted, visual storytelling is especially helpful for building foundational literacy skills, even for teachers with little experience in using visual art in their teaching. Despite these benefits, traditional teaching materials in schools often stick to basic printed texts and lack local cultural content (Aryani et al, 2023).

To address this gap, picture storybook has been developed as a way to make learning more engaging and meaningful. Storybook particularly effective at helping students understand and relate to stories. For example, research by Khatami, R., & Sugiarto (2023) found that picture storybook plays a big role in passing down cultural values, like heroism, by sharing traditional folklore. With digital advances, this storybook can now be turned into interactive e-books, making them more accessible and versatile for today's classrooms (Aryani et al, 2023). Known as E-Storybook, these digital versions offer schools more flexibility and can help boost students' motivation and understanding of the material (Mulyoto, et al,, 2023).

The rise of Artificial Intelligence (AI) has opened up new ways to support visual learning. Aini (2023) points out that AI can create images that match text, allowing teachers to customise visuals to fit learning content more closely. This technology makes it easier for students to connect with material and improve engagement by making abstract ideas more concrete (Zahara et al., 2023). Using AI, teachers can create storybook that are not only engaging but also culturally relevant, bringing local wisdom into the classroom in a way that resonates with students (Mambu et al., 2023).

This research looks at how fifth-semester students in the 2022 batch of the English Language Education Study Program (ELESP) at Lambung Mangkurat University used AI tools in their "English for Banjarese as a Local Wisdom" course to create digital storybook based on Banjarese folklore. These students were tasked with developing digital storybook that share local wisdom and culture through traditional folklore stories, using AI tools to create visuals that enhance their storytelling.

Through this research, the researchers aim to answer two main questions: How do students feel about using AI to promote local culture in digital storybook? And what challenges do they face when trying to use AI to create images that represent Banjarese folklore? By exploring these questions, the researchers hope to learn more about AI's potential for supporting cultural preservation and personalised learning in education.

2. Review of Literature

Students' Perceptions on the AI Technology using the TAM Model

Students' perceptions of AI in creating digital storybook involves how they interpret and assess its role, focusing on ease of use, effectiveness, and creative potential. While AI enhances accessibility and efficiency in generating story ideas and visuals, students also have concerns about originality and dependency. Factors such as digital literacy, familiarity with AI, and user experience further shape their engagement and learning outcomes. In an educational context, understanding these perceptions helps teachers assess the effectiveness of AI tools in developoing creativity, improving digital literacy, and supporting the storytelling process (Belda-Medina, J., & Goddard, 2024).

According to Wicaksono (2022), Technology Acceptance Model (TAM) is a model that first introduced by Fred Davis in 1989 to measure a prediction or explanation of use in technology. There are two main factors that affect people in using technology, with the first being perceived usefulness factor and the second is perceived ease of use.

According to Davis (1989), perceived usefulness is the degree of a person believes in using certain system would improve their performance, thus at the same time, reflecting a positive correlation between use and performance. While perceived ease of use refers to the degree to which a person believes that using a particular system would be free of effort, or application perceived to be easier to use than another is more likely to be accepted by users.

Students' perceptions of AI technology in educational settings, as analysed through the Technology Acceptance Model (TAM), highlight both the potential and challenges of integrating AI tools into learning. Positive perceptions stem from AI's perceived usefulness, such as enhanced productivity, creativity, and personalization in tasks like generating digital storybook. However, concerns about originality, dependency, and technical complexity influence the perceived ease of use, impacting students' willingness to engage with AI. Overall, understanding these perceptions provides valuable understandings for teachers and researchers to optimize AI tools in a way that supports digital literacy, creative engagement, and effective learning outcomes in the classroom.

AI in Education in Industrial Revolution Era and Society 5.0

According to Zahara et al. (2023), the implementation of AI in education can be observed through several applications. First, AI supports personalized learning experiences by adapting learning materials to match students' individual abilities, learning styles, and experiences, making the educational process more personalised to each student. Second, AI enhances active and interactive learning by facilitating student-cantered activities that are aligned with individual needs and interests, which creates a more engaging and diverse learning environment through various methods and media. Finally, AI provides a range of applications, allowing teachers and students to select tools that best meet their specific educational needs, thereby simplifying and enriching the learning process.

Roles of Banjarese Folklore as a Local Wisdom

Local wisdom which combines the words "local" and "wisdom," referring to valuable practices or values unique to a specific community. It represents wise ideas that carry meaningful values and serve as guiding principles. From an anthropological perspective, local wisdom is a knowledge system embedded within a group's cultural identity. It includes not only ideas but also actions and traditions that reflect and support the shared values of the community (Al Muchtar; Saripudin & Komalasari, as cited in (Jumriani, et al, 2021).

The local wisdom of the Banjar people remains important to Banjarese culture, playing a valuable role in its growth by creating moral values, environmental responsibility, respect, and care for nature. These values directly impact environmental quality, as a healthier environment contributes to a higher quality of life for the community. Many traditions rooted in this wisdom are still maintained in South Kalimantan, including practices of consultation and justice, cooperation, freedom, constructive criticism, as well as knowledge of the physical environment and plant species (Abdurrahman & Abduh, 2019).

In conclusion, local wisdom refers to practices and values that reflect a community's cultural identity and serve as guiding principles. For the Banjar people, this wisdom plays a decisive part in maintaining moral values, environmental responsibility, and respect for nature, all of which contribute to the community's well-being and a healthier environment.

This local wisdom is deeply rooted in Banjarese folklore, which serves as a main vehicle for passing down these values across generations. Through stories, rituals, and traditions, Banjarese folklore helps preserve the wisdom of the past while shaping the community's future. It emphasizes the importance of consultation, justice, cooperation, and care for nature, which are essential elements in sustaining both the culture and the environment of South Kalimantan.

3. Method

This research used descriptive qualitative design to gain comprehensive summarization of specific events experienced by ELESP students in this research, which in this case is about students' perceptions of using AI as a tool in generating digital storybook of Banjarese Folklore to promote local Wisdom. Through this design, students' perceptions, experiences, and challenges were explored toward the use of AI in making storybook. According to Nassaji (2015), descriptive qualitative research aims to accurately represent events or conditions as they occur. Parallel with this research, students' perceptions are measured through questionnaire with the goal of identifying both the perceptions and challenges that students faced when using AI.

The number of populations in this research consists of 96 students in their fifth semester from the 2022 batch of the English Language Education Study Program (ELESP) at Lambung Mangkurat University for the 2023/2024 academic year. Using the purposive sampling technique, 20 students were chosen to provide adequate representation for gathering insights into their experiences with AI.

Data collection was conducted using an open-ended questionnaire and documentation. The questionnaire consisted of 16 questions; two of them which identify the specific AI tools that students used, while the remaining 14 questions examine students' perceptions of using AI in creating storybook. The questionnaire based on the Technology Acceptance Model (TAM) by Davis (1989), was modified to assess perceived usefulness and ease of use. Seven questions focus on the benefits students experienced, while the other seven explore the ease of use of AI. Additionally, the questions addressed students' views in incorporating cultural elements through AI in their storybook. The second instrument is documentation, which includes students' completed projects from the English for Banjarese as a Local Wisdom course. This documentation served as supplementary data, providing concrete examples of the students' e-storybook created using AI.

For data analysis, thematic analysis was used to interpret students' responses to the open-ended questionnaire. This method was chosen to identify recurring themes, patterns, and insights into students' perceptions and challenges related to using AI for creating digital storybook. Following (Maguire, & Delahunt, 2017) Following six-step approaches, the analysis began with familiarizing the data through transcription and repeated reading, allowing the researchers to note significant details. Initial coding was then applied to categorize data points, followed by a search for overarching themes. These themes were reviewed for coherence and alignment with the research questions. Each theme was then clearly

defined and named to accurately reflect its essence. Finally, a detailed report was produced, offering a structured and insightful summary of the findings related to students' experiences with AI in promoting local wisdom through storybook creation.

4. Findings and Results

This research applies to the Technology Acceptance Model (TAM), which includes two significant constructs—Perceived Usefulness and Perceived Ease of Use. These themes are used to analyze students' perceptions and experiences using AI tools in creating storybook based on Banjarese folklore in the course project. The TAM framework by Davis (1989) provides insight into how students view AI tools in terms of their usefulness and ease, particularly in the context of promoting local wisdom through digital storytelling. This research also explores students' challenges in using AI for generating pictures for storybook. Based on the research, all students have used AI in making this project. However, there are different AI types they used in generating the pictures for storybook. There were a total 13 people who used Canva, 5 people used Bing, 4 people used OpenArt AI, and 3 people used Dall-E, there were also 2 people used Chat GPT 4.0 and 1 person used Leonardo AI. All of the students have shown their perspectives through the questionnaire conducted.

Perceived Usefulness

Usefulness of AI in Creating Storybook Content

One critical aspect that reflects perceived usefulness is how effectively AI tools capture and represent cultural elements in the storybook. Many students experienced that AI helps to create general visuals, like boats, rivers, and jungle. Student (S12) stated, *"AI was helpful, it can made some elements like boat, river and jungle."*

When asked about specific cultural elements, students expressed that AI is missing the specific details to Banjarese culture, such as traditional clothing. For instance, one student mentioned (S7) *"Let say it is not clear or authentic from true local culture that being representation."* Another student (S1, S5) added more illustration about Banjarese authenticity that could not be expressed in AI, *"I made a picture for the story of Datu Nuraya whose background is about pious people in Banjarese culture, the picture I generate doesn't have elements of Banjarese culture, but it is closer to Arabic element."* and *"AI can't make a specific outfit like Traditional Banjar clothing."*

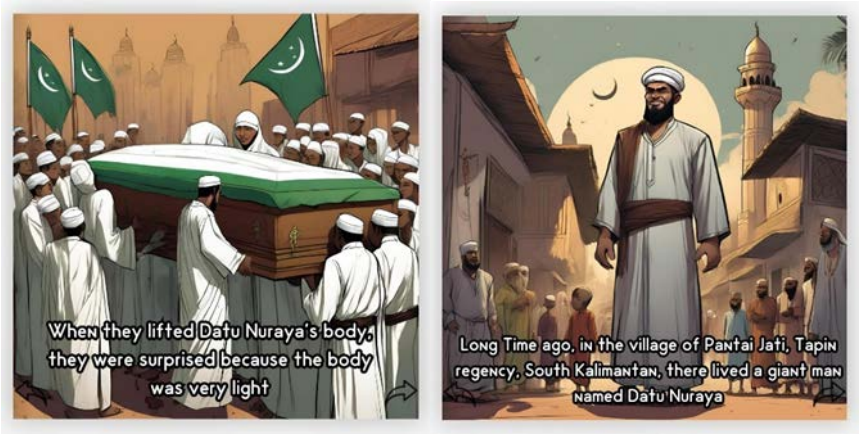


Figure 3: Representative of Arabic culture in describing pious people.

Aligns with Hall's Representation Theory (1997), as cited in (Radja & Sunjaya, 2024), representation theory examines how meaning is created and communicated through media and societal communication practices. This process includes "encoding". In encoding, creators insert specific meanings and cultural significance into symbols, signs, and visuals, which allows audiences to recognize and interpret those cultural references. In this case, students prompt the cultural details. But students as the user of AI struggled to recognize and find any representation that reflected Banjarese cultural context accurately. Instead, AI gives something that system has been familiar with, for example

Arabic culture that match the description of "pious person" in Banjarese culture. The perceived lack of cultural depth in AI tools demonstrates a significant gap in AI usefulness for cultural need.

Enhancement of Storybook

Many students agreed that AI tools contributed to the storybook's visual appeal and in formativeness. Most of respondents believed that AI-made illustrations made the storybook more engaging, with one student (S5) stating, *"Yes, I do. Because AI can offer different style to make storybook more interesting."* And another student (S17) add, *"At the very least, the AI Images made the story less boring cause you have something to see."*

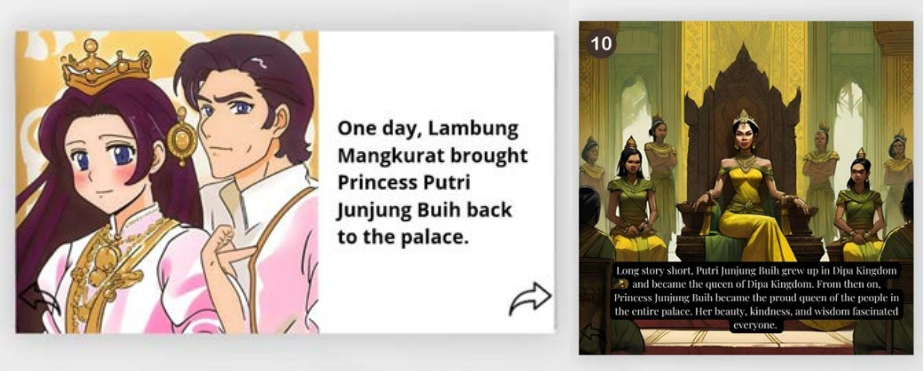


Figure 4: Character of Putri Junjung Buih in different storybook.

This perception aligns with Mayer & Moreno's Multiple Representation Principle that stated, it is better to present an explanation in words and pictures than solely in words (Mayer & Moreno, 2021). Which suggests that combining visual and textual information enhances learning outcomes. The AI-generated images provides students with a visually engaging component that complemented the textual folklore, making the storybook more interesting and attractive to readers.

Efficiency in Creation Process

Another area of perceived usefulness was the efficiency AI brought to the storybook creation process. Many students acknowledged that AI tools allowed them to quickly draft images, revising them multiple times, significantly reducing the time needed for creating illustrations from scratch. Other students added that AI turns out to be more efficient in terms of financial because it costs less than hiring real illustrator.

Student (S14) mentioned, *"Yes, using AI makes the process effective because it saves time, can be revised multiple times, and we don't need specific skills."* One student (S19) shared *"Yes, AI generating storybook just in few seconds. That's really helpful for time efficiency. Also, it's effective because I purchased the monthly plan that cheaper than hire an illustrator."*

The implementation of Artificial Intelligence (AI) technology in education makes it easier for teachers in many areas. It serves as a helpful tool for preparing and creating learning media, instructional materials, modules, and so on (Abidin, 2023) (Abidin, 2023). And so, as the future teacher, ELESP students mostly agree that it can make the process of making learning media more effective by time and energy. It also supports personalized learning more efficiently in adjusting without much time consuming (Mambu et al, 2023).

Creative Adjustments and Solutions

Although AI had limitations in cultural representation, students developed creative solutions to adapt AI outputs to their needs, with or without using any specific AI features. Almost all students mentioned using multiple prompts or combining images from different AI tools to achieve culturally accurate results. One student (S18) explained, *"Yes, I try to make the prompt as detailed as possible, like adding descriptions of the clothing and other details."*

These adjustments reflect students' use of creative thinking and innovation to overcome AI's limitations, demonstrating key 21st century competencies in adapting and refining technology for

specific needs. Binkley et al. as cited in Prayogi & Estetika (2019), 21st century skills are globally outlined in four categories, one of them is Ways of Thinking, which includes creativity and innovation, critical thinking, problem-solving, decision-making, and learning to learn. This strengthen by the answer of one student (S9) which add more about decision making in changing the AI application when the usefulness does not meet its expectation, *"I once tried using Dale AI to illustrate a picture, but the resulting image was not quite as expected. So, I switched to using Canva to generate images."*

Perceived Ease of Use

Ease of Use in Operation and Learning

Ernawati & Noersanti as cited in Azizah & Andarini (2023) stated that perceived ease of use is the degree to which an individual believes that using a certain technology is straightforward and does not require much effort, meaning it should be easy to use and operate. The perceived ease of learning and using AI tools played a significant part in students' acceptance of technology. While some students found AI relatively easy to learn and generally user friendly, especially adapting with the tools. Students (S20 and S9) commented, *"It was neither too easy nor too difficult to use AI tools for creating images for my storybook. While the tools are generally user-friendly and provide a wide range of options …"* and *"Using AI to create illustrations is easy, but it is very difficult to customize AI-generated illustrations to match the expected details."*

While most of students agree that using AI tools and operating them to generate pictures are easy to use, but it's still hard to enhance the result which meet the need in cultural theme for the project.

Feature Limitation

There are a lot of students who felt that it was hard to adjust the consistency of the characters on every page of the storybook since AI does not provide the features to generate the series of pictures. Even when students generate the same prompt, it will turn out different.

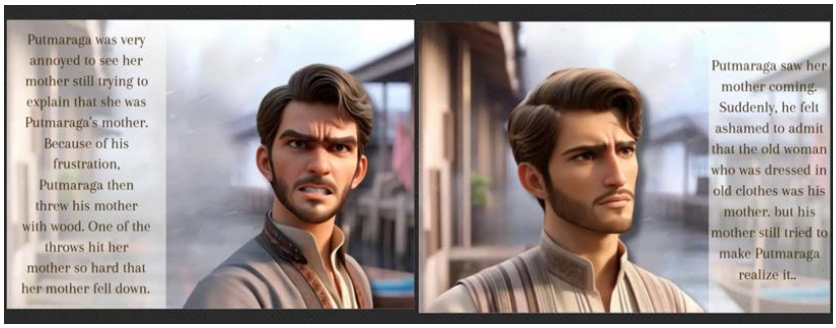


Figure 5: Putmaraga on different pages.

Besides the features limitation for consistency, students also add several issues they had on limitation quota for each day and some features need to be unlock with subscription version. Student (S7) mentioned, *"This feature is subscription for more tools in AI application."* And student (S17) added, *"I think the daily usage limits made it harder to fully explore and refine the results."*

5. Conclusion

This research sets out to understand how students perceive and experience using AI tools to create storybook based on Banjarese folklore, exclusively focusing on how useful and easy-to-use they find these tools are. The perceived usefulness of AI tools in storybook creation centers on how effectively they capture and represent cultural elements. While students found AI helpful in generating general visuals, they noted that specific Banjarese cultural details, such as traditional clothing, were missing. As users, they struggled to identify accurate representations of Banjarese culture, with AI systems defaulting to more familiar and generalized imagery. Despite these cultural limitations, many students agreed that AI enhanced the visual appeal of the storybooks, making them more engaging and attractive to readers by complementing the textual folklore. AI tools were also seen as efficient, allowing for quick drafting and multiple revisions, which significantly reduced the time and cost compared to hiring a

traditional illustrator. Students adapted creatively to AI's limitations by using multiple prompts or combining outputs from different tools to achieve more culturally accurate results. This adaptive approach highlighted their innovativeness, creativeness, problem solving and decision-making process in adjusting AI applications when the tools did not fully meet their expectations.

Regarding ease of use, some students found AI tools relatively easy to learn and user-friendly, particularly when adapting to them. However, many faced challenges in maintaining character consistency across the storybook pages, as AI lacked features to generate a cohesive series of images. Even with identical prompts, the still results varied. Additionally, students reported issues with daily usage quotas and certain advanced features being locked behind subscription paywalls.

Practically, the findings suggest that while AI can be a valuable tool for educational projects like digital storybook, especially when it comes to internalized folklore as local wisdom in classroom context. The limitations in representing cultural nuances highlight an area for AI future development. To truly support diverse and culturally rich folklore storybook, future AI tools could be improved to better capture specific cultural details that can be used in education field.

References

Abdurrahman, A., & Abduh, M. (2019). Banjarese: Self-Concept, Identity and River Culture. KHATULISTIWA. *Journal of Islamic Studies*, *9*(2), 43–64. https://doi.org/10.24260/khatulistiwa.v9i2.1480

Abidin, M. A. (2023). Implementasi Teknologi Artificial Intelligence (AI) untuk Mendukung Pembelajaran Siswa di Madrasah Ibtidaiyah Kecamatan Krembung Sidoarjo. *Jurnal Madrasah Ibtidaiyah (JMI)*, *2*(1). https://journal.unusida.ac.id/index.php/jmi/article/view/1112

Aini, D. N. (2023). *Visualisasi Teks ke Gambar dengan Kekuatan AI Art Generator: Potensi atau Masalah?* https://repository.um.ac.id/3000/

Aryani, V., Fajrie, N., & Kironoratri, L. (2023). Pengembangan Media E-Story Book Berbasis Kearifan Lokal dalam Pembelajaran Dongeng Sastra Anak Kelas III Sekolah Dasar. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, *9*(1), 1939–1954. https://doi.org/10.23969/JP.V8I1.7827

Azizah, B. R. K., & Andarini, S. (2023). Pengaruh Perceived Ease Of Use, Perceived Usefulness, Dan Social Influence Terhadap Intention To Use Layanan Video On Demand (Studi Pada Pengguna Aplikasi Netflix Di Kota Surabaya). *Management Studies and Entrepreneurship Journal*, *4*(4), 3678–3691. http://journal.yrpipku.com/index.php/msej

Belda-Medina, J., & Goddard, M. B. (2024). The Effect of Digital Storytelling on English Vocabulary Learning in Inclusive and Diverse Education. *International Journal of English Language Studies*, *6*(1), 110–118. https://doi.org/10.32996/ijels.2024.6.1.11

Davis, F. D. (1989).). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319. https://doi.org/10.2307/249008

Jumriani, Mutiani, Putra, M. A. H., Syaharuddin, & Abbas, E. W. (2021). The Urgency of Local Wisdom Content in Social Studies Learning: Literature Review. *The Innovation of Social Studies Journal*, *2*(2), 103–109. https://doi.org/https://doi.org/10.20527/

Khatami, R., & Sugiarto, E. (2023). Perancangan Buku Cerita Bergambar "Si Melengkar" sebagai Penyambai Nilai Kepahlawanan bagi Generasi Muda. *Arty: Jurnal Seni Rupa*, *12*(3), 259–266. https://doi.org/https://doi.org/10.15294/arty.v12i03.75696

Maguire, M., & Delahunt, B. (2017). Doing a Thematic Analysis: A Practical, Step-by-Step Guide for Learning and Teaching Scholars. *Reflections, Journeys and Case Studies*, *9*(3), 3351–3354. https://doi.org/https://doi.org/10.62707/aishej.v9i3.335

Mambu, J. G. Z., Pitra, D. H., Ilmi, A. R. M., Nugroho, W., Leuwol, N. V., & Saputra, A. M. A. (2023). Pemanfaatan Teknologi Artificial Intelligence (AI) Dalam Menghadapi Tantangan Mengajar Guru di Era Digital. *Journal on Education*, *6*(1), 2689–2698. https://doi.org/https://doi.org/10.31004/joe.v6i1.3304

Mayer, R. E., & Moreno, R. (2021). *A Cognitive Theory of Multimedia Learning: Implications for Design Principles*. https://api.semanticscholar.org/CorpusID:261831172

Mulyoto, G. P., Mufida, T. I., & Puspitasari, D. A. (2023). Developing Electronic-Based Picture Storybooks to Enhance Student Learning Motivation. *Jurnal Pendidikan Dan Pembelajaran Dasar*, *15*(2), 78–90. https://doi.org/https://dx.doi.org/10.18860

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, *19*(2), 129–132.

Prayogi, R. D., & Estetika, R. (2019). Kecakapan Abad 21: Kompetensi Digital Pendidik Masa Depan. *Jurnal Manajemen Pendidikan*, *14*(2), 144–151. www.p21.org

Radja, I. G. S., & Sunjaya, L. R. (2024). Representasi Budaya Jember dalam Jember Fashion Carnival: Pendekatan Teori Representasi Stuart Hall. *WISSEN : Jurnal Ilmu Sosial Dan Humaniora*, *2*(3), 13–20.

Wicaksono, S. R. (2022). Teori Dasar Technology Acceptance Model. *Seribu Bintang*. https://doi.org/10.5281/zenodo.7754254

Yeom, E. Y. (2018). How Visual Thinking Strategies Using Picture Book Images can Improve Korean Secondary EFL Students' L2 Writing. *English Teaching*, *73*(1), 23–47. https://doi.org/10.15858/engtea.73.1.201803.23

Zahara, S. L., Azkia, Z. U., & Chusni, M. M. (2023). Implementasi Teknologi Artificial Intelligence (AI) dalam Bidang Pendidikan. *Jurnal Penelitian Sains Dan Pendidikan (JPSP)*, *3*(1), 15–20. https://doi.org/10.23971/jpsp.v3i1.4022

Bibliometric Analysis in the Digital Economy: An Overview of Entrepreneurship, Local Wisdom, and Financial Literacy in 2021-2023

Raihanah Sari[1], Ersis Warmansyah Abbas[2], Herry Porda Nugroho Putro[3], Mutiani[4], Fathul Jannah[5]
Program Studi Pendidikan IPS, Universitas Lambung Mangkurat[1,2,4],
Program Studi Pendidikan Sejarah, Universitas Lambung Mangkurat[3],
Program Studi Pendidikan Guru Sekolah Dasar, Universitas Lambung Mangkurat[5]
raihanah.sari@ulm.ac.id
ersiswa@ulm.ac.id
porda_banjar@ulm.ac.id,
mutiani@ulm.ac.id
fathul.jannah@ulm.ac.id

Abstrak. This bibliometric analysis aims to provide a comprehensive explanation through a literature review on digital economic education, entrepreneurship, local wisdom, and financial literacy. Article searches were conducted using software on the Google Scholar database. The search and sorting identified 30 out of 200 articles found within the 2021-2023 range. The processed data were subsequently edited using Desktop software and analyzed using VOSviewer software to visualize data distribution patterns and mappings. Based on the keywords in the network visualization, no keywords pointing to local wisdom were observed. This indicates that research on digital economic education incorporating local wisdom remains underexplored.

1. Introduction

The Industrial Revolution 4.0 era has brought significant changes across all aspects of life. The development of the industry 4.0 era is marked by digitalization and automation (Sundari, n.d.).The rapid advancement of technology has become a necessity to keep pace with the times. Society has increasingly utilized technology in daily activities, including economic activities. This technology-based economic activity, often referred to as the digital economy, is currently growing globally, including in Indonesia, as evidenced by the increasing number of internet users (Rahayu, 2022).

The concept of the digital economy explains the global impact of information technology, including the internet, on the economic sector, highlighting the interaction between innovation and advancing technology that influences both macro and microeconomic dynamics (Maria, 2020).The growth of the digital economy has shifted consumer behavior, transforming the traditional preference for shopping in physical retail stores to online shopping on marketplaces or e-commerce platforms (Yuliani, 2020).

Economic actors now widely leverage technology to streamline their economic activities. According to Permana and Puspitaningsih (2019), digitalization in the economic field is inevitable as it simplifies economic activities and reduces high economic costs. Entrepreneurs are among the economic actors who significantly benefit from the digital economy. Entrepreneurs are individuals capable of transforming opportunities into profit-generating ventures through creativity, innovation, and uniqueness in developing products. They are also willing to take risks and remain resilient in the face of failures while building their businesses.

In the 4.0 era, students are also encouraged to develop an entrepreneurial spirit. Entrepreneurship education at educational institutions serves as an initial gateway to preparing students to develop their potential and be ready for the future workforce. Instilling entrepreneurial values from an early age enables students to generate creative and innovative ideas and critically identify opportunities for entrepreneurship, grounded in honesty and responsibility (Kartikasari, 2023).

Local wisdom refers to the collective knowledge, worldview, and strategies developed by local communities to address challenges and meet their needs. The digital economy can support the preservation of local wisdom. Digital economic practices can be a strategy to enhance the

competitiveness of creative industries based on local wisdom (Krisnatalia, 2023).Digital-based economic activities enable businesses to reach customers not only locally but also nationally and internationally (Saprianto, 2020). This provides an opportunity to introduce local wisdom products to the international stage.

The digital economy era necessitates high economic literacy, particularly in financial literacy and financial management behaviour (Anam, 2023). According to Vhalery, Leksono, and Irvan Moh (2019), financial literacy aids in managing money more effectively and efficiently. Higher financial literacy correlates with better financial management skills. Financial literacy education is not only a critical soft skill for today's students but also a character education component that prepares children for financial well-being in adulthood (Yuwono, 2020). Research by (Tomášková, 2011) highlights that financial literacy education equips individuals with the knowledge and skills necessary to make informed financial decisions and avoid financial difficulties.

Based on a literature review through the Google Scholar database from 2021 to 2023, several bibliometric analysis articles related to the digital economy were identified. These include studies on MSME mapping (Rahayu, 2022),the relationship between humanity, well-being, and the digital economy (Utami, 2022), and digital marketing scientific publications across the globe (Sari, 2023). However, bibliometric analysis of the digital economy in the field of education has not been found. Moreover, studies integrating digital economy education, entrepreneurship, local wisdom, and financial literacy in Indonesia are also absent within the 2021–2023 timeframe.

Based on these three reasons, this article aims to map the distribution of research on the digital economy and provide a bibliometric analysis of the literature on the digital economy, entrepreneurship, local wisdom, and financial literacy. Metadata obtained from the Google Scholar database is analyzed and categorized based on author affiliations and distribution. Through this analysis, research trends in the digital economy and future research opportunities can be identified. The methodology employed in this study involves bibliometric analysis using the Publish or Perish (PoP) software. Data processed with PoP is then edited using Mendeley Desktop software. The edited data is subsequently analyzed using VOSviewer software to visualize data distribution patterns and mapping. Finally, the findings are discussed, and conclusions are drawn based on the bibliometric analysis.

2. Method

General Background

A systematic and explicit method was chosen to review various bibliometric analysis literature (Garza-Reyes, 2015). The bibliometric analysis research method employed is an adaptation of the five-step method described in Figure 1.

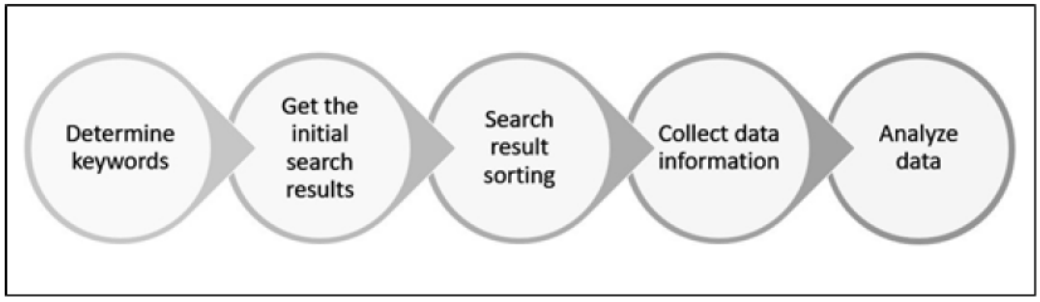


Figure 1. Five-Stage Method in Bibliometric Analysis

Sample/Participants/Group

The literature and metadata search began in November 2023 using the keyword *'digital economy.'* The Google Scholar database was selected as it is the largest database and part of the world's most popular search engine, Google. The Publish or Perish (PoP) software was chosen for conducting the search, as it has been proven to be the most effective tool for assisting in article metadata retrieval (Baneyx, 2008).The search results were refined to focus on scholarly articles published between 2021 and 2023. A maximum search limit was set at 200 articles.

Instruments and Procedure

The search results were saved in the Research Information Systems (RIS) format using the PoP software. The 200 articles were then sorted based on their publication medium, specifically scientific journals, resulting in 195 articles. A second round of filtering was conducted based on the relevance of the titles to the fields of education and learning, narrowing the selection to 30 articles. The filtered results were still saved in RIS format for further processing using Mendeley Desktop software.

Data Analysis

The RIS-formatted data was processed by editing the metadata of each article individually using Mendeley Desktop software. In Mendeley Desktop, the *Import Data* menu was used to upload the RIS-formatted data. The software then parsed the RIS data into a detailed reference list. Mendeley Desktop also offers metadata editing functionality for references to articles, books, proceedings, journals, and more. Incomplete metadata was edited, including details such as titles, authors, journal names, publication years, volumes, issues, pages, and abstracts, ensuring they aligned with the published articles. The processed data was then saved again in RIS format.

The RIS-formatted data from Mendeley Desktop was subsequently analyzed using VOSviewer software. VOSviewer processes RIS-formatted data and extracts keywords based on the titles and abstracts of the article metadata. VOSviewer was selected as the analytical tool due to its efficiency and its ability to generate visually appealing and informative visualizations (van Eck, 2010).

3. Results and Discussion

Publication Structure and Citations

The RIS-formatted data from Mendeley Desktop was analyzed using VOSviewer software. VOSviewer identifies the most frequently used keywords in the RIS-formatted search data and provides visual mapping for bibliometric analysis.

In the initial search using the Publish or Perish (PoP) software, 200 articles were retrieved from the Google Scholar database. The search results were limited to articles published between 2021 and 2023, using the Indonesian keyword *"ekonomi digital"* (digital economy).

The first filtering stage focused on publication media, selecting only scientific journals, resulting in 195 articles. Among these 195 journal articles, the citation metrics revealed an average of 1170.00 citations per year and 12.00 citations per article.

The second filtering stage focused on title relevance to the fields of education and learning, narrowing the selection to 30 articles. For these 30 journal articles, the citation metrics indicated 163.00 citations per year and 10.87 citations per article.

The comparative metrics from the first and second filtering stages are presented in Table 1.

Table 1. Comparison of PoP Metric Data Outputs

Metric Data	First Filtering	Second Filtering
Keyword	"digital economy"	"digital economy"
Publication Year	2021-2023*	2021-2023*
Papers	195	30
Citations	2340	326
Citations/Year	1170.00	163.00
Citations/Paper	12.00	10.87
Authors/Paper	2.49	2.33
h-index	24	11
g-index	36	17

hI_norm 18 9
hI_annual 9.00 4.50

Based on the third-stage filtering data generated by the PoP software, the systematically sorted articles, ranked from highest to lowest relevance to the keyword, are presented in Table 2.

Table 2. Top 10 Ranked Articles from PoP Filtering

No	Publication Year	Author(s)	Title	Journal	Citations	Publisher
1	2022	Deri Firmansyah, Dede	Entrepreneurial Performance: Economic Literacy, Digital Literacy, and the Mediation Role of Innovation	Formosa Journal of Applied Sciences	30	journal.formosa publisher.org
2	2021	Jerni Hasmiah, Thamrin Tahir	The Influence of Economic Literacy and Digital Literacy on Students' Entrepreneurial Interest	Indonesian Journal of Economics, Entrepreneurship, and Innovation	11	journal.ilininstitute.com
3	2022	Heni Mulyani, Imas Purnamasari, Arvian Triantoro, et al.	Technical Guidance for Developing Digital Economy and Business Learning Models through 21st Century Skills Strengthening	DIKEMAS (Jurnal Pengabdian Kepada Masyarakat)	0	pnm.or.id
4	2022	Liza Afriyanti, Kholid Junaidi	Assistance in Introducing Digital Literacy for Developing Santripreneurs as Drivers of the Creative Economy in Islamic Boarding Schools	SENTIMAS: Seminar Nasional Penelitian dan Pengabdian Masyarakat	7	journal.irpi.or.id
5	2022	Deri Firmansyah, Dwinanto Priyo Susetyo	Financial Behavior in the Digital Economy Era: Financial Literacy and Digital Literacy	Jurnal Ekonomi dan Bisnis Digital	10	journal.formosa publisher.org
6	2022	Ahmad Almaarif, Riksa Belasunda, et al.	Hydroponics as a Strategy to Strengthen the Digital Economy Community in Pesantren Miftahul Falah Bandung	Abdiformatika: Jurnal Pengabdian Masyarakat Informatika	1	abdiformatika.org

The six leading publishers for the topic of digital economy based on PoP filtering are shown in Table 3.

Table 3. Top 6 Publishers in Digital Economy Topics

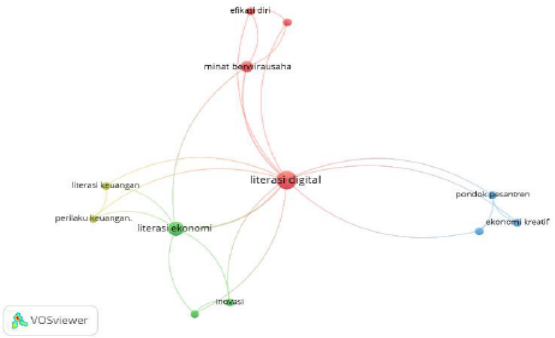
No	Penerbit	Artikel
1	journal.formosapublisher.org	3
2	journal.ilininstitute.com	
3	pnm.or.id	
4	journal.irpi.or.id	
5	abdiformatika.org	
6	jurnalintelektiva.com	

The two leading publishers identified through PoP software filtering for the topic of digital economy education are presented in Table 4.

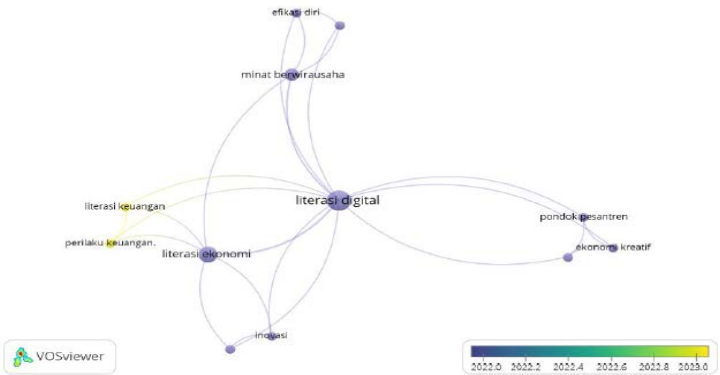
Table 4. Top 2 Publishers in Digital Economy Topics

No	Publisher	Total Articles	Citations
1	Formosa Journal of Applied Sciences	3	30
2	Indonesian Journal of Economics, Entrepreneurship, and Innovation	1	11

The visualization of metadata analysis results can be displayed in three distinct visualizations using VOSviewer software (Hamidah, 2020).The network visualization is shown in **Figure 2**, the overlay visualization in **Figure 3**, and the density visualization in **Figure 4**.



Gambar 2. Visualisasi jaringan pada basis data google scholar.



Gambar 3. Visualisasi overlay pada basis data google scholar.

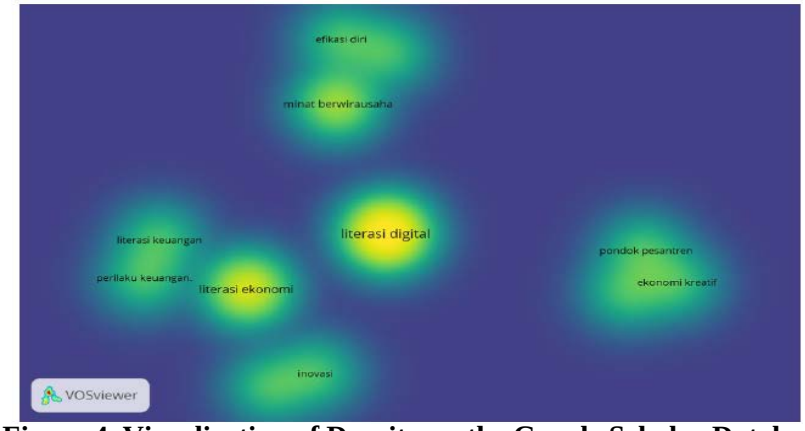


Figure 4. Visualization of Density on the Google Scholar Database

The three types of visualizations above are the results of analysis using the VOSviewer software by processing 30 articles after a two-stage sorting and metadata editing process. The minimum event threshold was set to 1. The analysis results indicate that 12 items meet the criteria representing the keyword "digital economy." Based on Figure 2, the 12 items that meet the keyword criteria are divided into four clusters with different colors: red, green, blue, and yellow. The development of digital economy research is clearly represented by each cluster, as shown in Table 5.

Table 5. Research Development Across Clusters

No	Cluster	Total Items	Research Elements
1	Red Cluster	4	Self-efficacy, income expectations, digital literacy, entrepreneurial interest
2	Green Cluster	3	Innovation, entrepreneurial performance, economic literacy
3	Blue Cluster	3	Creative economy, Islamic boarding schools, santripreneur
4	Yellow Cluster	2	Financial literacy, financial behavior

Author and Co-author Relationships

The analysis of authorship, co-author relationships, and collaboration patterns among authors is visualized in Figure 5. Based on Figure 5, it can be observed that there are 28 groups of co-authors, each represented by different colors.

Figure 5. Visualization of Authorship Relationships and Collaboration Patterns Among Authors

Based on Figure 5, many authors already have relationships as co-authors. However, there are no authors collaborating with other groups on the keyword "digital economy." The analysis of publication updates in the form of a time overlay is visualized in Figure 6.

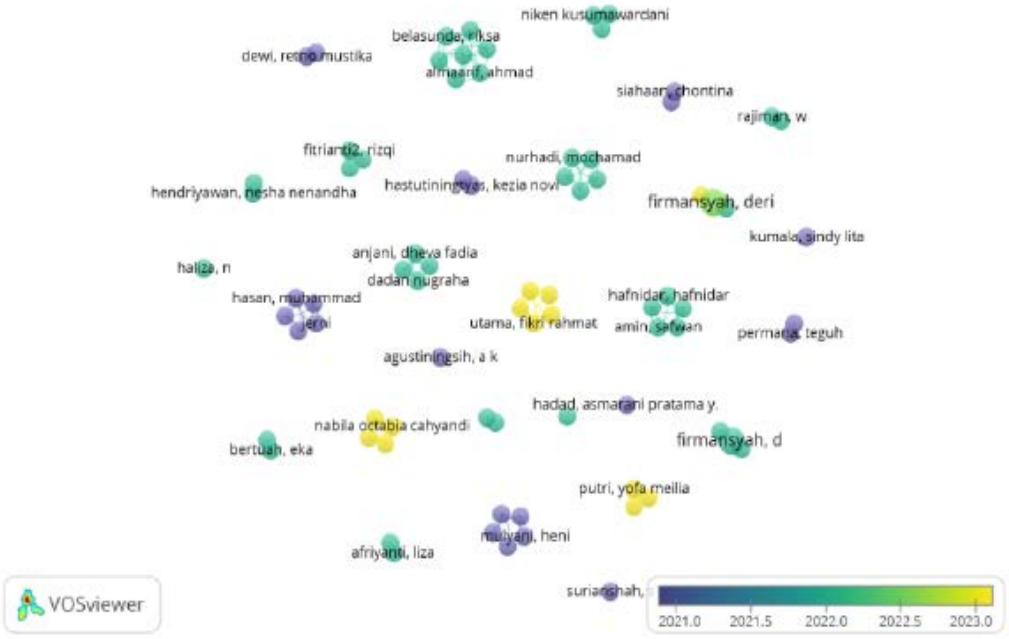


Figure 6. Visualization of Writing Time and Collaboration Patterns Among Authors

Figure 6 highlights the most recent research on digital economy keywords, indicated by yellow patterns. Other colors represent older studies. The yellow color shows that the research was published before 2023.

An analysis was also conducted on publishers contributing the most articles over the past three years. Of the 30 sorted articles, 6 were published by the **Jurnal Ekonomi**, and 2 articles each were published by the **Formosa Journal of Applied Sciences** and **Edukatif dan Jurnal Ilmu Pendidikan**. This indicates that these three journals are active in publishing articles on the digital economy.

Entrepreneurship serves as the driving force of innovation in the digital economy. Entrepreneurs leverage digital technology to create new products and services. The digital economy era is marked by the increasing prevalence of business transactions conducted online. Producers and consumers blend in a virtual space known as the internet. To compete effectively in this mutually beneficial digital world, business actors must master and understand thirteen entrepreneurial characteristics in the digital era: knowledge, digitalization, virtualization, molecularization, internetworking, disintermediation, convergence, innovation, immediacy, globalization, discordance, and co-creation (Kasidi, 2020).

Digital technology provides a platform that promotes and integrates local wisdom into the global market (**Saprianto**, 2020). The integration of local wisdom into the digital economy can be achieved by elaborating and utilizing existing values of local wisdom. Exploring the potential of local wisdom values can bridge economic and cultural values, generating positive impacts (Hermawanto, 2020).

In the digital economy, financial transactions are often conducted electronically, requiring a good understanding of electronic financial products and services. Financial literacy is a basic necessity for everyone to avoid financial problems. Financial difficulties can arise from financial mismanagement. A high level of financial literacy enables individuals to plan their money usage effectively, both for the short and long term (Yushita, 2017).

4. Conclusion

Based on the keywords that appeared in the network visualization, there were no keywords pointing to local wisdom. This indicates that research on digital economy education incorporating local wisdom has not been widely explored. Generally, the data obtained provides an overview of research trends in digital economy education over the past three years.

Several recommendations for future research include developing digital economy entrepreneurship programs based on local wisdom to enhance financial literacy. The limitation of this study is its inability to sort search results by city and author affiliation. Additionally, future research should expand the keywords used to organize a topic, for instance, based on city, affiliation, and country, to achieve more comprehensive results through bibliometric analysis.

The gaps in this study indicate a forward projection that digital economy education is a promising area for exploration, with content emphasizing entrepreneurship, local wisdom, and financial literacy. This should be examined within a scope that extends beyond national institutions to include international collaboration.

Acknowledgment
The author expresses gratitude to Lambung Mangkurat University.

Reference

Anam, K., & S. S. (2023). Analisis Perilaku Manajemen Keuangan Generasi Milenial: Prespektif Literasi Keuangan, Literasi Ekonomi, Dan Kesadaran Digital. *Jurnal Ilmiah Akuntansi*, *4*(1), 14–21.

Baneyx, A. (2008). Publish or Perish" as citation metrics used to analyze scientific output in the humanities: International case studies in economics, geography, social sciences, philosophy, and history. *Scientometrics*, *56*, 363–371.

Garza-Reyes, J. A. (2015). Lean and green – a systematic review of the state-of-the-art literature. *Journal of Cleaner Production*, *102*(1), 18–29.

Hamidah, I., S. & H. M. N. (2020). A bibliometrics analysis of Covid-19 research using VOSviewer. *Indonesian Journal of Science and Technology*, *5*(2), 209–216.

Hermawanto, A., & A. M. (2020). *Globalisasi, Revolusi Digital Dan Lokalitas: Dinamika Internasional Dan Domestik di Era Borderless World*. LPPM UPN VY Press.

Kartikasari, M. A. (2023). Menumbuhkan Jiwa Keirausahaan Sejak Dini Membangun Mental yang Tangguh. *Tpet (Where Theory, Practice, Experience, & Talent Meet) Community Service Journal*, *3*(1), 18–24.

Kasidi. (2020). Tantangan Kewirausahaan di Era Ekonomi Digital. *Journal of Economic Education and Entrepreneurship*, *1*(1), 17–23.

Krisnatalia, H., P. E., & H. G. S. (2023). Strategi Peningkatan Daya Saing Industri Kreatif Berbasis Kearifan Lokal Di Kelurahan Kalisegoro Kecamatan Gunungpati Semarang. *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)*, *4*(4), 3030–3036.

Maria, N. S. B., & W. T. (2020). Dampak Perkembangan Ekonomi Digital terhadap Perilaku Pengguna Media Sosial dalam Melakukan Transaksi Ekonomi. *Jurnal Konsep Bisnis Dan Manajemen*, *6*(2), 234–239.

Rahayu, N., A. S. I., & M. E. (2022). Pembangunan Ekonomi Indonesia Dengan Tantangan Transformasi Digital. *ADI Bisnis Digital Interdisiplin Jurnal*, *4*(1), 92–95.

Saprianto, F. (2020). Dilematis Umkm Di Era Digital. *SCIENTIFIC JOURNAL OF REFLECTION*, *3*(1), 21–30.

Sari, I. K., & M. M. R. (2023). Analisis Bibliometrik Digital Marketing Publikasi Ilmiah di Negara-Negara Seluruh Dunia. Al-Kharaj. *Jurnal Ekonomi, Keuangan & Bisnis Syariah*, *5*(5), 2387–2399.

Sundari, C. (n.d.). Revolusi Industri 4.0 Merupakan Peluang dan Tantangan Bisnis Bagi Generasi Milenial di Indonesia. *In "Fintech Dan E-Commerce Untuk Mendorong Pertumbuhan UMKM Dan Industri Kreatif*, 555–563.

Tomášková, H., M. H., & N. Z. (2011). Issues of financial literacy education. *Procedia - Social and Behavioral Sciences*, *28*, 356–369.

Utami, N., & P. D. Y. (2022). Manusia, Kesejahteraan, dan Ekonomi Digital: Analisis Bibliometrik. *Jurnal Sosial Humaniora*, *2*(2), 226–237.

van Eck, N. J., & W. L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–528.

Yuliani, D. (2020). Perbandingan Pertumbuhan Ekonomi Digital Indonesia Dan China Dalam Bidang E-Commerce. *Jurnal Ekonomi Dan Bisnis*, 1–22.

Yushita, A. N. (2017). Pentingnya Literasi Keuangan Bagi Pengelolaan Keuangan Pribadi. *Nominal, Barometer Riset Akuntansi Dan Manajemen*, *6*, 11–26.

Yuwono, W. (2020). Konseptualisasi Peran Strategis dalam Pendidikan Literasi Keuangan Anak melalui Pendekatan Systematic Review. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *5*(2), 1419–1429.

THE STUDENTS' STRATEGIES IN SOLVING LISTENING DIFFICULTIES IN FOURTH SEMESTER STRUDENTS' OF ENGLISH LANGUAGE EDUCATION STUDY PROGRAM AT UNIVERSITAS PGRI KALIMANTAN

Vieya Mualida, Hidya Maulida, Yasyir Fahmi Mubaraq
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
English Language Education Study Program
Banjarmasin, Indonesia
3062012024@mhs.stkipbjm.ac.id,
hidya@stkipbjm.ac.id,
yasyirfm@stkipbjm.ac.id

Abstract. Listening ability is an important aspect that must be mastered by students', and based on preliminary studies it was found that there were difficulties in listening to English experienced by students' in the English Language Education Study Program at University of PGRI Kalimantan. Therefore, this research aims to find out what listening difficulties and strategies fourth-semester students' use to solve difficulties in listening. This research uses a descriptive design with a qualitative approach. This research analyzes the data to describe students' strategies in solving listening difficulties. The data collection method is through questionnaires and interviews. The data analysis is done through data reduction, data display, and drawing verifying conclusions. The most common listening difficulties experienced by students' in the fourth-semester students' of English Language Education Study Program at University of PGRI Kalimantan are listening difficulties related to speaking rate. Most students' used cognitive strategy to deal with listening difficulties. In this strategy, students' do exercises by using a dictionary or reference source, taking notes, and summarizing.
Keywords**:** Listening, Difficulties, Strategies

1. Introduction

Listening skills are an important skill that English language learners must learn. Communication has an important role in teaching and learning English. There must be interaction between at least two or more people involving the speaker and listener (Goh. C, 2002). The speaker expresses his ideas by introducing an utterance, and the listener receives the message, stores the utterance in his memory, analyzes and identifies the lexical illocutionary meaning. English Language Education is a Study Program that has an important role in preparing competent English language teacher candidates. One of the skills that is highly emphasized in this program is the ability to listen. Good listening skills are the main key to understanding and communicating in English.

Difficulty in listening can be detrimental to students' academic development, especially in the context of an English Language Education Study Program. In addition, poor listening skills can also affect the quality of their future teaching when they become English teachers. Therefore, there is a need for a deeper understanding of the strategies used by fourth-semester students' of the English Language Education Study Program at University of PGRI Kalimantan in solving listening difficulties.

According to a preliminary study using interviews with fourth-semester students' of English Language Education Study Program at University of PGRI Kalimantan, who have undergone listening courses, it was revealed that numerous students' encounter challenges in listening comprehension due to variations in accents. This leads to unfamiliarity with certain words or sentences. The discrepancy arises from the predominant use of American accents in teaching and learning sessions, contrasted with the utilization of British accents in listening assessments. Additional difficulties include the presence of homophones or words with similar pronunciation but distinct meanings, as well as a deficiency in

vocabulary hindering students' ability to swiftly comprehend conversations by native speakers. Furthermore, this study revealed a disparity among fourth-semester students' in the English Language Education program at University of PGRI Kalimantan, with some exhibiting readiness and strategies for solving listening difficulties, while others lacked such preparedness entirely.

This research aims to identify the strategies used by fourth-semester students' of the English Language Education Study Program at University of PGRI Kalimantan in solving listening difficulties. Through a better understanding of these strategies, students' will definitely know what strategies they are using and it is hoped that there will be concrete steps that students' can take to improve their listening skills. Thus, this research will make a positive contribution in improving the quality of English education at University of PGRI Kalimantan and help fourth-semester students' to become more competent English teachers in the future.

2. Review of Literature

2.1 Definition of Listening

According to Downs (2008), listening can be defined as an intentional effort to hear or to give more attention to something we hear to gain certain information. In addition, in case of its objective to give more attention, listening is considered as a way we understand native speech at its normal speed where it involves auditory discrimination, aural grammar, selecting necessary information, remembering, and connecting to the process between sound and form of meaning (Gilakjani, 2016). Listening is different from hearing. In listening, we have a certain intention to look for some information (Downs, 2008).

Furthermore, Brown (2004) said that listening is our particular way to gain information by paying attention to the main point of what we hear, emphasizing the important supporting points, and making a conclusion to draw overall information the speaker has said. Furthermore, Rost's (2001) listening processing phases of decoding, comprehending and interpreting also provide a comprehensive understanding of how listeners process decoding, comprehending, and interpreting the multiple levels of knowledge to react to the appropriate responses to incoming information. This may incorporate the characteristics of linear steps and parallel processing, with both bottom-up and top-down processing interacting simultaneously.

There are seven difficulties that students' must face, such as limited vocabulary and interpretation, concentration level, established language habits, accent variations, speech rate, length of listening, and grammatical limitations. Therefore, students' have different strategies to solve their natural listening difficulties.

2.2 Students' Activities

The Academic Listening course is the final sequence of the Listening Skills courses. Before taking this course, students must have completed and passed the other Listening courses in the previous semester. In this course, students' focus on learning listening materials in TOEFL and IELTS. It is expected that students' will be able to identify the main ideas of conversations, understand supporting details of conversations, identify the meanings of vocabulary based on context, identify the speaker's attitude and purpose, determine the intent of the conversation, and identify the meanings of idioms found in conversations. The teaching methods include group discussions for offline meetings and assignment submissions through Google Classroom for online meetings.

2.3 Listening Difficulties

According to Samuel (1984), there are two factors of listening difficulties. They are external and internal factors. External factors are factors that come from outside the learners. It means those factors do not come from within the learner. External factors usually come from the environment. External factors can be learning opportunities. Internal factors come from the listeners themselves. According to Samuels (1984), several factors that can be categorized as internal factors are as follows.

2.3.1 Limited Vocabulary and Interpretation

Nowrouzi (2015) shows in her research that unfamiliar topics, sentential level problems, and too much information to process while listening also make the listening materials complicated in listening. Therefore, having mastery of vocabulary will be very helpful for the learners in

their listening skills. Practically, a learner with limited vocabulary has a big potential to misinterpret what he hears. This is exactly what happened with the students' when having the listening test. Having poor vocabulary, many of them misunderstood what they heard from the recording. In fact, many words used in the talks they heard during the test were still new words to them.

2.3.2 Concentration Level

Literally, this problem seems so psychological. In fact, when doing the listening, many of the students' were unable to focus on every single thing uttered by the recorded speakers. When, for example, they found one part unclear, they kept thinking of it and therefore could not move on to the next parts, and finally, there were not many things that they managed to capture from the spoken messages. Accordingly, we it can infer that the students' bad psychological state contributed towards their low achievements in the listening test. According to Bidabadi (2013) said learner's confidence and insecurity will affect them. If the students do not feel confident and feel nervous while listening, it will make them not feel comfortable and will affect their concentration to memorize and understand the vocabulary in listening.

2.3.3 Established Language Habit

Which is the next problem faced by the students' in listening, is definitely due to the fact that many of them are not familiar with English-speaking circumstances yet. Even the learning process in the EFL classroom has not provided them with English speaking atmosphere, the teachers have not spoken fully in English yet since they often consider the students' level. From here, we can learn that what the students' usually have outside the listening test has a significant impact on what they can do in the listening test. This implies that the students' have not had sufficient listening skills since they are not familiar with English talks yet. Field (2011) also reported that lack of listening experience make the students think more to guest the context. This will take more time and does not make the students use time wisely.

2.3.4 Accent Variations

It is known that in English speaking, there are some distinctive accents such British, American and Australian. Many of the students' admitted that the matter of accent also troubles them when having a listening test. So far, the accent that they are familiar with is American accent, therefore, it is very difficult for them to catch oral information uttered in British and Australian accents. According to Johnson (2008) and Hamouda (2013), some of the students have difficulty in understanding lectures due to lectures' rate of speech in relation to accents. While listening they understand the meaning of every word, however, it is difficult to understand the entire contents of the thing being heard because of the accent.

2.3.5 Speech Rate

The speech rate from the speaker who has different accents affects students' comprehension in listening. Some students' who study a new language will feel helpful when they listen at a slow speech rate. They will feel that slow speech can help them to simplify understanding the language clearly in listening because it gives a while for them to progress the message from what they just listened to. However, the problem is it will make them get used to comprehending the listening just if the lecturer talks at a slow speech rate (Hayati, 2010).

2.3.6 Length of The Listening

The study that has been done by Hamouda (2013) about an investigation of listening comprehension problems encountered by students' in the EL listening classroom pointed out that the length of listening becomes a big problem for the students'. The learners will lose their concentration and miss some important points from the recording. Some students' who are not accustomed to listening in English will also feel hard when listening. This is why the students' need to have more practice in listening. Through practice, it will give more experience for the students'.

2.3.7 Grammatical Limitations

In English, grammar is more discussed in writing skill and speaking skills. However, some students' forget that grammar play important role in listening skill. Gilakjani and Sabouri (2016) in their study stated that in listening to comprehend what was said by others, someone need to understand a speaker pronunciation, the speakers grammar and vocabulary, and understand the meaning. According to Hamouda (2013) some students' feel listening is

difficult because they do not have a better understanding of grammatical structures. This emphasizes grammar becomes a significant part of students' listening comprehension.

2.4 Strategies in Solving Listening Difficulties

Each learner is different and has different learning strategies to solve the difficulties in learning. According to Oxford (2003), there are six types of strategies for learning a language, but these strategies can also be applied to listening strategies. Those six learning strategies are cognitive strategies, meta-cognitive strategies, memory-related strategies, compensatory strategies, affective strategies, and social strategies.

2.4.1 Cognitive Strategy

The cognitive strategy helps the students' to utilize the language material directly. This strategy contains practicing, reviewing, and sending messages, analyzing and reasoning, and creating structure for input and output. Practicing helps the learners to use what they hear to facilitate in remembering information from long-term memory, and it can be achieved by using patterns and repeating. Then reviewing and sending messages assist the learners to get the idea immediately, it can be attained by skimming and scanning.

2..4.2 Meta-cognitive Strategy

The meta-cognitive strategy helps the learners to manage and control their own learning progress. Examples of these strategies are "identifying one's own learning style preferences and needs, planning for an L2 task, gathering and organizing materials, arranging a study space and a schedule, monitoring mistakes, and evaluating task success, and evaluating the success of any type of learning strategy" (Oxford, 2003).

2.4.3 Memory-related Strategy

The memory-related strategy helps the students' to save and retrieve the information from what they hear to help them in the learning process. A few memory-related strategy allow the learners to learn and get information in an "orderly string (e.g., acronyms), learning and retrieval via sounds (e.g., rhyming), 10 images (e.g., a mental picture of the word itself or the meaning of the word), a combination of sounds and images (e.g., the keyword method), body movement (e.g., total physical response), mechanical means (e.g., flashcards), or location (e.g., on a page or blackboard)" (Oxford, 2003).

2.4.4 Compensatory Strategy

The compensatory strategy helps the learners to complement for missing information when they do not hear to something obviously by guessing it using the clue that they have. In guessing to get the information, the learners can use linguistic clues (word order, word stress) to help them understand unfamiliar vocabulary and other clues (situational contexts, background noise) to guess what is happening (Huy, 2015).

2.4.5 Affective Strategy

The affective strategy is used to help the learners manage their feelings, emotions, motivation, or attitudes in learning listening skills (Huy, 2015). When the students' doing their listening task, but they feel difficult this strategy can help them to decrease their nerves while listening. It will make them become relaxed and help them to motivate themselves and feel confident to finish their listening task.

2.5.6 Social Strategy

The social strategy helps the learners to understand the language by learning and working with others. In this strategy, the students' can ask a question to get clarification from the teacher or their friends about something that they do not understand and make them confused. The students' also can work together to complete their tasks with their friends and exchange the information that they have with each other (Huy, 2015).

3. Discussion

The subjects of the questionnaire were 16 students' of the English Language Education Study Program at University of PGRI Kalimantan. All data is displayed in tabular and narrative form. Specifically, the findings of the questionnaire and interviews can be seen below.

Table 3 Students' Difficulties

No	Difficulties	Students'
1.	Limited vocabulary and interpretation	15
2.	Concentration level	15
3.	Established language habit	15
4.	Accent variations	15
5.	Speech rate	16
6.	Length of the listening	15
7.	Grammatical limitations	15

Table 4 Students' Strategies

No	Difficulties	Strategies	Students'
1.	Limited vocabulary and interpretation	Cognitive strategy	10
		Meta-cognitive strategy	2
		Memory-related strategy	7
		Compensatory strategy	1
		Affective strategy	0
		Social strategy	5
2.	Concentration level	Cognitive strategy	4
		Meta-cognitive strategy	2
		Memory-related strategy	3
		Compensatory strategy	1
		Affective strategy	6
		Social strategy	2
3.	Established language habit	Cognitive strategy	2
		Meta-cognitive strategy	2
		Memory-related strategy	11
		Compensatory strategy	0
		Affective strategy	1
		Social strategy	4
4.	Accent variations	Cognitive strategy	6
		Meta-cognitive strategy	2
		Memory-related strategy	6
		Compensatory strategy	1
		Affective strategy	0
		Social strategy	5
5.	Speech rate	Cognitive strategy	6
		Meta-cognitive strategy	2
		Memory-related strategy	0
		Compensatory strategy	0
		Affective strategy	0
		Social strategy	10
6.	Length of the listening	Cognitive strategy	9
		Meta-cognitive strategy	3
		Memory-related strategy	0
		Compensatory strategy	1
		Affective strategy	0
		Social strategy	6
7.	Grammatical limitations	Cognitive strategy	15
		Meta-cognitive strategy	0
		Memory-related strategy	2
		Compensatory strategy	0
		Affective strategy	0
		Social strategy	0

In this research, to solve the difficulties faced by students, it is important to know what difficulties students face and some strategies they use to help them. This research will discuss listening difficulties and strategies used by students to solve listening difficulties. The results show that each student has different strategies to practice their listening skills, namely cognitive strategies, meta-cognitive

strategies, memory-related strategies, compensatory strategies, affective strategies, and social strategies. So based on Table 1 and Table 2 we can see that:

3.1.1 *Listening Difficulties*

3.1.2 *Limited Vocabulary and Interpretation*

In this research, based on the results of the questionnaire, there were 15 students' who had difficulty listening related to limited vocabulary and interpretation. The results of this student questionnaire were also supported by the results of interviews with students' who stated that because they had limited vocabulary, they had difficulty understanding what the speaker meant.

3.1.3 Concentration Level

In this research, based on the results of the questionnaire, there were 15 students' who had difficulty listening related to concentration level. The results of this students' questionnaire were also supported by the results of interviews with students' who stated that they had difficulty concentrating which resulted in them having difficulty understanding what the speaker was saying because they were often distracted by the noisy learning environmen.

3.1.4 Established Language Habits

In this research, based on the results of the questionnaire, there were 15 students' who experienced difficulty listening related to established language habits. The results of this student questionnaire were also supported by the results of interviews with students who stated that they experienced difficulties due to their lack of experience listening to English which resulted in them having difficulty capturing and guessing what was being said by the speaker.

3.1.5 Accent Variations

In this research, based on the results of the questionnaire, there were 15 students' who experienced difficulty listening related to accent variations. Students' stated that they had difficulty guessing what the speaker was saying because the accent was unfamiliar to them.

3.1.6 Speech Rate

In this research, based on the results of the questionnaire, 16 students' had difficulty listening regarding speech rate. Students stated that they had difficulty understanding what the speaker was saying because the speaker's speed made them miss sentences that might be important.

3.1.7 Length of The Listening

In this study, based on the results of the questionnaire, 15 students' had difficulty listening regarding the length of the listening. Students' stated that they had difficulty understanding what was conveyed by the speaker, because of the long duration of the audio or the length of time the speaker spoke which made them lose concentration and miss several important points from the recording.

3.1.8 Grammatical Limitations

In this study, based on the results of the questionnaire, there were 15 students' who had difficulty listening regarding grammatical limitations. . Students' stated that they feel listening is difficult because they do not have a better understanding of grammatical structures. This emphasizes grammar becomes a significant part of students' listening comprehension.

3.2.1 *Strategies in Solving Listening Difficulties*

3.2.2 *Cognitive Strategy*

In this research, based on the results of the questionnaire, this strategy was used by 15 students' by using dictionaries or reference sources, taking notes, and summarizing. The results of this student questionnaire are also supported by the results of interviews with students' who stated that this strategy also helped them solve limitations in vocabulary and interpretation, concentration level, established language habits, accent variations, speaking rate, length of listening, and grammar limitations.

3.2.3 Meta-Cognitive Strategy

Based on the results of the questionnaire, there were 6 students' who used meta-cognitive strategies as a strategy to solving listening difficulties. Students' use this strategy by guessing the topic based on context clues. The results of this student questionnaire were also supported by the results of interviews with students' who stated that this strategy also helped them solve limited vocabulary and interpretation, level of concentration, established language habits, accent variations, speaking rate, and length of listening.

3.2.4 *Memory-related Strategy*

Based on the results of the questionnaire, researchers found 14 students' who used memory-related strategies as a strategy for solving listening difficulties. They use this strategy by listening to music, watching films or videos, and using visual imagery. The results of this student questionnaire are also supported by the results of interviews with students' who stated that this strategy also helped them solve limited vocabulary and interpretation, concentration level, established language habits, accent variations, and grammatical limitations.

3.2.5 Compensatory Strategy

In this study, based on the results of the questionnaire, there were 3 students' who used this strategy by using English learning applications. The results of this student questionnaire are also supported by the results of interviews with students' who stated that this strategy also helped them solve limited vocabulary and interpretation, concentration level, accent variations, and length of listening.

3.2.6 Affective Strategy

Based on the results of the questionnaire, there were 7 students' who used affective strategies as a strategy for solving listening difficulties. This strategy is used to create a comfortable learning environment. The results of this student questionnaire are also supported by the results of interviews with students' who stated that this strategy also helped them solve concentration levels, and establish language habits.

3.2.7 Social Strategy

In this study, there were 16 students' who used social strategies as a strategy to solve listening difficulties. they use this strategy by talking to other or native speakers and asking the speakers to repeat more slowly or clearly. The results of this student questionnaire are also supported by the results of interviews with students' who stated that this strategy also helped them solve vocabulary and interpretation, concentration level, established language habits, accent variations, speech rate, and length of the listening

4. Conclusion

The results of this study show that all listening difficulties are experienced by students' and the most common ones experienced by students' are listening difficulties related to speech rate. Students' also stated that they had difficulty understanding what the speaker was saying, because the speaker's speed made them miss sentences that might be important. Based on the research results, it can be concluded that all students have difficulty listening. The most common thing experienced by students is listening difficulties related to speech rate and most students' use cognitive strategy to solve listening difficulties. In this strategy students do exercises using a dictionary or reference source, taking notes, and summarizing.

5. Suggestion

The researcher gave several suggestions to English lecturer and further researchers, among others:

1) English Lecturer

It is recommended that English lecturers train students' English listening skills in a fun way, for example starting by creating a comfortable atmosphere or environment. Lecturers can also create learning materials from various reference sources, this can help students' become easier and happier in listening to English.

2) Further Researchers
It is recommended that further researchers who use this research as a source and reference material conduct similar research by conducting more in-depth investigations such as adding external factors of listening difficulties

References

Brown, H. D. A. (2004). *Language assessment. Principles and Classroom Practices. White Plains*. NY: Pearson Education. (p.246).

Bidabadi, F. S., & Yamat, H. (2013). EFL learners' perceptions towards meta-cognitive strategy use in English language listening. *GEMA Online®Journal of Language Studies*, 13(3).

Downs, J. L. (2008). *Listening Skills Training*. New York: ASTD Press.

Field, J. (2011). Into the mind of the academic listener. *Journal of English for Academic Purposes*, 10(2), 102–112.

Gilakjani, A. P., & Sabouri, N. B. (2016). Learners' Listening Comprehension Difficulties in English Language Learning: A Literature Review. *English Language Teaching*, *9*(6), 123.

Goh, C. (2012). *Exploring listening comprehension tactics and their interaction patterns*. System 30(2), 185-206.

Hamouda, A. (2013). An investigation of listening comprehension problems encountered by Saudi students' in the EL listening classroom. *International Journal of Academic Research in Progressive Education and Development* 2(2), 113-155.

Hayati, A. (2010). The effect of speech rate on listening comprehension of EFL learners. *Creative Education*, 1(02), 107-114.

Huy, L. H. (2015). An investigation into listening strategies of EFL students'. *Asian Journal of Educational Research*, 3(4), 21-34.

Nowrouzi, S., Tam, S. S., Zareian, G., & Nimehchisalem, V. (2015). Iranian EFL students' listening comprehension problems. *Theory and Practice in Language Studies*, 5(2), 263 270.

Oxford, R. L. (2003). *Language Learning Styles and Strategies:* anz Overview. Learning.

Rost, M. (2011). *Teaching and Researching Listening. New York: Longman.*

Samuels, S. J. (1984). *Factors influencing listening: Inside and outside the head.* Theory into Practice, 23, 183-189.

Development of Application-Based BioSik (Biologi Asik) Learning Media *Android* Use *Power Point* for Class X High School Biology Learning Material *the animal*

Wardah, Rezky Nefianthi, and Nana Citrawati Lestari
PGRI University Kalimantan, Faculty of Social and Humanities,
English Language Education Study Program
Banjarmasin, Indonesia
Wardahenim22@gmail.com

Abstract. Technological developments are increasingly rapid, making the world of education have to adapt. Changes in behavior and lifestyle influenced by technology create various positive and negative impacts. The negative impact felt in the world of education is students' dependence on *gadgets/cellphones*, apart from that, unwise use creates challenges for teachers in creating new innovations so that the learning process becomes more fun than playing *gadget/cell phone* in the classroom. So researchers conducted research on application-based media development *android* use *power point* for class X learning material *the animal* The aim is to develop valid, practical and effective learning media to support students' learning process. This research is research *Research & Development* (R&D) using the ADDIE model which consists of the processes of Analysis, Design, *Development*, Implementation, and Evaluation. The development went through 3 stages, namely validity testing, practicality testing, and effectiveness testing which was carried out at SMA PGRI 6 Banjarmasin (Trial 1) and SMA PGRI 1 Banjarmasin (Trial 2). The results of the media validity test carried out by five expert validators were 4.0, namely in the "Valid" category, while the results of the teacher respondents' practicality test in trial 1 was 3.6 in the "Practical" category and in trial 2 it was 5.0 with the "Very Practical" category, then for student respondents at SMA PGRI 6 Banjarmasin (31 people) it was 4.0 with the "Practical" category, the results of the practicality test at SMA PGRI 1 Banjarmasin (20 people) were 4.2 with the category " Practical" and the results of the media effectiveness test showed that the percentage in trial 1 of the first meeting was 78%, in the second meeting it was 79% in the "Effective" category, while in trial 2 the percentage was 86% in the first meeting and at the second meeting 91% were included in the "Effective" category.
Keywords: application *android*, *the animal*, biosik, biology learning media, development

1. Introduction

In today's development, the world of education continues to experience significant changes. Based on this, the world of education must align education itself with technological developments, in this case in order to prepare competent students who have skills and can fulfill the desired classification in the real world of work (Andrian, and Maksum, 2020).

Another phenomenon that can be said to be a driving factor in changing the behavior of the world community, including Indonesia, is the COVID-19 pandemic phenomenon which attacked the entire world in the last year of 2019. As a result of this pandemic, Indonesia itself had to reduce the learning from home policy and to meet these changes all elements of society especially parents, students and teachers must prepare new learning methods. The learning method that can be used during the pandemic is the online learning method *online* from home use *smartphone/gadget*. On learning *online* which is implemented, many parents buy it *gadget* for their children (students) so that they spend a lot of time with *gadget*-only (Isrokatun et al, 2023).

However, entering the second year after the COVID-19 pandemic, the world has recovered gradually, including Indonesia, but it cannot be denied that the COVID-19 pandemic phenomenon that has occurred is the starting point for the progress of technological development in the world of education in Indonesia. Study from home/study policy *online* is no longer enforced but due to changes

in habits during the pandemic, everything is all about technology (*gadget*) it is not surprising that students become less interested in learning when the old learning system which tends to be monotonous and boring at school returns. This condition shows that traditional learning is actually boring and ineffective (Astuti et al, 2020).

School learning in general is still teacher-centered so that students become more passive when learning, plus the textbook-oriented nature of learning is too dominant, making the teacher's impression in the learning process look like a lecture (Imansari et al, 2019). The big influence of technology and information can create new opportunities in the learning process, especially in the learning media used. Basically, in the learning process there is a tendency that allows education to be oriented towards students not only in school, but also outside the school environment because there are more and more choices of learning resources provided to enrich the knowledge of the students themselves ((Sunarto et al, 2020).

Technological developments are useful as supporting the learning process, one way is by developing various types of innovative and diverse learning media. The role of learning media cannot be separated from the teaching and learning process (Firmadani, 2020). Application-based learning media *android* that is inside *smartphone/gadget* is one example of media that can be developed today. Applications *android* which was deliberately developed to make it possible to attract students' critical thinking abilities. Learning material can be presented in an interesting, interactive way, and students can learn anywhere and anytime (Sa'diyah et al, 2021). Thus, seeing the potential for developing application-based learning media *android* for direct classroom learning it cannot be said to be impossible. This is the background for the author wanting to develop an innovative learning media by utilizing an application base *android* simple to use *power point* to support the teaching and learning process and increase students' interest in learning in class. In its development the author will take material *the animal* as a topic that will be raised later, considering that this material is a complicated material and requires deep understanding in order to understand the content.

2. Methods

The research method used is the research method *Research and Development* (R&D). Research and development or R&D methods are processes and steps to develop a new product or improve an existing product so that it can be accounted for. Products are not always objects/hardware, such as books, modules, learning aids, but can be software, such as computer programs for data processing, classroom learning, libraries/laboratories, or models of education, training, guidance, evaluation, management, and others (Putra et al, 2023). As the name suggests, R&D is understood as research activities/actions that begin with research, then continue with development. So for the research model that will be used in the research *Research and Development* (R&D) is the ADDIE model which consists of the Analysis, Design, Development, Implementation and Evaluation stages. The five stages of the ADDIE development model can be observed in chart form as follows:

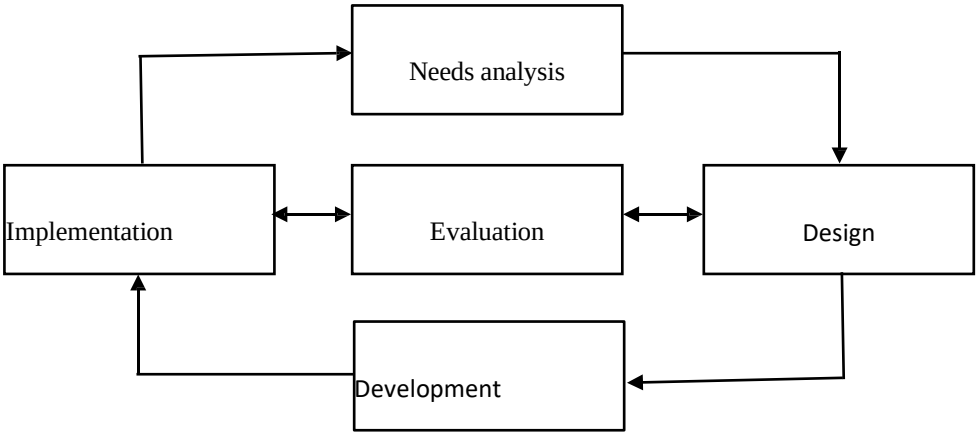


Figure 3. 1 ADDIE development model Source: (Report *et al*., 2022)

In the research and development of BioSik (Fun Biology) learning media, the test subjects consisted of 3 subjects, namely validity test subjects, practicality test subjects, and effectiveness test subjects. Place and time of trial, trial 1 was carried out at SMA PGRI 6 Banjarmasin and trial 2 was at SMA PGRI 1 Banjarmasin over a period of at least 3 months. The type of data taken is qualitative data and quantitative data using data collection instruments in the form of validation sheets, *questionnaire/*questionnaire, sheet *pre-test/post-test*, and documentation. The following are the data analysis techniques used in the research:

a. Validity Data Analysis Techniques

Validity data is taken from the total scores on the validation sheets of expert validators which are calculated thoroughly and then the average value of these scores is calculated using the formula below:

$$\underline{x} = \frac{\sum x}{N}$$

$\underline{x}$ = average score

$\sum x$ = total score obtained

N = number of frequency of question indicators/aspect items

Source adapted (Rustandi and Rismayanti, 2021)

The average score obtained by each expert validator is combined after that the final score is calculated to determine the level of validity of the application-based learning media *android* BioSik simply uses the following average formula:

$$\underline{x} = \frac{1}{M} \times \frac{\sum_i^n \; x_i}{N}$$

Information :

$\underline{x}$ = average score

$\sum_i^n \; x_i$ = total score obtained

N = number of frequency indicators/aspect items

M = number of respondents

Source: Adapted (P. Wulandari *et al*., 2019)

The results of the data obtained will be reviewed for the level of validity in accordance with Bloom's adaptation of categorization below:

Table 3. 1 Validity Category

Category	Information
4.5 ≤ validity ≤ 5.0	Very valid
3.5 ≤ validity ≤ 4.5	Valid
2.5 ≤ validity ≤ 3.5	Fairly valid
1.5 ≤ validity ≤ 2.5	Not valid
validity ≤ 1.5	Invalid

Source: (Nefianthi, 2016)

b. Practical Data Analysis Techniques

Data on the practicality of the learning media being developed was obtained from the sum of the overall assessment scores on questionnaire/ questionnaire responses from teachers and students and then the average score is calculated. The following is the formula used to calculate practicality data:

$$\underline{x} = \frac{\sum x}{N}$$

Information :
$\underline{x}$ = average score
$\sum x$ = total score obtained
N = total frequency of respondents

Source: Adapted (Rustandi and Rismayanti, 2021)

The final average data obtained is then adjusted to the practicality level category to find out where the practicality level of the media that has been developed is. The following is a table of practicality categories:

Table 3. 2 Practicality Category Tables

Category	Information
$4.5 \leq \text{practicality} \leq 5.0$	Very practical
$3.5 \leq \text{practicality} \leq 4.5$	Practical
$2.5 \leq \text{practicality} \leq 3.5$	Quite practical
$1.5 \leq \text{practicality} \leq 2.5$	Not practical
$\text{practicality} \leq 1.5$	Not practical

Source: (Nefianthi, 2016)

c. Effectiveness Data Analysis Techniques

The data analysis technique to determine the level of effectiveness of cognitively developed learning media in development research is to use the normal formula-*Gain*, which will later compare the two assessment score results via *post-test*/*pre-test* from the students at two meetings. Normal formula-*Gain* detailed as follows:

$$< G >= \frac{shoes\ post\ test - shoes\ pretest}{shoes\ ideal - shoes\ pretest}$$

G= normal gain

Source: (Ma'aniyah, 2019)

The results of Normal Gain are analyzed according to the Normal-*gain* below this:

Table 3. 3 N-gain criteria

Rate-rate	Criteria
G > 0,7	High
$0,3 \leq G \leq 0,7$	Currently
0 < G < 0,3	Low
$G \leq 0$	failed

Source: (Safitri and Cacik, 2023)

Then converted into a percentage, the normal result score-*gain* multiplied by 100% then interpreted the percentage value obtained to determine the level of effectiveness of learning media, according to Hake (1999) n-effectiveness interpretation category *gain* are as follows:

Table 3. 4 Categories of N-Effectiveness Interpretation *Gain*

Percentage (%)	**Category**
>76	Effective
56-75	Quite effective
40-55	Less effective
<40	Ineffective

Source: (Nawir & Khaeriyah, 2019)

3. Results and Discussion

Data from development research was obtained from the results of validity tests, practicality tests and effectiveness tests. In validity testing carried out by expert validators involving one media expert, one language expert, one material expert, and two expert practitioners in the field of IT/Information Technology with the aim of determining the level of validity of the BioSik learning media that has been developed. The five expert validators assessed all aspects starting from media, language and material contained in the BioSik learning media. The practicality test involved 2 Biology teacher respondents and 51 students. The first trial was carried out at SMA PGRI 6 Banjarmasin involving 31 class X students and 20 class *questionnaire,* while in the effectiveness test the data was obtained from students who filled in the data *pre-test*/*post-test.* The following are the results of the data obtained by researchers:

1. Validity Test Result Data

Table 4. 1 Validity Test Results

Field Aspects of Evaluation	Validator Assessment Score					Amount	Replay
	V1	V2	V3	V4	V5		
Media	4,0	3,8	4,1	3,6	4,5	20,0	4,0
Language	4,1	3,9	4,0	3,7	4,1	19,8	4,0
Material	4,1	4,0	3,9	37	4,5	20,2	4,0
Amount							12,0
Rerate							4,0
Category							Valid

The results of the validity test data based on the assessment aspects assessed by 5 expert validators showed that the media assessment data was at 4.0 in the valid category, the language assessment was at 4.0 in the valid category, and the material assessment was at a score of 4.0 in the valid category. The results of the three assessments are then added up and a result of 12.0 is obtained which will then be divided by the frequency of the number of items (three main aspects, media, language and material) to obtain a total average result of 4.0 with a category including "Valid". The use of learning media fosters students' interest in learning new things in the learning material that has been presented by the teacher so that it can be easily understood (Nurrita, 2018). BioSik learning media obtained a validity level in the valid category so that it can be considered as an innovative media that can foster interest in learning and as an intermediary for delivering material by teachers so that it is easily understood by students.

2. Practicality Test Results Data

Table 4. 2 Practicality Test Results (Teacher Respondents)

Trial 1	Amount	Rerate	Category
Suratno W. S., S.Pd.	18,0	3,6	Practical
Trial 2	Amount	Rerate	Category
Nur Amelia, S.Pd.	25,0	5,0	Very Practical

The results of the practicality test data for teacher respondents obtained an average score in trial (1) of 3.6 in the "Practical" category and trial (2) obtained an average score in the practicality test assessment of 5.0 in the "Very Practical" category.

This proves that BioSik learning media is practical and can be used in the learning process of students anytime and anywhere.

Table 4. 3 Practicality Test Results (Students' Responses)

Trial 1	Respondent			31 Students	
	Very Practical	Practical	Quite Practical	Amount	Replay
	7	16	8		
PGRI 6 SMA Banjarmasin	33,5	64,3	24,9	122,7	4,0
Category					Practical

The results of the media practicality test data in trial 1 at SMA PGRI 6 Banjarmasin with a total of 31 student respondents obtained an overall average score from the assessment results through filling out a questionnaire/*questionnaire* is 4.0 with the media category stated as "Practical". The average score of the overall practicality test results is obtained from adding up the average scores of each student respondent which is then divided by the total number of students. Apart from that, data from the practicality test results in trial 2 at SMA PGRI 1 Banjarmasin obtained the following data:

Table 4. 4 Practicality Test Results (Students' Responses)

Trial 2	Respondent			20 Students	
	Very Practical	Practical	Quite Practical	Amount	Replay
	10	3	7		
PGRI 1 High School Banjarmasin	49,4	12,1	21,5	83,1	4,2
Category					Practical

The results of the media practicality test data in trial 2 at SMA PGRI 1 Banjarmasin obtained an average assessment score of 4.2 in the "Practical" category. This average score is the result of adding up the average scores of each respondent which is then divided by the number of respondents. The number of student respondents in trial 2 was 20 people. Yuanti (2012) in (Ramadanni and Unsil, 2020) stated *mobile learning* is a learning system that uses applications *android* and is unique because students can access materials, directions and applications related to learning anytime and anywhere.

3. Effectiveness Test Results Data

Table 4. 5 Effectiveness Test Results

Trial 1						
Subjects: 31 Students						
Meeting 1						
Respondent	Effective	Quite Effective	Less Effective	Amount	Percent (%)	Category
	13	18	0			
Results	1240	1180	0	2420	78	Effective
Meeting 2						
Respondent	Effective	Quite Effective	Less Effective	Amount	Percent (%)	Category
	14	14	3			
Results	1363	945	150	2458	79	Effective

The results of the media effectiveness test data in trial 1 at SMA PGRI 6 Banjarmasin obtained that the percentage at the first meeting was 78% with the criteria for media effectiveness being effective, while at the second meeting the percentage obtained by researchers was 79% with the criteria being effective. In trial 2 the following results were obtained:

Table 4. 6 Effectiveness Test Results

Trial 2						
Subjects: 20 Students						
Meeting 1						
Respondent	Effective 13	Quite Effective 5	Less Effective 2	Amount	Percent (%)	Category
Results	1300	343	80	1723	86	Effective
Meeting 2						
Respondent	Effective 15	Quite Effective 5	Less Effective 0	Amount	Percent (%)	Category
Results	1480	334	0	1814	91	Effective

The results of the media effectiveness test in trial 2 at SMA PGRI 1 Banjarmasin obtained a percentage of 86% with effective criteria when the researcher carried out a media effectiveness test at the first meeting, while at the second meeting the researcher obtained a media effectiveness percentage of 91% with effective criteria. Based on this, a conclusion can be drawn that the level of BioSik learning media that researchers have developed is in the "Effective" category when used as a medium to support the learning process in the classroom. The role and benefits of technological development as a learning medium is that it can increase learning motivation and student learning outcomes (Chuang, 2014: 1977) in (Mardiana and Hadromi, 2020).

4. Conclusion

Based on the results of research on the development of BioSik learning media using *power point* for class X high school students it can be concluded as follows:

1. The results of the BioSik media validity test (Fun Biology) involving 5 expert validators are "Valid" and can be used and intended to support the learning process of students in schools.
2. The results of the BioSik (Fun Biology) media practicality test involving teacher and student respondents were "Practical"
3. The results of the BioSik (Fun Biology) media effectiveness test involving class

References

Andrian, J., & Maksum, H. (2020). Development of Android-Based Learning Media in The Subjects of Planning and Installation Video Audio System. *EDUTEC : Journal of Education And Technology*, *3*(2).

Astuti, L., Wihardi, Y., & Rochintaniawati, D. (2020). The Development of Web-Based Learning Using Interactive Media for Science Learning on Levers in Human Body Topic. *Journal of Science Learning*, *3*(2), 89–98.

Firmadani, F. (2020). Media Pembelajaran Berbasis Teknologi sebagai Inovasi Pembelajaran Era Revolusi Industri 4.0. *KoPeN: Konferensi Pendidikan Nasional*, *2*(1).

Imansari, A., Umamah, N., & Na'im, M. (2019). The usage of e-book as learning media through the sigil application in history. *IOP Conference Series: Earth and Environmental Science*. https://doi.org/https://doi.org/10.1088/1755-1315/243/1/012155

Isrokatun, I., Hanifah, N., Abdul, Y. R., Rosmiati, R., & Khoerunnisah, R. (2023). The Development of Android-Based Learning Mobile App to Practice Critical Thinking Skills for Elementary School Students. *Pegem Journal of Education and Instruction*, *13*(2), 161–172.

Ma'aniyah, S. (2019). *Pengembangan Media Kartu Gambar Berbasis Make A Match Dalam Pemahaman Konsep Materi Gaya Sekolah Dasar*. Fakultas Ilmu Pendidikan PGSD UNESA.

Mardiana, A. D., & Hadromi, H. (2020). The Development of Interactive Learning Media Based Android Application Using Adobe Flash in Conventional Filing System. *Journal of Vocational and Career Education*, *5*(1). https://doi.org/10.15294/jvce.v5i1.26759

Nefianthi, R. (2016). Pengembangan Perangkat Pembelajaran Biologi Model KNOS-KGS Pada Konsep Ekosistem Kelas X Semester Genap. *Lentera: Jurnal Pendidikan*, *11*(1). https://doi.org/10.33654/jpl.v11i1.429

Nurrita, T. (2018). Pengembangan Media Pembelajaran Untuk Meningkatkan Hasil Belajar Siswa. *MISYKAT: Jurnal Ilmu-Ilmu Al-Quran, Hadist, Syari'ah Dan Tarbiyah*, *3*(1), 171. https://doi.org/10.33511/misykat.v3n1.171

Putra, R. E., Kurniaman, O., & Noviana, E. (2023). Development Of Visual Basic For Application (Vba) Quiz Games Learning Media In Social Sciences (Ips) In Elementary Schools. *Education Technology Journal*, *2*(1).

Ramadanni, E. M., & Unsil, N. (2020). Pengembangan Media Pembelajaran Berbasis Aplikasi Android Menggunakan Power Point Ispring Suite 9 dengan Model POE2WE pada Materi Teori Kinetik Gas. *Literature Review. JPFT (Jurnal Pendidikan Fisika Tadulako Online)*, *8*(3). http://jurnal.untad.ac.id/jurnal/index.php/EPFT/article/view/16803

Rismayanti, A. R. &. (2021). Penerapan Model ADDIE dalam Pengembangan Media Pembelajaran di SMPN 22 Kota Samarinda. *Jurnal Fasilkom*, *11*(2), 57–60. https://doi.org/10.37859/jf.v11i2.2546

Sa'diyah, A., Wilujeng, I., & Nadhiroh, N. (2021). *The Effect of Using Smartphone Based Learning Media to Improve Students' Critical Thinking Skills During Covid-19 Pandemic*. 374–379. https://doi.org/10.2991/assehr.k.210326.053

Safitri, E., & Cacik, S. (2023). Pengembangan Media Interaktif Berbasis Google Sites Untuk Meningkatkan Hasil Belajar Siswa Kelas V Sekolah Dasar. *ELENOR: Elementary School Journal*, *2*(1).

Sunarto, M. J. D., Hariadi, B., Sagirani, T., Amelia, T., & Lemantara, J. (2020). MoLearn, a Web-and Android-Based Learning Application as an Alternative for Teaching-Learning Process in High Schools. *International Journal of Instruction*, *13*(1).

The Code Mixing to instruct element of Kebhinekaan Global in Elementary School

Yudha Adrian, Noormaliah, Khairunnisa
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Elementary School Education Study Program
Banjarmasin, Indonesia
yudhaadrian@upk.ac.id
normaliah@upk.ac.id
khairunnisa29079@gmail.com

Abstract. This research focus on the elements of Kebhinekaan Global of Profil Pelajar Pancasila. The research method used was qualitative research. The data collection process was through observation activities, and interviews with research objects. Data analysis through stages: data reduction, data presentation, and data conclusion. The results were that students as long as teachers use Indonesian and Banjar as alternative languages show that almost all of the students show good interest in learning during the learning process. The enthusiasm of students increased in answering several questions asked by teachers during the learning process. There is an increase in student scores showing good grades where the questions assigned to students can be done by students before the end of the learning time.
Keywords: Code mixing, Kebhinekaan Global, Elementary School

1 Introduction

The curriculum is an important component in education, the curriculum has a strategic role in the process of implementing education within the scope of the educational unit. The goals and direction of the curriculum over time will experience shifts and changes in line with the dynamics and needs that exist in the world of education today which can be caused by various factors such as internal and external factors in the world of education itself. Similarly, what is happening now is that the change in the new curriculum that we know as the Independent or Independent Teaching curriculum is a challenge for educators and students. The Independent Curriculum is called a prototype curriculum, there are also those who give the nickname of improving the previous curriculum or the 2013 curriculum which adjusts to the conditions of society after post-pandemic changes. The Independent Curriculum is the forerunner of the curriculum that can be applied by education units in vulnerable areas in 2022/2025.

This independent curriculum has several characteristics where it is considered to be able to restore post-pandemic learning, the first is project-based learning (project-based learning) to develop soft skills and character of students, the second focuses on essential materials, and the third is that teachers are given space to export learning based on students' abilities (H, 2023).

In the independent curriculum, there are three characteristics that bind it so that there are prominent differences from this curriculum and the previous curriculum. The development of soft skills or project-based learning includes faith, piety, and noble morals; mutual cooperation; global diversity; Independence; critical reason; And creativity is one of the three characteristics that distinguish this curriculum. The six elements that exist in the characteristics of the Merdeka curriculum are often known as the term P5 or the Pancasila student profile where each element of the Pancasila student profile represents the competencies that are expected to be possessed by Indonesian students. If you look more clearly, the six elements in the Pancasila student profile not only focus on the strength of the cognitive level but also focus on the development of students' behavior and skills. In achieving the six elements of the Pancasila student profile, the government formulated the main themes that were formulated into topics that could later be adapted by the education unit (Sudibya, Arshiniwat, & Sustiawati, 2022).

The six elements in the Pancasila student profile provide an opportunity for students to explore further about important issues or topics, both in global life and the surrounding culture. (Nafaridah, Ahmad, Maulidia, Ratumbuysang, & Kesumasari, 2023), in addition, these six elements can be an illustration of teachers in carrying out the learning process that is linked to the independent curriculum where teachers can further export how the learning process can provide learning facilities that are integrated not only to students but also to the curriculum by integrating the elements of the Pancasila student profile. can create effective learning in the classroom.

In a study conducted by Sumorangkir et al. 2024 in (Andini, Sukardi, & Wahidah, 2024) it was stated that the implementation of independent learning had a good impact on the influence of participants' active learning. In learning, teachers can innovate in learning that adjusts to the learning style, learning readiness and ability of students. In the learning process itself, teachers not only instill knowledge to students but also cultivate a soul with character in accordance with the noble values that exist in Pancasila or what is called the form of the Pancasila student profile. Each element of the Pancasila student profile has its own role in shaping the character of both youth and students of the nation, such as in the second element of the Pancasila student profile "global diversity" where students can maintain the identity of the Indonesian nation, and can be open to other cultures as a form of appreciation and acquaintance with the culture. (Dewi & Putri, 2022). The element of global diversity is one of the elements that teachers most often apply in learning without realizing it.

The global element in the Pancasila student profile does not only discuss global life but also includes environmental conditions, including culture and its elements in the environment around students. The aim is that students have a clear identity, and are able to show themselves as a representation of their culture, and have strong knowledge and are open to the presence of various regional cultures and global cultures (Kiska, et al, 2023).

The role of teachers in instilling global diverse characters in students can be with various techniques such as the use of regional languages in the introduction of learning as one of the strategies to approach students, both individually and in groups. With this approach, students can not only increase their learning motivation but also improve their learning outcomes and instill a globally diverse character. In one of the elementary schools in Banjarmasin, to be precise, SDN Pasar Lama 3 makes regional languages as one of the learning approaches for its students to motivate and provide varied learning experiences for their students. From this research, the author wants to describe the learning process at SDN Pasar Lama 3 starting from preparation, learning process and learning evaluation.

2 Method

This research is qualitative research. The research method uses descriptive data in the form of written or spoken language from an individual or group of people who can be observed. The procedures or stages of this qualitative type of research include, namely, formulating problems as the focus of research, collecting data on the field, analyzing data, formulating study results and compiling recommendations for making conclusions. In line with research from (Harahap, 2020)

This research was carried out at SDN 3 Pasar Lama 3 in class 2 C in the 2024/2025 school year. This data was taken at the time limit of October 16, 2024. In this study, a sampling research method was used, namely purposive sampling. Purposive sampling is a sampling method that is chosen with special consideration (Hardani, 2020 in (Suryaningsih, Maksum, & Marini, 2023)).

In this purposive sampling, there are special criteria that are the basis for the selection of samples by the researcher, namely teachers and students in grade 2 C only, where during observation there is an overview of the use of regional languages as learning instructors from teachers, where the implementation of learning is depicted in the form of a global diversity dimension.

In this study, two instruments were used, namely interview and observation instruments. Interviews were conducted to find information from teachers and students, and observations were made to see firsthand the activities and learning process directly. This data analysis technique was taken using three stages of activities, namely reduction, display, and drawing conclusions in accordance with the data analysis technique according to Miles and Huberman in (Suryaningsih, Maksum, & Marini, 2023)

3 Findings and Discussion

From the results of the observation process and interviews conducted with two people, the first principal and the second homeroom teacher of grade 2 C. It was found that SDN Pasar Lama 3 school has implemented an independent curriculum in its learning process, the application of this independent curriculum has been overall from grade 1 to grade 6. The entire learning process has applied the concept of learning in line with the independent curriculum.

In the Independent curriculum, teachers contribute collaboratively and effectively by developing the school curriculum to organize and compile materials, books, techniques and learning content. The participation of teachers in the development of this curriculum is important to adjust the content of the curriculum to the needs of students during learning in the classroom. (Anggraini, Yulianti, Faizah, & Pandiangan, 2022). Preparing for the learning process is the responsibility of teachers. The teachers can innovate in facilitating students according to the abilities, skills, and learning styles that exist in each individual student. One of the things that teachers usually prepare in preparing for learning is to design learning that is suitable for students or what is nowadays known today as a learning module. The teaching module used in the Merdeka curriculum is a document that contains learning objectives.

The steps, media, and assessments that adjust to the topic based on the flow of learning objectives or ATP (Rahmadayanti & Haroyo, 2022). Based on the results of interviews and observations conducted by the author, it was found that before starting the learning process, the homeroom teacher of grade 2 C prepares a learning tool in the form of a teaching module that is prepared by the teacher. The teaching modul is adjusted to the students' initial level of understanding of students, learning styles, and knowledge. In addition to preparing teaching modules, teachers also prepare other learning media such as learning books, learning tools in the classroom. Other learning tools are also needed such as whiteboards, markers, and checking students' preparation by reminding students equipment before starting learning. The teacher checks the preparation that the teacher sees such as notebooks, assignment books, and student stationery.

During this preparation process, the teacher makes the local language as the companion language of Indonesian in preparing students before starting learning or giving instructions to students to prepare. The use of local languages or more specifically the Banjar language is not included directly in the module that is made. However, the use of Banjar tetrap language is used as an alternative language used by teachers during preparation for learning, such as inserting students' readiness before learning in class

According to Noermanzah in 2015 in (Suwija, 2022), teachers can direct students to be able to learn the meaning and context of other sciences. The students are instructed to choose and select and use the right words to express various discourses or point of view from a text or thinking pattern so that language becomes an alternative to convey information to others.

Similarly, in the implementation of the learning process at SDN Pasar Lama 3 Banjarmasin, teachers use Banjar language as an alternative language to accompany Indonesian in learning, in the process of explaining and presenting the material, teachers are more dominant in using Indonesian in explaining learning materials. Banjar or regional languages are used as alternative languages used by teachers in asking students about the material being taught or approaching individual students or learning groups who lack mastery of the material in class.

Usually in an individual approach, teachers use Banjar language more in approaching students, the aim of provide motivation and strengthening of learning to students. In group approach, teachers use Banjar language as a classroom management approach strategy, where teachers use it to manage several students who make noise in the classroom.

In the results of research conducted by (Laras & Rifai, 2019), it was found that interest is an encouragement that a person has to achieve a goal that they want to achieve optimally. Motivation is an energy or attraction of behavior in a certain direction. And learning outcomes according to KBBI are the abilities that a student has after learning, which is in the form of cognitive, affective or psychomotor abilities caused by experience. So, in the process of learning outcomes, there is something that influences, namely the interest and motivation of learning that students have which takes place continuously and continuously.

From the results of the observations made by the author, it can be seen that the learning results shown by the students as long as the teacher uses Indonesian and Banjar as an alternative language in showing that almost all of the students show good interest in learning during the learning process. The students are more enthusiastic in answering some of the questions raised by the teacher during the learning process. In the learning activity, the teacher asked several questions related to the material taught. Almost all of the students showed high enthusiasm in answering the questions given by the teacher. In addition, when the teacher gives written questions to students, students also show high interest in answering the question, where almost all of the students complete the tasks given by the teacher before the time agreed upon by the teacher and the students.

The results of the individual approach carried out by the teacher in Aman. The teacher uses the Banjar language as an alternative language in delivering material to students. It also shows quite good results, it can be seen that some students who are facing in the learning process can also perform the tasks given well. Even though they still need guidance from the teacher in answering some questions that are considered difficult for the students. Apart from that, the approach taken by teachers in groups also to manage the classroom also shows good results where the class becomes more conducive and directed.

4 Conclusion

In conclusion, the use of banjar language as an alternative language to accompany Indonesian in the learning process has a good impact on students, where by using banjar language students become more enthusiastic in learning preparation and the process, besides that the learning results shown by students also show satisfactory results where almost all of the students can complete the assignment before the specified deadline. In addition to making the banjar language a companion for the Indonesian language in the learning process, teachers also use this banjar language as a classroom management direction for students.

References

Andini, A. A., Sukardi, & Wahidah, A. (2024). Merdeka Belajar: Pengaruh Implementasi Pembelajaran P5 Terhadap Sikap Mandiri Siswa. *Journal of Classroom Action Research*, 585-591.

Sudibya, I. G., Arshiniwat, N. M., & Sustiawati, N. L. (2022). Projek Penguatan Profil Pelajar Pancasila (P5) melalui Penciptaan Karya Seni Tari Gulma Penida pada Kurikulum Merdeka. *Geter Jurnal Drama Seni Tari dan Musik*, 25-38.

Suryaningsih, T., Maksum, A., & Marini, A. (2023). Membentuk Profil Pelajar Pancasila Dimensi Berkebinekaan Global melalui Pendidikan Multikultural di Sekolah Dasar. *Dwija Cendekia: Jurnal Riset Pedagogik*, 1028-1042.

Anggraini, D. L., Yulianti, M., Faizah, S. N., & Pandiangan, A. P. (2022). Peran Guru dalam Mengembangan Kurikulum Merdeka. *Jurnal Ilmu Pendidikan dan Sosial (JIPSI)*, 2829-2723.

Dewi, N. K., & Putri, N. K. (2022). Pembelajaran Bahasa sebagai Penguatan Profil Pelajar Pancasila Berkebhinekaan *Global*. *Seminar Bahasa, Sastra, dan Pengajarannya (Pedalitra II) Pembelajaran Bahasa dan Sastra Sebagai Penguatan Profil Pelajar Pancasila*, 130-134.

H, M. E. (2023). *Implementasi Kurikulum Merdeka.* Jakarta Timur: PT Bumi Aksara Jl. Sawo Raya No. 18, Rawamangun Jakarta Timur - 13220, Indonesia.

Harahap, N. (2020). Penelitian Kualitatif. Medan: Wal ashri Publishing Jl. Ekarasmi Medan Sumatera Utara Cetakan pertama , Maret 2020.

Kiska, N. D., Putri, R. C., Joydiana, M., Oktarizka, D. A., Maharani, S., & Destrinelli. (2023). Peran Profil Pelajar Pancasila untuk Membentuk Karakter Peserta Didik Sekolah Dasar. *Journal on Education*, 4179-4188.

Laras, S. A., & Rifai, A. (2019). Pengaruh Minat dan Motivasi Belajar Terhadap Hasil Belajar Peserta Didik Di BBPLK Semarang. *Journal article // Jurnal Pendidikan dan Pembelajaran Universitas Negeri Malang*, 121-130.

Nafaridah, T., Ahmad, Maulidia, L., Ratumbuysang, M. F., & Kesumasari, E. M. (2023). Analisis Kegiatan P5 sebagai Penerapan Pembelajaran Berdiferensiasi pada Kurikulum Merdeka Era Digital di SMA Negeri 2 Banjarmasin. *Seminar Nasional (PROSPEK II) "Transformasi Pendidikan Melalui Digital Learning Guna Mewujudkan Merdeka Belajar"*, 84-97.

Rahmadayanti, D., & Haroyo, A. (2022). Potret Kurikulum Merdeka, Wujud Merdeka Belajar di Sekolah Dasar. *JURNAL BASICEDU*, 7174-7187.

Rusandi, & Rusli, M. (2021). Merancang Penelitian Kualitatif Dasar/Deskriptif dan Studi Kasus. *Al-Ubudiyah: Jurnal Pendidikan dan Studi Islam (Journal of Educaton and Islamic Studies)*, 1-13.

Suwija, I. N. (2022). Pembelajaran Bahasa Indonesia dan Daerah Sesuai Kurikulum Merdeka Belajar. *SANDIBASA I (Seminar Nasional Pendidikan Bahasa dan Sastra Indonesia I) "Inovasi Pembelajaran Bahasa dan Sastra Indonesia"*, 119-135.

DEVELOPMENT OF WEBSITE-BASED LEARNING MEDIA USING GOOGLE SITES IN INFORMATICS SUBJECTS OF GRADE X SMA NEGERI 1 ALALAK

Yuliani Husna, Asy'ari
Universitas PGRI Kalimantan, Faculty of Science and Technology,
Information Technology Education Study Program
Banjarmasin, Indonesia
husnayuliani8@gmail.com,
asyari153@gmail.com

Abstract. The development of website-based learning media for Informatics subjects at SMA Negeri 1 Alalak reveals several issues based on observations. The learning activities still rely heavily on lecture methods and physical teaching materials or textbooks, leading to lengthy instructional time, a lack of visual examples and images, which makes it difficult for students to understand the material, and results in boring lessons. The aim of using website-based learning media is to facilitate easier access to information and clarify computational thinking material, making the learning process more engaging and effective. This research uses the Research and Development (R&D) method with the ADDIE model, which includes: Analyze, Design, Development, Implementation, and Evaluation. In the Analyze phase, the learning goals are reviewed to ensure alignment with core and basic competencies. The Design phase involves the initial design of the media. In the Development phase, validity testing of the media and material is conducted. The Implementation phase includes small-scale and large-scale trials. Finally, the Evaluation phase assesses the developed learning system to gauge the results of the implementation, specifically through evaluating student learning outcomes. The research findings indicate that the learning media is considered "Feasible" for use in Informatics subjects with computational thinking material, as the material validation received a score of 4.2 (category "Feasible"), media expert assessment reached a score of 4.3 (category "Very Feasible"), and small-scale and large-scale trials each received scores of 4.3 and 4.35, respectively, both in the "Very Feasible" category. The evaluation results show an average learning outcome of 92.9. Therefore, it can be concluded that the learning media is both feasible and effective for use in teaching
***Keyword**: Development of Media, Website, Google Sites, Informatic*

1. Introduction

Education is a process of students in developing talents, potential and skills in establishing life, therefore education should be designed to provide understanding and improve student learning achievement. One of the goals of education is to create a generation of intelligent and skilled Indonesians. Development and technology not only provide convenience and positive impacts for humans. Teachers play an important role in the world of education because they hold the key to the education and learning process in schools. Informatics is a branch of science that studies, designs, and develops computing systems, and the basis for the design is computing related to mathematical modeling and the use of computers to solve scientific problems. (Mushtofa, 2021).

Based on the results of the researcher's observations, the Informatics subject teacher at SMA Negeri 1 Alalak, obtained information that the school had implemented the 2023 new academic year independent curriculum with an additional subject called Informatics, based on the results of the researcher's research and discussion. The researcher found that there were several problems that emerged at the school. Learning activities there also still use the lecture method without being supported by more concrete media in explaining the material about computational thinking. Learning activities also get material explanations with physical media or textbooks so that it takes a long time. The lack of visual examples and images makes it difficult for students to understand the material because it has little

impact on students' memory and is boring and watching so that student learning outcomes tend not to be in accordance with expectations. To help students improve their learning outcomes, one of them is a media. Seeing these problems, it is necessary to develop digital media that has various features that can help teachers explain the material efficiently. One of the digital media developed is website-based media using Google Sites. This learning media has advantages, such as being easy to access from any device connected to the internet and features that support distance learning. Although Google Sites requires an internet connection, this problem can be overcome because the internet network is now wider and does not require a large quota. In addition, many schools have provided Wi-Fi and allowed the use of smartphones to support the learning process.

The use of website-based learning media aims to make it easier for students to access materials and make the learning process more interesting and easier to understand. Thus, this learning media is very important for the teaching and learning process, and if not implemented, the student learning process can be affected. Based on this background, it is important to research the development of website-based learning media in informatics subjects for class X of SMA Negeri 1 Alalak.

2. Methods

The type of research used in this study is development research, commonly known as Research and Development (R&D). Research and Development (R&D) research method is a method used to produce certain products and test the effectiveness of these products (Sugiyono, 2011). In the development research used is the ADDIE development model. The ADDIE model development is a generic learning planning model that provides an organized process in the development of learning materials that can be used for traditional learning (face-to-face in class) or online. From this understanding is the process used to develop products and validate products that will be developed in this study is a website-based learning media using Google Sites in informatics subjects. development models are the ADDIE model, the model consists of five stages of development (*Analysis, Design, Develop, Implement, dan Evaluation*).

The following are the steps for ADDIE development research::

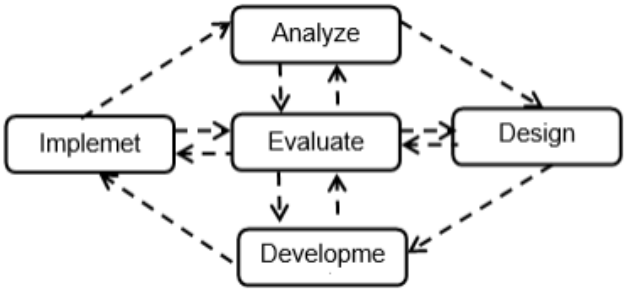


Figure 3.1 ADDIE Development Model (*Tegeh and Kirna, 2013)*

This research was conducted at SMA Negeri 1 Alalak accredited A located at Jl. Brigjend H. Hasan Basri Trans Kalimantan KM.11 RT.02 Handil Bakti Village, Alalak District, postal code 70582. The time of the research and trial was carried out during face-to-face learning in the 2024/2025 academic year. The subjects of this research trial After conducting validation from media experts and material experts. Then the product will be tested immediately. The trials carried out were limited trials of 5 people and large-scale trials (field trials) The test subjects were class X4 students at SMA Negeri 1 Alalak.

In this study, qualitative data is the result of an assessment questionnaire in the form of descriptions, suggestions, and input from material experts and media experts. Qualitative data in the form of the value of each assessment criteria which is described as Very Eligible (SL), Eligible (L), Quite Eligible (CL), Less Eligible (KL), Very Uneligible (STL). Quantitative data in the form of assessment scores, SL = 5, L = 4, CL = 3, KL = 2, SKL = 1. Quantitative data obtained from the questionnaire then into qualitative data with a scale of 5 (Likert scale) which is described as follows: The data collection technique used is by distributing a Likert scale questionnaire with 5 answer options. The scoring used in the validation assessment can be seen in Table 1.

Table 1 Validation Sheet Assessment Scores

Qualitative Data	Scores
Very Eligible (SL)	5
Eligible (L)	4
Quite Eligible (CL)	3
Less Eligible (KL)	2
Very Uneligible (STL)	1

Table 2. Conversion of Quantitative Data to Qualitative Data with a scale of 5

Quantitative data	Formula	Average score	Qualitative Data
5	X > $\bar{X}i$ + 1,8 Sbi	> 4,2	Very Eligible (SL)
4	$\bar{X}i$ + 0,6 Sbi < X ≤ $\bar{X}i$ + 1,8 Sbi	>3,4-4,2	Eligible (L)
3	$\bar{X}i$ - 0,6 Sbi < X ≤ $\bar{X}i$ + 1,8 Sbi	>2,6-3,4	Quite Eligible (C)
2	$\bar{X}i$ – 0,6 Sbi < X ≤ $\bar{X}i$ – 1,8 Sbi	>1,8-2,6	Less Eligible (KL)
1	X ≤ $\bar{X}i$ – 1,8 Sbi	≤1,8	Very Uneligible (STL)

(Eko Putro Widoyoko:2009)

In this study, the value of product feasibility was determined by media experts, material experts and respondents. If the overall final result is at least "3.4 < X ≤ 4.2" with the category "Feasible" then the product of the development is worthy of being used as a learning medium.

3. Results and Discussion

This research produces a product in the form of website-based learning media using Google Sites in informatics subjects for class X at SMA Negeri 1 Alalak. This learning media with computational thinking material was developed using Google Sites.

A. Home Page View (Cover)

The home page display of the media developed in this research and development is:

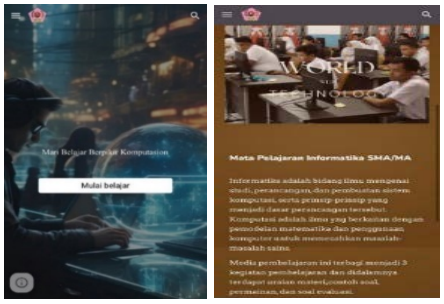


Figure 1 Home Page

B. Main Menu Page View

The initial page display of the Main Menu developed in this research and development contains the menu for objectives, instructions, materials, games, evaluations, and developers as in the following example:

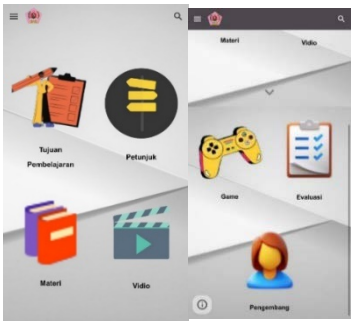


Figure 2 Main Menu Page

C. Learning Objectives Page Display

The initial page display of the Learning Objectives contains an explanation of the learning objectives and there are home, back, next, and menu buttons.

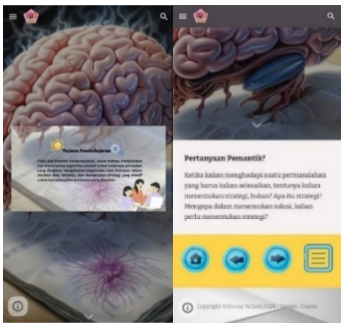


Figure 3 Learning Objectives Page View

D. Instructions Page View

The initial page display of the instructions page contains steps for using the buttons on the learning media.

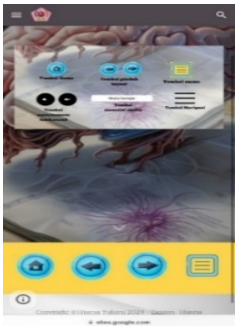


Figure 4 Instructions Page View

E. Material Page View

The home page display of the Material developed in this research and development is that there are several computational thinking materials, searching materials, students can practice it directly to search for search engines, there is a video explanation of the searching game, and there is a number guessing game. Students can also practice it directly to guess the number so that students can solve problems

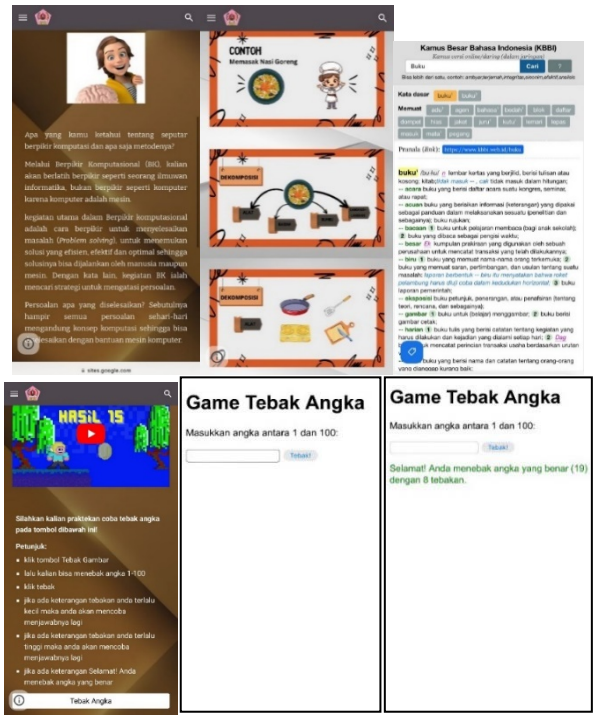


Figure 5 Material Page View

F. Learning Video Page View

The home page display of the Learning Video developed in this research and development is:

Figure 6 Learning Video Page View

G. Game Page View

Figure 7 Game Page View

H. Evaluation Page View

The initial page display of the Evaluation developed in this research and development is:

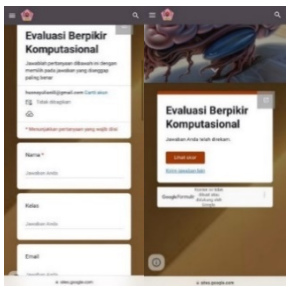


Figure 8 Evaluation Page View

I. Developer Page View

The initial page view of the developer page developed in this research and development is:

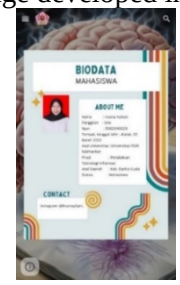


Figure 9 Developer Page View

B. Product Trial

In this study, the validation process of learning media was assessed by 2 media experts 1 and 2 material experts, each of whom is competent and understands about learning media related to media and material. The results of media validation can be seen in Table 3 and 4.

Table 3 Validation of Material Experts

Aspects Assessment	ΣIndicator	Validators 1		Validators 2		Average	Category
		ΣScore	Average	ΣScore	Average		
Contents	6	26	4,33	26	4,33	4,33	Very Worthy
Learning	7	29	4,14	28	4,00	4,07	Worthy
Average						4,2	Worthy

Based on the table above, the average score of the material validation carried out by subject teachers, for the average score on the content aspect reached a score of 4.33 with the category "Very Appropriate", and for the Learning aspect reached a score of 4.07 with the category "Appropriate". Overall, the average score from media experts is 4.2 with the category "Appropriate". The material experts indicated that the material created in the learning media was sufficient, so no further revisions were needed. So it is ready to be validated by media experts.

Table 4 Media Expert Validation

Aspects Assessment	Σindicator	Validators 1		Validators 2		Average	Category
		ΣScore	Average	ΣScore	Average		
Integration	3	11	3,67	13	4,33	4	Worthy
Balance	2	8	4	10	5	4,5	Very Worthy
Letter Form	4	12	3	20	5	4	Worthy
Color	3	11	3,67	15	5	4,3	Very Worthy
Language	2	8	4	10	5	4,5	Very Worthy
interactive	2	8	4	10	5	4,5	Very Worthy
Average						4,3	Very Worthy

Based on the table above, the average score of the validation of learning media carried out by one lecturer and one teacher as media experts, for the average score on the integration aspect reached a score of 4 with the category "Appropriate", the balance aspect reached a score of 4.5 with the category "Very Appropriate", Letter shape reached a score of 4 with the category "Appropriate", Color reached a score of 4.3 with the category "Very Appropriate", Language reached a score of 4.5 with the category "Very Appropriate", and the Interactive aspect reached a score of 4.5 with the category "Very Appropriate". Overall, the average assessment of the media expert validation was 4.3, the assessment results included the range X> 4.2 with the category "Very Appropriate". And the learning media is considered good enough with several suggestions from media experts so that the learning media is ready to use.

Table 5 Small Scale Trials and Large Scale Trials

Penilaian	Average	Category
Small Scale Trial	4,3	Very Worthy
Large Scale Trial	4,3	Very Worthy

Based on the table above, the small-scale and large-scale trials each scored 4.3 and 4.35, both in the "Very Eligible" category. At this stage, no improvements were made, because according to student comments and suggestions, no errors were found in the website-based learning media.

4. Evaluation

After implementing Website-based learning media using Google Sites on informatics subjects, computational thinking material for class X4 of SMA Negeri 1 Alalak, from the results of the evaluation that has been carried out with multiple choice questions, an average score of 92.9 was obtained. Overall, student learning outcomes are better, helping students understand the concept of computational thinking more clearly and interestingly. With the aids, students can more easily remember and apply the material. It can be concluded that learning media is feasible and effective for use in learning.

5. Discussion

Based on the results of the research that has been conducted, the media developed is a website-based learning media using Google Sites for computational thinking material in informatics subjects for class X of SMA Negeri 1 Alalak. The development of this media follows the ADDIE model, which consists of the Analyze, Design, Development, Implementation, and Evaluation stages. At the Analyze stage, an analysis of learning objectives is carried out to ensure compliance with competencies. The Design stage includes media design, while the Development stage involves testing the validity of the media and materials. The Implementation stage includes small and large scale tests, and the Evaluation stage focuses on evaluating learning outcomes. Therefore, the purpose of using website-based learning media using Google Sites is appropriate for use in the learning process and makes it easier for students to access computational thinking materials and make learning activities more interesting and easier to understand. This media can be accessed through various devices such as Android, iOS, laptops, tablets, and cellphones, allowing students to learn from home or anywhere. This is also in line with research by Aldi Divandi Putra (2022) who stated that Google sites is a platform or application from Google that allows the creation of sites without requiring programming skills. Google sites are designed to be easy to operate by inexperienced people, easy to access information and can add files. The process of creating learning media is carried out in stages to produce learning media that is suitable for use. Media assessment consists of 4 stages of assessment, namely media expert validation, material expert validation, small-scale trials, and large-scale trials. The assessment results showed a score of 4.2 with the category "Feasible" from the material validation assessment and the media expert assessment reached a score of 4.3 with the category "Very Feasible," and small-scale and large-scale trials each scored 4.3 and 4.35, both with the category "Very Feasible". This media has proven effective in improving student learning outcomes with an average score of 92.9 helping students understand computational thinking material better and more interestingly, as well as improving their understanding and skills.

6. Conclusion and Suggestions

The conclusion of the research results from the development of website-based learning media using Google Sites on informatics subjects for class X of SMA Negeri 1 Alalak is to produce the development of website-based learning media using Google Sites on informatics subjects for class X of SMA Negeri 1 Alalak with computational thinking material using the ADDIE model. This product development was carried out with the help of Google Sites software. Produce a website created with Google Sites. Website-based learning media on informatics subjects in this research and development is feasible to use, with a score of 4.2 with the category "Eligible," from the assessment of material validation and media expert assessment reaching a score of 4.3 with the category "Very Eligible," and small-scale and large-scale trials each scored 4.3 and 4.35, both with the category "Very Eligible". From the results of the distribution that has been carried out, an average evaluation of learning outcomes of 92.9 was obtained. It can be concluded that learning media is feasible and effective for use in learning. The suggestions that can be put forward in the research and development of website-based learning media using Google sites on informatics subjects for class X of SMA Negeri 1 Alalak The researcher suggests that the next development research increase its level by adding new features to the media, including moving animations and more interesting games. In future research and development of learning media, field trials need to be expanded further.

References

Hasan. (2021). *Media Pembelajaran.* Klaten: CV Tahta Media Grup.

Ikhwan Sujanna, R. (2020). Penggembangan Media Pembelajaran Berbasis Android Pada Materi Gerak Harmonik.Fakultas Tarbiyah dan Keguruan, Universitas Islam Negeri Banda Aceh Darrussalam.

Janah. (2022). Pengembangan Media Pembelajaran Kartika (Kampoeng Matematika) Untuk Kemampuan Pemahaman Konsep Pada Materi SPLDV(Sistem Persamaan Linear Dua Variabel) Skripsi. *Universitas Islam Negeri Walisongo, Fakultas Sains dan Teknologi*.

Liana, E. (2022). Prosiding Seminar Nasional Pendidikan Kimia 2022. *Prosiding Seminar Nasional Pendidikan Kimia 2022*, 104.

Megawati, L. E. (2022). Perancangan Media Pembelajaran TIK Kelas XI Menggunakan Google Sites di SMA Negeri 1 Junjung Sirih. *IRJE : Jurnal Ilmu Pendidikan*, *2*(1), 164–175.

Mushtofa. (2021). *Informatika*. Jakarta: pusat kurikulum dan perbukuaan.

Putra. (2023). Skripsi Pengembangan Media Pembelajaran Interaktif Berbasis Website Menggunakan Google Sites Pada Muatan Ipa Kelas V Subtema Memelihara Kesehatan Organ Pernafasan Manusia Di Sekolah Dasar. *Putra, Ivandi Aldi*.

Sugiyono. (2011). *Metode Penelitian dan Pengembangan.* Bandung: CV Alfabeta.

Tambunan., e. (2022). Pengmbangan Media Pembelajran Interaktif berbasis website (Google sites) pada materi fungsi di SMA NEGERI 15 MEDAN. *JURNAL ILMIAH MULTI DISIPLIN INDONESIA*.

Wahyuni. (2020). Penggunaan Media Pembelajaran Berbasis Web Terhadap Pemahaman Konsep Wawasan Nusantara.

Wibowo, N. (2015). Pengembangan Media Pembelajaran Game Tax Administration Millionaire Quie Untuk Mata Pelajaran Administrasi Pajak. *Wibowo,Nugroho*.

Widiyamoko.A. (2012). Penngembangan Perangkat Pembelajaran Ipa Fisika Dengan Pendekatan Physics-Edutainment Berbantuan Cd Pembelajaran Interaktif. *Prodi Pendidikan Dasar*.

Yunita. (2020). Merancang Media Pembelajaran Berbasis Web.

BOOKLET BASED ON LOCAL POTENTIAL OF TABALONG REGENCY AS A MATHEMATICS LEARNING RESOURCE FOR THIRD GRADE STUDENTS

Yetri Almayanti Yedida, M. Saufi, Hajjah Rafiah
Universitas PGRI Kalimantan, Faculty of Social and Humanities,
Primary School Teacher Education
Banjarmasin, Indonesia
yayytri@gmail.com
muhammadsaufi@upk.ac.id
hajjahrafiah@upk.ac.id

Abstract. A booklet is one of the good learning resources because it conveys information in a simple, engaging, and easy-to-understand manner. Local potential is a valuable asset possessed by a region, such as natural resources, human resources, and local wisdom, which can be used to improve community welfare and regional development. Learning resources are anything that can help someone learn. These sources can be objects, people, places, or ideas that can help someone learn about new things. The acquisition of understanding and skills in mathematical concepts is called mathematical learning. This includes doing math tasks, practicing, and applying that knowledge in everyday life. This research uses the Research and Development (R&D) method. The development employs the ADDIE model, which consists of four stages: analysis, design, development, implementation, and evaluation. The subjects of the trial in this study are teachers and students of SDN Cakung Permata Nusa, grade III, with a total of 21 students. The data collection instruments are validation sheets to measure the validity of the local potential booklet, and questionnaires for teachers and students to measure the practicality of the local potential booklet. The subjects of the trial in this study are teachers and students of SDN Cakung Permata Nusa, grade III, with a total of 21 students. The data analysis techniques used in this study are aspects of validity and practicality. The research results concluded that the booklet media is feasible and has met the criteria of "very valid." Meanwhile, the feasibility test in terms of practicality is categorized as "practical," so the booklet media based on local potential is suitable for use as a learning resource in the third grade.
Keywords: Booklet, Local Potential, Learning Resources, Mathematics Learning

1. Introduction

Mathematics is one of the important subjects taught in Elementary School (SD) to provide students with knowledge and skills for everyday life. Teachers need to use various interesting and relevant learning resources in the teaching process. Mathematics is an important subject in basic education that trains the ability to think logically, systematically, and analytically. However, many students have difficulty implementing math learning in their daily lives.

Tabalong Regency, South Kalimantan, has a wealth of culture and local potential that can serve as a potential learning resource for students. Local potential is the knowledge and values passed down from generation to generation that reflect human adaptation to their environment. Local potential is part of the cultural heritage that needs to be preserved and applied in education, including in mathematics learning. Using local potential in mathematics learning can help students understand mathematical concepts more easily and meaningfully. Local potential is close to students' lives and provides concrete examples in the application of mathematics. Tabalong Regency, South Kalimantan, has a rich and diverse cultural heritage, including manugal and the balian dadas and bawo dances, which embody noble values. The potential of manugal and the balian dadas and bawo dances as sources for teaching mathematics in the third grade needs to be further explored, and this could be a beneficial step.

Booklet as learning resources have the attraction and interest of students due to their simple and appealing design. According to Imtihana et al. (in Dwi Puspita (2023)), booklets with simple

shapes and attractive designs can capture students' attention and become effective and enjoyable learning tools.

Based on the interview results with the third-grade homeroom teacher at SD Negeri Cakung Permata Nusa, Mr. Suryani, S.Pd on February 29, 2024 , he stated that locally- based learning resources in Tabalong Regency are still difficult to find and it is still challenging to find teaching materials relevant to the daily lives of the people in Tabalong Regency, especially for third-grade mathematics. Due to this issue, the author is interested in developing locally-based learning resources that are easy to understand and engaging to study.

The booklet provides practical guidance for educators and students in designing and implementing mathematics-related learning activities by referring to the local potential and wealth available in Tabalong Regency. By utilizing the local wealth of manugal to delve into number concepts and the Balian Dadas and Bawo dances to explore geometry as learning materials, students can more easily understand mathematics concretely through direct experiences with the local potential around them. This opens up opportunities to enhance the understanding and implementation of mathematics in students' daily lives, thereby creating a generation with problem-solving abilities and an awareness of noble values in appreciating local cultural heritage and traditions.

2. Method

Development of a booklet on Mathematics learning materials for Grade III at SD Negeri Cakung Permata Nusa using research and development methods. (Research and Development). The research method used in this study is Research and Development. (R&D). The model used in the development of this media is the ADDIE development model. According to Magdalena et al. (2024), the ADDIE model is an example of a system-based instructional design model. Consisting of 5 stages as follows: Analysis, Design, Development, Implementation, and Evaluation. Below is an illustration of the ADDIE model stages.

This research uses research and development methods to develop booklet based on local potential as a learning resource for elementary school students. The ADDIE (Analyze, Design, Develop, Implement, Evaluate) model was adopted as the development framework. This development research was conducted through an analysis of several related research findings. The research includes, among others: Marselina, et al. (2024). Conducting research with the title "Development of QR-Code Based Booklet Learning Media on the Material of Shape and Function of Human Body Parts (Five Senses) for 4th Grade Students of SDN Dawuhan Lor." The similarity in this research is the use of Booklet media with QR-Code and the ADDIE model. The difference in this research lies in the subject matter and the aspects reviewed; in Marselina's research, the material is on the shape and function of human body parts (Five Senses) and the aspect reviewed goes up to effectiveness, whereas the researcher uses mathematics as the subject matter and the aspects reviewed only go up to validity and practicality. Sopanda, L., et al. (2023) Conducted research titled “Design of E-Booklet Media Integrated with Learning Videos on Critical Thinking Skills in Relation and Function Material.” The similarity in this research with the researcher’s study is that the difference in this research lies in the use of E-Booklet Integrated with Video, relation and function material, and the research model using 3D, whereas the research conducted used Booklet media with QR-Code, mathematics learning subjects, and the model used was the ADDIE model. Pratiwi, Damayanti, & Primastya (2022), Conducted research titled “Development of Booklet Media on the Properties of Flat Shapes to Improve Understanding in 3rd Grade Elementary School Students.” The similarity in this research lies in the use of Booklet media and 3rd grade elementary school students. Meanwhile, the difference in the research is in the material.

At this stage of the research, analysis is conducted. This is a process used to identify the appropriate solution, as well as to determine the expected competencies. At this stage, researchers conduct a preliminary study to analyze the need to develop a product. By conducting this preliminary study, they can find and establish the developed product to fit the conditions in the field. Next, the analysis phase begins. The second step in the ADDIE model is design. This step includes the design of the book, which encompasses components, appearance, and component criteria.

Locally potential-oriented is the component criterion of the book required for this research. The research was conducted through interviews and direct observations at locations based on local potential to support the use of books as a source of elementary education oriented towards local potential. The purpose of the interview was to obtain information about the potential of Tabalong Regency: Manugal and the Balian Dadas and Bawo Dance. At this development stage, the booklet has been completed. Next, the booklet will be adjusted to align with the content of CP phase B.

Then it is followed by an assessment from the validators, including experts in content, language, and design. The validation by the subject matter expert is conducted to evaluate whether the data obtained in the booklet is trustworthy and in accordance with the curriculum. In this case, Mr. H. Abdul Jabar, M.Pd serves as the content expert validator. The validation by the language expert aims to thoroughly analyze the use of language in the booklet. In this case, Ms. Isna Kasmilawati, M.Pd serves as the language expert validator. The validation by the design expert aims to ensure that the developed booklet becomes a good learning resource for elementary schools. In this case, Ms. Rahidatul Laila Agustina, M.Pd serves as the design expert validator.

After the product is declared valid by subject matter experts, design experts, and language experts. A limited practicality test will be conducted with students at SDN Cakung Permata Nusa. After that, students will be asked to fill out a questionnaire related to the locally-based potential booklet that has been created. At this stage, after the product has been tested, the researchers evaluate its usage. An evaluation of the developed product is conducted at this stage through comments, suggestions, and feedback from users. This evaluation is very important for this development stage as it allows the product to be adjusted according to user responses. Comments and suggestions from validators and users are used as references to revise the product, ensuring that it has good quality and can be used by consumers.

The trials to be conducted in the research consist of two stages, namely the validator trial and the practicality test. The purpose of these two trials is to test the validity and practicality level of a product that the researcher will develop, which is a booklet based on local potential as a learning resource. From the validator trial, the researcher receives feedback and suggestions from experts and users regarding the product.

The validation subjects consist of three subjects, namely content expert validators, media expert validators, and language expert validators. The product that has been validated and possibly revised will subsequently be field-tested. The subjects of this trial are Suryani, S.Pd. as the third- grade teacher and the third-grade students. The trial of this booklet media has been conducted at a school, namely SDN Cakung Permata Nusa. It was held on June 8 and June 10, 2024. The type of data used in this research is qualitative data and quantitative data. Data of suggestions and comments from expert validators in content, language, and media of the booklet. Survey data on practicality responded to by teachers and students regarding the developed local potential booklet.

The instruments used in the development of this booklet media are observation, interviews, and questionnaires. Observation is a direct observation technique in data collection conducted to determine what is being studied. Observation was conducted by the researcher in two stages, namely: The first observation was conducted directly at the local potential-based Manugal location in Muara Uya District, Muara Uya Village, Binjai Village, and Kunju Village. For the observation of the Balian Dadas and Bawo dances in Upau District and Jaro District, Namun Village, to collect data regarding local potential-based activities. The second observation was conducted directly at SDN Cakung Permata Nusa, to identify the issues faced by the classroom teachers. Whereas the direct observation was conducted after the booklet was ready for testing.

Interviews are a method of collecting information directly from data sources through verbal communication. Interviews are considered a superior technique because people prefer to talk rather than write. The information obtained is more accurate when interviews are conducted between researchers because it allows for the establishment of good relationships and cooperation. The interview was conducted between the researcher and the informant, Suryani, S.Pd., who is a third- grade teacher at SDN Cakung Permata Nusa. Mr. Denny and Mrs. Yati in interviews with practitioners and customary leaders who became sources of information about the local potential of manugal. Mrs. Nursiah, Mrs. Lidingna, and Mr. Rohani in interviews with practitioners and customary leaders who became sources of information about the local potential of the Balian Dadas and Bawo dances.

From the interviews conducted, the researcher learned about the local potential in Tabalong Regency. Meanwhile, the interview with the third-grade teacher aims to identify issues in the classroom.

In the research and development of the booklet media, a questionnaire was given to students and teachers to assess the practicality of the booklet. This questionnaire is a data collection method used by providing written questions to the respondents. Data analysis consists of two types of analysis: quantitative descriptive and qualitative descriptive. Qualitative descriptive analysis processes data in the form of narratives or sentences collected by researchers from interviews with subjects, as well as comments, inputs, and suggestions given on validation sheets and questionnaires. Quantitative descriptive analysis processes data in the form of numbers that indicate the level of validation calculated by subject matter experts, media experts, and media experts.
To conduct an analysis of the product's validity level, a validation sheet is used to collect data from expert validation results. The purpose of this analysis is to determine the validity level of the created product and to assess the response instrument sheets for students and teachers. The booklet is said to be feasible if it meets at least the valid criteria. After the data is collected, it is then used to analyze it using the following formula:

$$\chi i = \frac{\Sigma S}{Smax} \text{ x } 100\%$$

Source: adapted from Damayanti et al. (2018)
Note:
Smax = Maximum score
ΣS = Total score
χi = Product validity value

In the validation sheet used by expert validators in content, language, and design regarding product validity, there are 4 score options according to the question content following the scoring rules below:

Table 1 score Explanation

Statement	Score
Very Good	4
Good	3
Fair	2
Poor	1

(Modified; Widoyoko, 2018)

The score results obtained from the research are interpreted in the following product validity criteria:

Table 2 Booklet Validation Criteria

Score	Validity Criteria Levels
$3,25 < x \leq 4$	Very Valid
$2,5 < x \leq 3,25$	Valid
$1,75 < x \leq 2,5$	Less Valid
$1 < x \leq 1,75$	Not Valid

(Modified; Widoyoko, 2018)

The percentage score results obtained from the research are interpreted in the following product validity criteria:

Table 3 Percentage of Product Validity Criteria

Criteria for Assessment %	Level of Validity	Explanation
80,00 < x ≤ 100	Very Valid	Can Be Used
60,00 < x ≤ 80,00	Valid	Can be used but needs improvement
40,00 < x ≤ 60,00	Quite Valid	Not recommended for use
20,00 < x ≤ 40,00	Less Valid	Cannot be used
0,00 < x ≤ 20,00	Very Invalid	Forbidden to use

Source: Adapted and modified from Damayanti et al. (2018)

Analysis of the product's practicality level using data from questionnaires given to teachers and students. The purpose of this analysis is to determine the practicality level of the developed product. After the data is collected, the information is then analyzed using the following formulas:

$$\chi i = \frac{\Sigma S}{Smax} \text{ x } 100\%$$

Source: adapted from Damayanti et al. (2018) Note:
Smax = Maximum score
ΣS = Total score
χi = Product validity value

Response questionnaire on product practicality with 5 options according to the content of the questions with the following scoring rules:

Table 4 Product Practicality Criteria

Statement	Score
Very Good	4
Good	3
Fair	2
Poor	1

Source: Adapted from Damayanti et al. (2018)

The percentage score results obtained from the research are interpreted in the product practicality criteria developed in the following table:

Table 5 Percentage of Product Practicality Assessment Criteria

Criteria for Assessment %	Level of Validity	Explanation
80,00 < x ≤ 100	Very Valid	Can Be Used
60,00 < x ≤ 80,00	Valid	Can be used but needs improvement
40,00 < x ≤ 60,00	Quite Valid	Not recommended for use
20,00 < x ≤ 40,00	Less Valid	Cannot be used
0,00 < x ≤ 20,00	Very Invalid	Forbidden to use

Source: Adapted from Damayanti et al. (2018)

3. Results and Discussion

The researcher conducted product development trials using the ADDIE model. The researcher used the ADDIE model in five stages of research: analysis, design, development, implementation, and evaluation. In analysis stage of the activity, the researcher conducts a preliminary study to analyze the needs for developing a product. By conducting a preliminary study, the researcher can identify and establish a product that is developed to suit the conditions in the field. Based on the results of the researcher's interview with the third-grade teacher, Mr. Suryani, S.Pd. at SDN Cakung Permata Nusa, the following results were obtained. As a source of learning in the classroom, the teacher only uses textbooks and supplementary books. The textbooks only contain text and not many pictures, making it difficult for students to understand. Additionally, there are no supplementary books or textbooks related to the local potential of Tabalong Regency as a learning resource, so students do not know much about the local potential in Tabalong Regency.

Analysis

Based on the needs analysis, the researcher found that teachers face difficulties in delivering lessons due to a lack of learning resources and students' knowledge related to the local potential in Tabalong Regency is still insufficient. The researcher analyzes the existing learning outcomes before developing the product. The materials used, which were taken based on CP Phase B in grade III, were analyzed at this stage. In addition, the researchers observed local opportunities in Tabalong Regency such as Manugal, Tarian Balian Dadas, and Bawo. Then, they created a questionnaire and interviewed local leaders and people in Tabalong Regency to gather data to determine the type of product planning to be made. To complete the booklet product titled "Booklet based on the local potential of Tabalong Regency as a learning resource for third-grade students," it was compiled. This research identifies the lack of learning resources relevant to the local potential of Tabalong Regency in third-grade elementary school. To address this issue, a booklet based on local potential was developed. This booklet aims to enrich teachers' teaching methods, enhance students' understanding of local potential, and encourage active student participation in learning.

Design

Activities carried out during the design phase include creating a booklet with a cover, introduction, content, and conclusion; creating assessment sheets for validators on content, language, and design; and creating response sheets for teachers and students. The booklet was designed as attractively as possible with clear images and colors. The tools used in the creation of the booklet are the Canva application and ibisPaint X, as well as QR Code creation through ME QR on the website http://me-qr.com/. At the stage of creating image illustrations, the researcher used the ibisPaint X application in the drawing process. In this process, the researcher was able to create cartoon images that could enhance the appearance of the booklet.

The next activity, after obtaining the desired QR Code display, the researcher integrated it into the booklet layout using Canva. This is the product development stage that will be carried out by the researcher. At this stage, the researcher creates a booklet by considering the content of the booklet, bright colors, and photos taken to attract students' attention. After that, the product is validated by subject matter experts, language experts, and design experts. This is done until the booklet product is declared valid. The assessment activities by the validators from subject matter, language, and design experts are carried out to add and improve the content, substance, and appearance of the booklet to ensure it is suitable for use by third-grade students and teachers. Here is the table of improvements that have been made:

Table 6 The Table of Improvements

Description	After Repair	Before Repair
Validator Materi After reviewing the material that aligns with the local potential of manugal and the balian dadas and bawo dances, changes to CP Phase B. Number and geometry material in the booklet. With the effort to facilitate third-grade students and teachers in understanding the content.		
Validator Bahasa Change 3 to III. Place the name at the bottom.		
The writing of "manugal" has been changed to "manugal" (italicized) because it is a regional language and also applies to "balian dadas" and "bawo." (semua halaman).		

Validator Desain

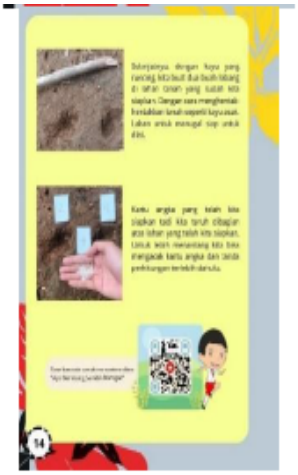
Addition of a children's illustration next to the table of contents.

Addition of illustrations of children and flowers next to the image list table.

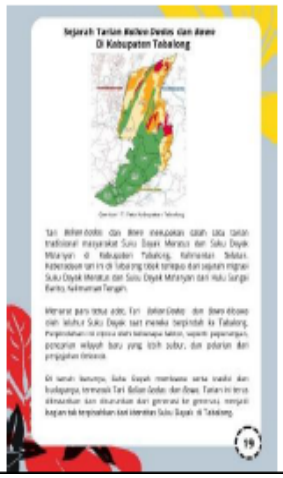
Addition of an illustration of Kalimantan Island depicting the position of Tabalong Regency.

The size of the image is enlarged to make it easier to see.

The addition of a QR code to the booklet is integrated with the YouTube channel: Manugal sambil berhitung.



The addition of an illustrative image depicting the position of Tabalong Regency, to facilitate the depiction of the strategic position of Tabalong Regency in the distribution of the Dayak tribe.



Development

At this stage, the developed product is evaluated. During the data collection process of the research, questionnaires and validation sheets are used to obtain feedback and suggestions from validators and users, which are used as a reference for product revisions to ensure that the product is of high quality and can be used by users. These comments and suggestions are available in the appendix. In the data collection for this research, the assessment was conducted using questionnaires from material, language, and design validators. Here are the data results from the expert validators regarding the product's validity, as shown in the following:

Table 7 Validator Assessment Results for the Booklet

No.	Aspect Being Assessed	Validation Score	Percentage (%)	Remarks
1	Subject	29	90,62%	Very Valid
2	Language	38	86.36%	Very Valid
3	Design	40	90.90%	Very Valid

Next, the validity of the response questionnaire instrument, as assessed by the validators, namely experts in content, language, and design, can be seen in the following:

Table 8 Validator Assessment Results on the Response Questionnaire

No.	Aspects Being Evaluated	Validator	Score	Percentage (%)	information
1.	Teacher Response Survey	Subject	12	85.71%	Very Valid
		Language	15	93.75%	Very Valid
		Design	16	100%	Very Valid
Average					(12+15+16)/3=14,33
2.	Student Response Questionnaire	Subject	9	75%	Valid
		Language	12	100%	Very Valid
		Design	12	100%	Very Valid
Average					(9+12+12)/3=13

From several improvements that have been made, the following booklet product appearance has been produced:

Table 9 Final Booklet Appearance


A. Manugal
Manugal


B. Tari Balian Dauh dan Basu
Tari Balian Dauh dan Basu


Tari Balian


Bab III Penutup


Simpulan
Glossarium
Glossarium


Daftar Pustaka
Biodata Penulis

In the data collection for this research, two stages were conducted, namely the expert validator stage and the responses from teachers and students. The results from the expert validator can be seen in the development stage, which stated that the product was "very valid," and after the product was declared valid, it was tested to see the responses from teachers and students.

Implementation

At the stage of activity, the researcher conducts a trial of the developed product after it has been declared valid by the validator. The researcher will conduct product trials and evaluations by 21 students and 1 third-grade teacher to determine the product's practicality level. The activities conducted at this stage were carried out on June 8, 2024, and June 10, 2024.
The booklet was introduced to the students and teachers of the third grade. The introduction phase of the booklet product during the implementation stage is a crucial step to ensure that the product is well-received by the users. (dalam hal ini, siswa dengan jumlah 21 orang dan 1 orang guru kelas III). This stage begins with the researcher providing a brief explanation of the purpose of creating the booklet, the benefits users will gain, and the general usage of the booklet. Next, a demonstration is conducted by showing directly how to use the booklet. By providing concrete examples of how the booklet can be used in learning activities.
The assessment uses a response questionnaire that has been validated by expert validators. The response questionnaire is data resulting from trials conducted with teachers and students. At this stage, the researcher provided questionnaires and development media to the third-grade homeroom teacher and 21 students with a printed-format booklet to determine the practicality of the local potential booklet of Tabalong Regency as an elementary school learning resource tested in the third grade. The student response questionnaire was given to the students after the trial activity, consisting of 9 aspects of questions. Here are the results of the student response questionnaire:
Table 10 Student Responses to the Practicality of the Booklet No.

	Nama Siswa	Skor	Presentase	Ket.
1	AR	39	86.66	Can Be Used
2.	AWR	42	93.33	Can Be Used
3.	AOP	40	88.88	Can Be Used
4.	BAK	45	100	Can Be Used
5.	CKL	39	86.66	Can Be Used
6.	DR	45	100	Can Be Used
7.	HS	45	100	Can Be Used
8.	INSDP	45	100	Can Be Used
9.	MA	33	73.33	Can be used but needs repair
10.	MB	41	91.11	Can Be Used
11.	MGSU	39	86.66	Can Be Used
12.	MH	29	64.44	Can be used but needs repair
13.	MI	35	77.77	Can be used but needs repair
14.	MNY	33	73.33	Can be used but needs repair
15.	NMA	45	100	Can Be Used
16.	NA	45	100	Can Be Used
17.	NKW	43	95.55	Can Be Used
18.	RS	36	80	Can Be Used
19.	SA	39	86.66	Can Be Used
20.	SAS	45	100	Can Be Used
21.	S	44	97.77	Can Be Used

Evaluation

In the initial stage, validation was carried out by 3 expert validators in the fields of content, language, and design. In conducting the validation, the researcher distributed validation sheets to the validators with a total of 8 questions for the content expert, 11 questions for the language expert, and 11 questions for the design expert. The results of the validation questionnaire are used to assess the validity of the developed product. After the booklet was validated by the validators, the booklet was tested in schools. The results of the validators' assessment can be seen in figure 1.

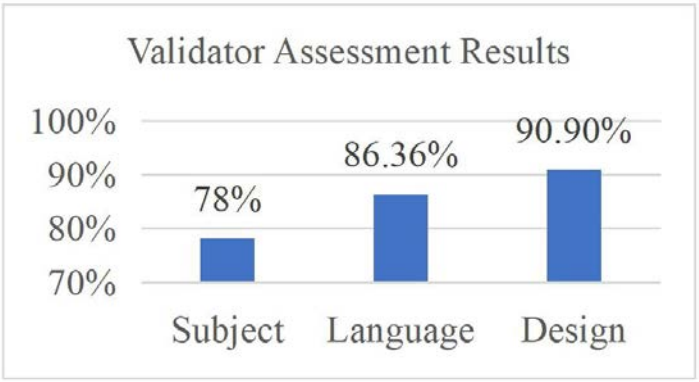


Figure 1 Validator's Assessment Results on the Booklet

Based on Figure 1, from the material expert aspect validated by Mr. H. Abdul Jabar, M.Pd with a percentage of 76%, it falls into the "valid" category. From the language expert aspect validated by Mrs. Isna Kasmilawati, M.Pd with a percentage of 86.36%, it falls into the "very valid" category. From the design expert aspect validated by Mrs. Rahidatul Laila Agustina, M.Pd with a percentage of 90.90%, it falls into the "very valid" category. Next, it can be concluded that the locally-based potential booklet developed as a learning resource for third grade can be considered very valid for use in teaching.

Practicality analysis using a questionnaire for the responses of teachers and students to understand the practicality of the booklet that has been tested on 21 students and the third-grade teacher at SDN Cakung Permata Nusa, Mr. Suryani, S.Pd. The questionnaire was given on June 8 and 10, 2023. Student Response Results, as follows:

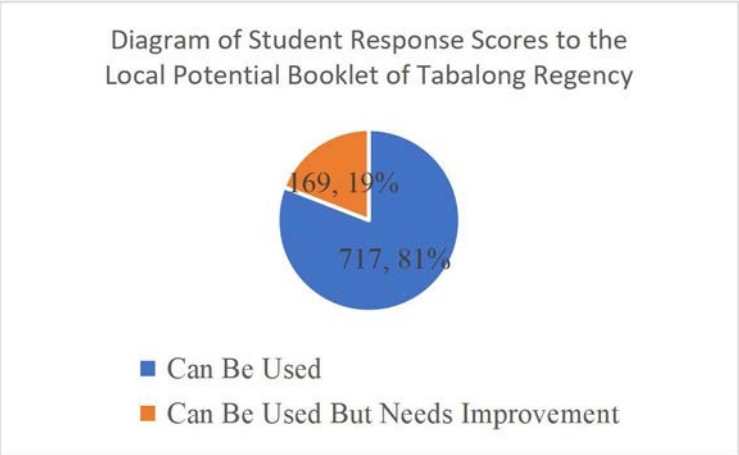


Figure 2 Student Response Score Diagram
to the Local Potential Booklet of Tabalong Regency

Based on Figure 2, the student response questionnaire conducted with 21 third-grade students on the developed local potential booklet, 4 students rated the developed booklet as needing improvement, and 17 students rated the developed booklet as usable. The total score of 4 students who rated the booklet as "usable but needs improvement" was 169. The total score of 17 students who fell into the "usable" category was 717, thus the product was declared to be in the very practical category. Meanwhile, the teacher response questionnaire received a score of 77, also categorized as very practical. Thus, it can be concluded that the booklet as an elementary school learning resource can be considered very practical for use in teaching.

Practicality analysis using a questionnaire for teacher and student responses to determine the practicality of the booklet that has been tested on third-grade students and teachers. From a series of development stages that indicate the product is valid, and the results of the questionnaire calculations of third-grade student and teacher responses in the product implementation stage are declared practical. Thus, it can be concluded that the booklet is deemed suitable for use.

Although the booklet media based on the local potential of Tabalong Regency has some potential to become an effective mathematics learning resource for third-grade elementary school students, there are several weaknesses that need to be considered. The limited scope of the material, the booklet may not cover all the mathematics material studied by third-grade students according to the applicable curriculum. This can lead to gaps in understanding and mastery of the material. The suitability of the content, the level of difficulty, and the relevance of the booklet's content to the students' abilities and needs may not always be appropriate. This can make students feel frustrated or bored, and unmotivated to learn. Limited interactivity, the static and less interactive format of the booklet can restrict active student participation in the learning process. This can make them less engaged and not challenged to think critically and creatively. Dependence on the teacher, the effectiveness of the booklet as a learning resource heavily relies on the guidance and direction from the teacher. Without proper guidance, students may struggle to understand the material and complete the tasks in the booklet.

The validation of the validity of the local potential-based booklet of Tabalong Regency was carried out by expert validators in content, language, design, and questionnaire instruments. After the data is obtained, the researcher makes revisions according to the suggestions and criticisms provided by the validators. The validity assessment obtained from subject matter experts was 76%, which falls into the "valid" category. The aspects of the material evaluated include the breadth of the material in the booklet, the completeness of the information presented in the booklet, and the material's support for the development of the learners. The validity assessment obtained from language experts was 86.36%, which falls into the "very valid" category. The aspects of the material evaluated include the correctness of the grammar used, the ease of understanding the language used, the simplicity of the sentences used, and the clarity of the information provided. Furthermore, the validity assessment obtained from design experts was 90.90%, which falls into the "very valid" category. The aspects of the design evaluated include the sequential presentation of the material, the consistent use of font types and sizes, the inclusion of images, and a non-monotonous design. So it can be said that the material in the learning media must be in accordance with CP phase B for third-grade students. The developed booklet is highly valid for use in learning and can be used to assess practicality during the learning process by teachers and students at SDN Cakung Permata Nusa. The use of QR-Code in the booklet can enhance the practicality of conveying information to students with QR-Code integrated videos on the YouTube channel. This is in line with the research by Marselina, K. A., Basori, M., & Zaman, W. I. (2024). Conducting research with the title "Development of QR-Code Based Booklet Learning Media on the Shape and Function of Human Body Parts (Five Senses) for 4th Grade Students of SDN Dawuhan Lor" shows that the developed booklet learning media is deemed very feasible. The results of this study indicate that the research conducted on QR-Code based booklet learning media can be declared very valid, very practical, and very effective for improving the quality of learning on the material of the shape and function of human body parts for 4th grade students of SDN Dawuhan Lor.

The QR-Code based booklet learning media is declared practical and very good to use. This practicality is obtained from the teacher's response, which scored 93%, and the students' response, which scored 92.5%. The average of the teacher's and students' responses results in a practicality score of 93%. The booklet learning resource is very suitable for use by students when integrated with video, which is also in line with the research by Sopanda, L., Susiaty, U. D., & Hartono, H. (2023) titled "Design of Video-Integrated E-Booklet Learning Media on Critical Thinking Skills in Relation and Function Material." This study shows that the developed booklet learning media is valid for use. The results of this study indicate that the booklet learning media is valid for use.

The research conducted by Pratiwi, A., Damayanti, S., & Primastya, N. (2022), titled "Development of Booklet Media on the Properties of Flat Shapes to Improve Understanding in 3rd Grade Elementary School Students." The results of the research and development of the booklet media are as follows: 1) declared valid by meeting the criteria with a construction media booklet percentage score of 86.25%, material validity 85.45%, language validity 90%, and question validity 75%; 2) declared practical by meeting the criteria with a percentage score of 86.66%; 3) declared effective by meeting the classical learning completeness percentage of 100% for the students' test questions. Based on these percentages, the booklet media is declared valid, practical, and effective for use in the properties of flat shapes material in 3rd grade elementary school. This reinforces the statement that the use of booklets in mathematics learning can make it easier for students to study the material contained in the booklet.

Based on the three previous studies, this research is supported by evidence that the developed booklet is highly valid for use in learning. The booklet based on the local potential of Tabalong Regency has been deemed very valid by the validators, although there are some criticisms and suggestions regarding the developed product.

Based on the results of the third-grade student questionnaire, it can be concluded that the booklet can facilitate students in learning mathematics. The questionnaire for the third-grade students, totaling 21 individuals, shows a practicality result with a percentage of 86.86%, meeting the very valid criteria. In the aspect that was questioned, from the data, it can be concluded that the developed booklet received a positive response from the students. The developed booklet is said to be very practical, as seen from the students' responses in the attached questionnaire in Appendix 20, pages 172-215. This booklet makes it easy to study the local potential in the area where the students live, is interesting and easy to understand, and makes the students aware of the importance of preserving the local potential of Tabalong Regency and feeling proud to be part of the Tabalong community.

The teacher response questionnaire was also given to the teachers to understand the response of the third-grade teachers at SDN Cakung Permata Nusa. From the results of the teacher response questionnaire, a score of 77 with a percentage of 96.25% was obtained, categorizing it as very practical based on the evaluation of the 16 statements in the teacher response questionnaire. The developed booklet is said to be very practical, as evidenced by the teachers' responses in the questionnaire attached on page 138. This booklet facilitates the implementation of the learning process in the classroom, fosters curiosity, and instills a sense of concern among students to preserve the local potential of Tabalong Regency. It is concluded that the potential-based booklet of Tabalong Regency that was developed is very practical for use in learning.

4. Conclusion

Based on the research results, it was concluded that the Booklet media is feasible and has met the criteria of "very valid." Meanwhile, the feasibility test results in terms of practicality are categorized as "practical," so the booklet media based on local potential as a mathematics learning resource in the third grade is suitable for use in teaching.

The final product produced by the researchers is a booklet based on local potential as a source for learning mathematics, which can be utilized by various parties as follows, for students, it is hoped that this research can inform them about the local potential in Tabalong Regency. For teachers, the booklet can be used as a teaching medium. This booklet contains images and explanations about the local potential in Tabalong Regency. Schools can use it as a learning resource in the library. For future researchers, they can continue to test the effectiveness of the product.

References

Dwi Puspita, Aprilia. (2023). Validitas Booklet Sebagai Sumber Belajar MATEMATIKA Berbasis Potensi Berbasis potensi lokalKalimantan Selatan di Pulau Kembang. Skripsi, STKIP PGRI Banjarmasin, Program Studi Pendidikan Guru Sekolah Dasar. Pembimbing: (1) Ria Mayasari, M.Pd. (II) Fujianor Maulana, S.Pd., M.Si.

Marselina, K. A., Basori, M., & Zaman, W. I. (2024). Pengembangan Media Pembelajaran Booklet Berbasis QR-Code Materi Bentuk dan Fungsi Bagian Tubuh pada Manusia (Panca Indra) Untuk Siswa Kelas IV SDN Dawuhan Lor. Elementary: Jurnal Inovasi Pendidikan Dasar.

Sopanda, L., Susiaty, U. D., & Hartono, H. (2023). Desain Media E-Booklet Terintegrasi Video Pembelajaran Terhadap Kemampuan Berpikir Kritis Dalam Materi Relasi Dan Fungsi. Jurnal Riset Rumpun Matematika dan Ilmu Pengetahuan Alam.

Pratiwi, A., Damayanti, S., & Primastya, N. (2022). Pengembangan Media Booklet pada Materi Sifat-Sifat Bangun Datar untuk Meningkatkan Pemahaman pada Siswa Kelas 3 Sekolah Dasar. Jurnal pendidikan tambusai.

Widoyoko, S. E. P. (2018). Penilaian Hasil Pembelajar Di Sekolah. Pustaka Pelajar.

Damayanti, A.E, Syafei, I., Komikesari, H., & Rahayu, R. (2018). Kelayakan Media Pembelajaran Fisika Berupa Buku Saku Berbasis Android Pada Materi Fluida Statis.Indonesian Journal of Science and Mathematics Education.

Magdalena, I., Maulida, A., & Azizah, N. W. (2024). Model Desain Addie Pada Pembelajaran Di Sd Negeri Kedaung Wetan Baru 2. Sindoro: Cendikia Pendidikan.

Integration of Art Education with Other Subjects in High School

Edi Sutardi[1], Rahmani[2], Zakia Nurhalisa[3]
Universitas PGRI Kalimantan, Faculty of Social and Humanities
[1,2,3]Dance Art Education Study Program
Banjarmasin, Indonesia
sutardi@upk.ac.id

Abstract. Art education at the high school level is often positioned as a supplementary subject compared to core subjects like science, mathematics, or language. However, integrating art education with other subjects shows significant potential in enriching the teaching-learning process and supporting students' holistic development. This article aims to examine and describe the benefits and challenges of integrating art into cross-disciplinary learning. By combining project-based approaches, interactive learning methods, and real-world problem-solving, art integration can enhance students' creativity, engagement, and conceptual understanding. This research highlights how art not only helps students visualize abstract concepts in science and mathematics but also strengthens communication and collaboration skills through teamwork. Furthermore, art integration has been shown to increase student engagement in the learning process and develop the critical thinking skills needed in the modern world. However, implementing such integration faces various challenges, including time and resource constraints, as well as a lack of training and support for teachers in applying innovative approaches. This study employs a qualitative method with case studies in several high schools, involving interviews with teachers, classroom observations, and curriculum document analysis to evaluate the effectiveness of art integration. The findings reveal that well-planned and structured art integration can create more relevant and meaningful learning experiences for students. However, successful implementation requires educational reform that supports inter-departmental collaboration, capacity building for teachers, and the development of flexible curriculum policies. This article provides recommendations to strengthen the role of art in the school curriculum, including special training for teachers and adequate resource allocation, to ensure that this approach can have a sustained positive impact on secondary education.

Keywords: Art education, Cross-disciplinary integration, High school, Student creativity, Interactive learning, Implementation challenges

1. Introduction

Art education in senior high schools has long been a subject of debate in the field of education, particularly regarding the significance of art in the learning process and student development. Although often perceived as an additional or supplementary subject, art education plays a crucial role in shaping students' character and skills. Art, whether in the form of visual arts, music, dance, or drama, provides students with a platform for self-expression, imagination development, and enhancement of critical thinking and problem-solving skills. Unfortunately, in an education system increasingly focused on academic achievement and test scores, art education is often overlooked, with limited time and resources allocated to this subject.

The integration of art education with other subjects offers a significant opportunity to address these limitations. A cross-disciplinary approach allows students to explore concepts from multiple perspectives, not only deepening their understanding but also making the learning process more engaging and relevant. For example, when visual arts are combined with science lessons, students can better grasp topics such as anatomy, biology, or physics principles through illustrations and three-dimensional models. Similarly, music can be used to explain mathematical concepts such as rhythm, fractions, and patterns. In this way, art education does not stand alone but becomes an integral part of the overall school curriculum.

Numerous studies have shown that integrating art can boost student motivation and engagement in learning. Students involved in cross-disciplinary art projects tend to exhibit improvements in critical

thinking skills, collaborative abilities, and self-confidence. Additionally, art enables students to perceive and explore the world differently, which is essential in a diverse and ever-changing society. In an era where creative skills are increasingly crucial for future careers and innovation, education that emphasizes art should not be underestimated.

However, integrating art education into the curriculum is not an easy task. Several challenges must be addressed, ranging from budget constraints to a lack of teacher training and readiness. In many cases, teachers feel they do not have enough time to implement an effective cross-disciplinary approach due to an already packed curriculum and strict academic achievement targets. Moreover, many cores subject teachers, such as those in science or mathematics, may feel they lack the skills or knowledge necessary to integrate art into their teaching. At the same time, art teachers might feel that their discipline is merely being "utilized" to enhance other subjects rather than being valued as a standalone field. These factors highlight the need for adequate training and support to enable teachers to successfully integrate art into their teaching.

The need for a more holistic and student-centered education model is increasingly recognized on a global scale. Education systems that focus solely on academic outcomes often fail to equip students with essential life skills, such as innovation, creativity, and adaptability. In this context, art education offers a unique and necessary contribution. Art teaches students to think beyond boundaries, appreciate different perspectives, and solve problems in unconventional ways. Therefore, an integrative approach that incorporates art may serve as a solution to equipping students with the 21st-century skills they urgently need.

Furthermore, art integration can create an inclusive learning environment that empowers all students, including those who may struggle with traditional academic subjects. Art often serves as a powerful medium for students to express their emotions and ideas, fostering confidence in their ability to participate in the learning process. A learning approach that combines art with other subjects can also help build empathy and understanding among students, as art promotes social and cultural awareness.

In addition to these benefits, integrated art education provides opportunities to tailor learning methods to students' needs and interests. Art-based projects can be designed to accommodate various learning styles—whether visual, auditory, or kinesthetic. In other words, integrating art can make learning more inclusive, address diverse student needs, and help them reach their full potential. Art-based projects also foster a sense of belonging and engagement within the school community, as students collaborate to achieve common goals in creative projects.

This article aims to explore how art education can be effectively integrated into the high school curriculum and the benefits and challenges associated with this integration. By analyzing various approaches used in practice, the author hopes to provide valuable insights for educators, policymakers, and the broader community on the importance of strengthening the role of art in education. This study also seeks to identify urgent needs in teacher training and resources, as well as policy measures that can be implemented to facilitate effective art integration.

2. Results and Discussion

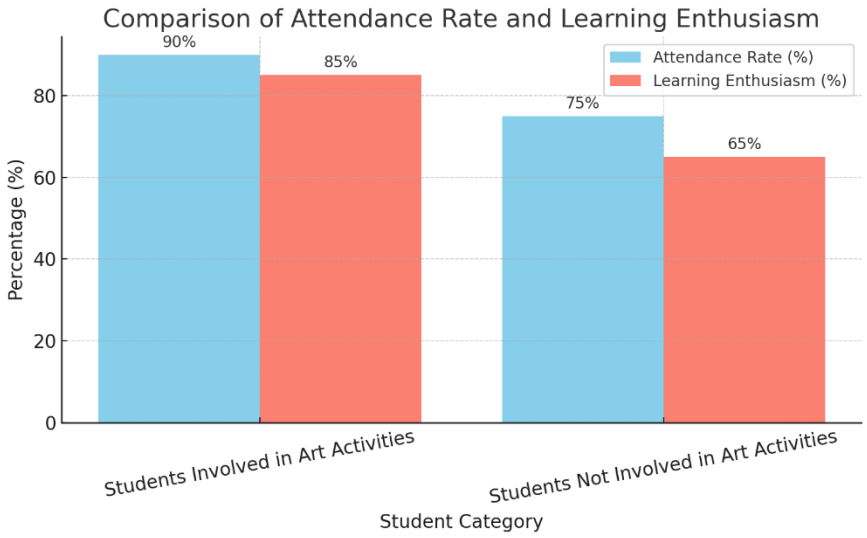
Benefits of Art Integration

1. Enhancement of Creativity and Engagement

The integration of art with other subjects has been proven to significantly enhance students' creativity. In conventional learning processes, students are often subjected to rote memorization methods that limit opportunities for creative thinking. However, when art is integrated, students are encouraged to explore new ideas and solve problems through more imaginative approaches. Research conducted by Csikszentmihalyi (1996) on the concept of "flow" suggests that engagement in artistic activities creates optimal conditions where students can focus and enjoy the learning process. Similarly, studies by Indonesian education experts, such as Prof. Dr. Soedijarto, emphasize that art education plays a crucial role in developing creative and critical thinking skills, which are essential for navigating the challenges of globalization.

Moreover, collaborative art-based projects, such as drama performances or class mural creation, can enhance students' emotional and social engagement. Students develop a sense of ownership over

the final project, motivating them to participate more actively. Data from Indonesia's Ministry of Education and Culture (Kemendikbud) indicates that students involved in artistic activities at school demonstrate higher attendance rates and greater enthusiasm for learning.



2. *Improved Conceptual Understanding*

Art plays a vital role in visualizing abstract concepts, particularly in subjects such as science and mathematics. For instance, in physics lessons, students may struggle to grasp theoretical principles of sound waves or light. With the aid of art, they can create visual diagrams or interactive models that clarify these principles. A study by John Dewey (1934) in his work *Art as Experience* asserts that experiential and visualization-based learning helps students connect theory with reality, making it easier for them to comprehend and retain information.

An example from Indonesia is the *Sekolah Rakyat* (People's School) program initiated by Ki Hadjar Dewantara, which emphasizes the importance of holistic and interactive learning, where art serves as a tool for facilitating understanding. This program demonstrates that an educational approach integrating art not only enhances students' comprehension but also strengthens their analytical thinking skills.

3. Development of Social Skills

Art integration projects not only promote individual engagement but also enhance students' social skills. Collaboration in artistic projects, such as short film production or community-based art initiatives, requires teamwork, communication, and collective decision-making. Students learn to listen to others' ideas, contribute their own, and find solutions collaboratively when facing challenges. Vygotsky (1978), in his theory of social constructivism, states that social interaction is key to learning, and art is one of the most effective ways to facilitate this interaction.

Additionally, research by Prof. Dr. Eko Budihardjo from Diponegoro University highlights that art-based education helps students develop empathy and social awareness. For example, through drama performances depicting social issues, students are encouraged to understand different perspectives and learn to communicate more effectively with others.

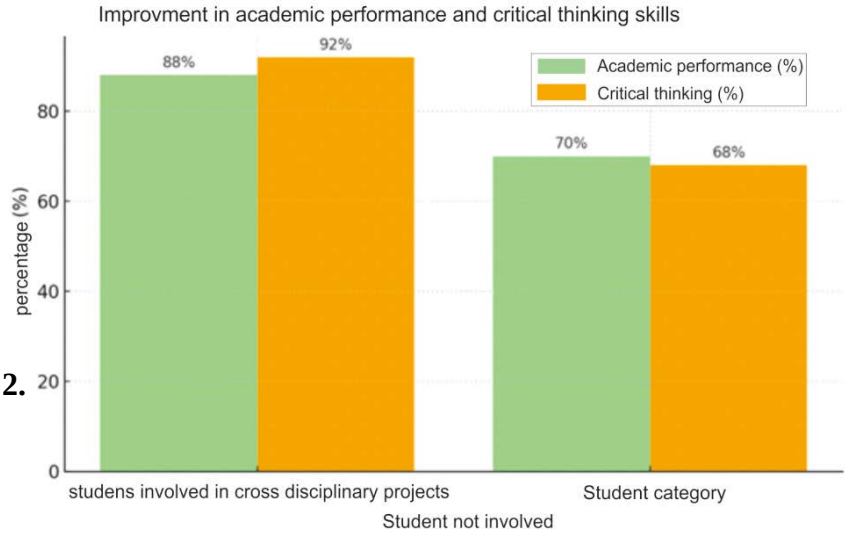
Effective Integration Methods

Cross-Disciplinary Projects

One of the most effective methods for integrating art with other subjects is through cross-disciplinary projects. These projects allow students to apply knowledge from various fields in a single creative and meaningful activity. For example, students may create an ecosystem model that not only incorporates ecological principles from biology lessons but also incorporates aesthetic elements through visual arts. A study by Bequette and Bequette (2012) indicates that cross-disciplinary projects enhance student engagement and deepen their understanding of subject matter.

In Indonesia, this approach has been adopted by several schools implementing the *Kurikulum Merdeka* (Independent Curriculum), which promotes project-based learning. Data collected by Kemendikbud suggests that students involved in cross-disciplinary projects experience improvements in academic performance and critical thinking skills.

2.



Problem-Based Learning Approach

Problem-based learning (PBL) is another method that utilizes art to help students solve real-world problems. For instance, in physics lessons, students can design a bridge that is not only structurally stable but also aesthetically appealing, considering artistic and design principles. This approach is supported by Piaget's constructivist theory (1952), which emphasizes that meaningful learning occurs when students actively engage in problem-solving processes.

Furthermore, the *Sanggar Belajar* program, initiated by the Indonesian Education Institution in several rural areas, has demonstrated the effectiveness of this approach. This program employs art as a tool to address local environmental issues, such as using visual arts for village cleanliness campaigns.

Challenges of Implementation

1. Limited Time and Resources

One of the main challenges in integrating art with other subjects is the limited time and resources available. Teachers often face pressure to complete a packed academic curriculum, making it difficult to allocate time for integrative projects. Additionally, not all schools have adequate facilities or materials to support high-quality art education. According to UNESCO's *Global Education Monitoring* (GEM) report, many schools in developing countries, including Indonesia, face significant challenges in providing creative spaces for students.

2. Lack of Teacher Training

Another major challenge is the lack of teacher training and readiness. Many teachers in Indonesia do not yet possess the necessary skills or knowledge to integrate art into their teaching. Existing teacher training programs often do not provide sufficient preparation for cross-disciplinary approaches. This is where the role of the government and educational institutions becomes crucial in offering comprehensive training.

Bandura's *self-efficacy* theory (1977) suggests that teachers who feel confident in their skills are more likely to implement innovative teaching methods. Data from a survey conducted by Indonesia's *Education Quality Assurance Agency* (*Lembaga Penjaminan Mutu Pendidikan* or LPMP) indicates that

only about 30% of teachers in Indonesia feel confident using art as an integrative tool in their teaching. This highlights the urgent need for better and more sustainable training programs.

3. Resistance to Curriculum Changes

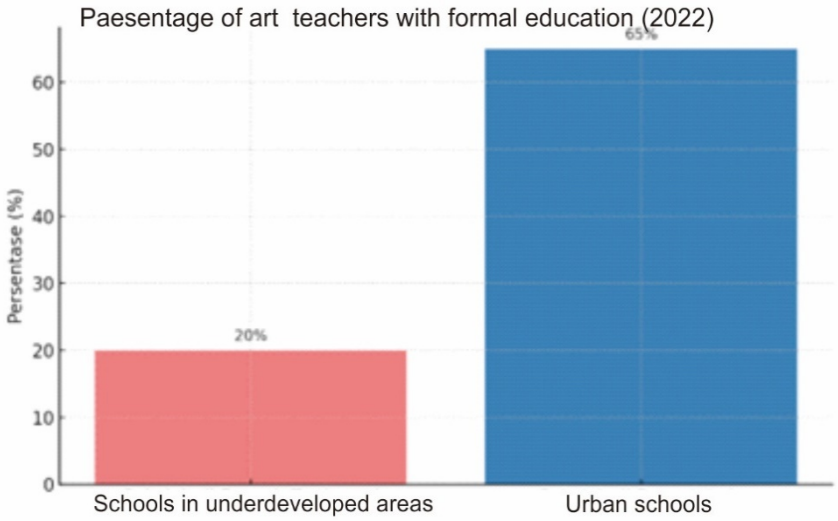
Beyond time and resource constraints, resistance to curriculum changes poses a significant barrier to integrating art into learning. Many teachers and education administrators remain entrenched in traditional paradigms that view art as a supplementary subject. This perspective stems from the belief that art education lacks direct economic value compared to subjects like mathematics or science.

According to Fullan's *institutional change* theory (2007), successful curriculum reform requires understanding, support, and participation from all stakeholders, including teachers, students, parents, and policymakers. In Indonesia, the *Kurikulum Merdeka* (Independent Curriculum) has attempted to address this challenge by providing schools with greater flexibility in designing learning programs. However, its implementation still faces resistance, particularly in schools with limited resources and a lack of deep understanding of integrative approaches.

4. Inequality in Access to Art Education

Another challenge is the unequal access to art education across different regions. Schools in urban areas tend to have better facilities to support art education, such as art studios, creative laboratories, or access to local artists. In contrast, many schools in remote areas lack these facilities, making art integration more difficult to implement. This issue is further compounded by a shortage of trained art teachers in these regions.

A report by the Indonesian *Central Bureau of Statistics* (*Badan Pusat Statistik*, 2022) indicates that only about 20% of schools in underdeveloped areas have art teachers with formal educational backgrounds in the arts.



Potential Solutions to Challenges

To address the challenges above, strategic measures involving the government, schools, and local communities are necessary. Some potential solutions include:

1. Comprehensive Teacher Training Programs

The government and higher education institutions can collaborate to design teacher training programs that focus not only on art pedagogy but also on cross-disciplinary integration. This training should include practical methods for combining art with subjects such as science, mathematics, or history. A *blended learning* approach can be used to provide flexible training opportunities for teachers in remote areas.

2. Partnerships with Local Communities

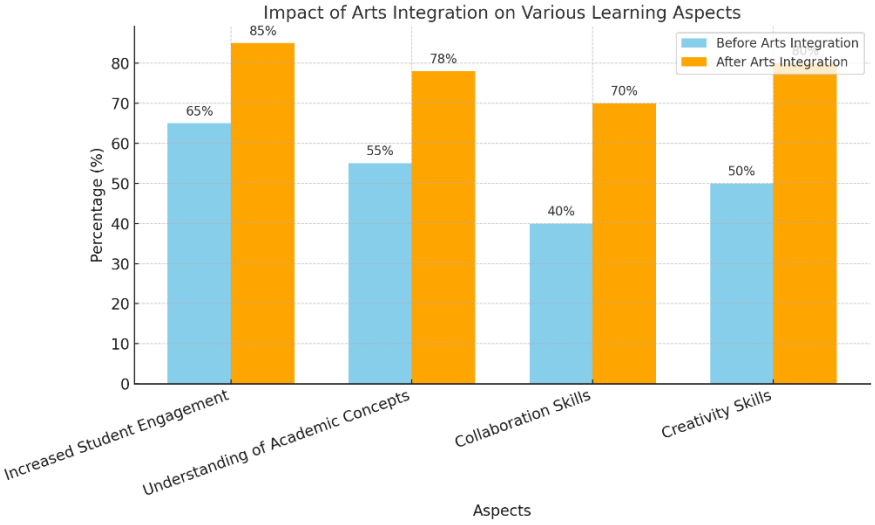
Collaborations with local communities, such as artists or art organizations, can help schools provide more relevant and sustainable art education. Programs like *Sekolah Alam* (Nature School), which utilizes art-based approaches and local cultural heritage, can serve as models for creating contextual and experiential learning.

3. Utilizing Technology to Support Art Education

Technology can be an effective tool for expanding access to art education. Online platforms such as YouTube or educational apps can provide art-related resources that schools in remote areas can access. Technology also enables students to participate in collaborative art projects across different regions.

Analysis Diagram: The Relationship Between Art Integration and Improved Learning Outcomes

Here is a simple analysis that can be visualized in the form of a chart.



1. Increased Student Engagement
   - Before art integration: 65% of students showed moderate engagement.
   - After art integration: 85% of students demonstrated high engagement.
2. Improved Conceptual Understanding
   - Before art integration: 55% of students had an adequate understanding of concepts.
   - After art integration: 78% of students demonstrated deep comprehension.
3. Enhanced Collaboration Skills
   - Before art integration: 40% of students had basic collaboration skills.
   - After art integration: 70% of students showed improved teamwork abilities.
4. Boosted Creativity Skills
   - Before art integration: 50% of students exhibited limited creativity.
   - After art integration: 80% of students showed enhanced creativity.

Policy Recommendations

Based on the findings and discussions, several policy recommendations can be proposed to support the integration of art into the high school curriculum:

1. Increased Budget for Art Education – The government should allocate specific funding to support art facilities, teacher training, and school art programs.
2. Inclusive Curriculum Reform – The curriculum should be designed to provide flexibility for teachers to integrate art into their teaching.
3. Partnerships with the Private Sector – Engaging the private sector, such as companies in the creative industries, can help provide additional resources for art education.

4. Continuous Monitoring and Evaluation – It is crucial to have a measurable evaluation system to assess the effectiveness of art integration and refine approaches based on empirical data.

3. Conclusion and Implications

Conclusion

The integration of art education with other subjects in high schools is an innovative approach that offers various benefits, including enhanced creativity, student engagement, deeper conceptual understanding, and strengthened social skills. Methods such as cross-disciplinary projects and problem-based learning have proven effective in connecting art with core subjects such as science, mathematics, and history. However, implementation challenges such as limited time, resources, and teacher training remain significant barriers that require serious attention.

Through this analysis, it is evident that art education is not merely a supplementary subject within the curriculum but has the potential to enrich students' learning experiences and prepare them for the complexities of the modern world. Policy support, better teacher training, and technological innovation are crucial steps to reinforce this integration.

Implications for Educational Policy and Practice

1. Curriculum Reform to Support Holistic Learning – The national curriculum should be designed to support holistic learning that includes art integration. The government could consider making art a mandatory component in all cross-disciplinary projects, encouraging schools to systematically adopt this approach.
2. Capacity Building for Teachers through Continuous Training – Teacher training should include skills for integrating art with other subjects. Training programs can involve art experts, academics, and cross-disciplinary educators to provide a more comprehensive approach.
3. Investment in Infrastructure and Educational Technology – Improving school art facilities, such as art studios and creative laboratories, should be a priority. Additionally, digital learning platforms focused on art education can be developed to assist schools with limited resources.
4. Raising Awareness through Public Campaigns – Campaigns highlighting the importance of art education can help shift public, teacher, and policymaker perceptions regarding the value of art in learning. Engaging media and the private sector can further amplify this message.

Future Research Opportunities

This study opens opportunities for further research, such as:

1. Measuring the impact of art integration on student learning outcomes across various cultural and geographical contexts.
2. Exploring the most effective art-based learning methods for specific subjects.
3. Assessing the influence of art integration on 21st-century skill development, such as critical thinking, creativity, and digital literacy.
4. Analyzing the role of local communities and culture in enriching art integration approaches.

References

Bequette, J. W., & Bequette, M. B. (2012). *A place for art and design education in the STEM conversation*. Art Education, 65(2), 40–47. https://doi.org/10.1080/00043125.2012.11519167

Bandura, A. (1977). *Self-efficacy: Toward a unifying theory of behavioral change.* Psychological Review, 84(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Badan Pusat Statistik. (2022). *Data pendidikan: Akses dan pemerataan pendidikan seni di Indonesia*. BPS Indonesia.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. HarperCollins.

Dewey, J. (1934). *Art as experience*. Minton, Balch & Company.

Fullan, M. (2007). *The new meaning of educational change* (4th ed.). Teachers College Press.

Kemendikbud. (2022). *Laporan Pendidikan Nasional: Kesenjangan akses pendidikan seni di Indonesia*. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Indonesia.

Ki Hadjar Dewantara. (1977). *Pemikiran, konsepsi, keteladanan, sikap hidup*. Majelis Luhur Persatuan Taman Siswa.

Piaget, J. (1952). *The origins of intelligence in children*. International Universities Press.

Soedijarto, S. (2008). *Landasan dan arah pendidikan nasional kita*. Jakarta: PT Gramedia Pustaka Utama.

UNESCO. (2020). *Global education monitoring report: Inclusion and education*. United Nations Educational, Scientific and Cultural Organization.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Problematics of Indonesian Language Teaching to Grade V Students at SDN Kelayan Selatan 9 Banjarmasin City

Ahmad Sauki[1], Alimuddin A. Djawad[2], Lili Agustina[3]
Universitas PGRI Kalimantan, Faculty of Social and Humanities, Banjarmasin, Indonesia
ahmadsauki010701@gmail.com
Aldin331966@gmail.com
lili.agustina@upk.ac.id

Abstract. The purpose of this research is to describe (1) the form of Indonesian language teaching problematics, (2) factors causing Indonesian language teaching problematics, and (3) strategies to overcome Indonesian language teaching problematics in grade V students of SDN Kelayan Selatan 9. This research uses descriptive qualitative methods. The data sources of this research are primary data from observations, interviews, questionnaires and secondary data obtained from various reference sources. The results showed that the problematics of Indonesian language teaching to grade V of SDN Kelayan Selatan 9 Banjarmasin City: (1) The form of the problem; teachers have difficulty managing the class, choosing learning media, and developing teaching materials that are suitable for student characteristics. Students' lack of understanding, motivation and attention are also obstacles in learning Indonesian. (2) Factors causing the problems; internal factors of teachers' lack of professional skills and external factors of lack of educational resources. (3) Strategies to overcome problems; conducting training for teachers, collaborative teaching strategies, continuous evaluation of learning objectives, materials, and methods, as well as utilization of local resources and cooperation with related parties.

Keywords: *problems, Indonesian language teaching, problematic factors, teaching strategies*

1 Introduction

Indonesian language is one of the subjects in schools, both at primary and secondary school levels. The teaching pattern of each teacher towards Indonesian language subject itself is very varied, some still maintain the old teaching pattern by involving the use of lectures, blackboards, textbooks, and exercises in classroom learning. In addition, some teachers have also implemented more innovative teaching patterns by integrating technology, student-centered learning methods, and experiences that are relevant to the real world.

Rohani (Adib, 2019) states that in order for the teaching process to run well, preparation is needed first. These preparations include creating teaching strategies and designs. These two things are the duties of a teacher in starting the teaching process. Teachers are expected to be able to create effective teaching strategies and designs as optimally as possible, because the main task and responsibility of a teacher is to manage teaching to be more effective, efficient, dynamic and positive.

In Indonesian language learning, this problem is quite complicated, Alimuddin (1992) states that the development of Indonesian language teaching in schools has often received serious attention from various parties. This proves that the optimal achievement of the objectives of Indonesian language teaching itself has not been achieved. This fact is due to the lack of realization of the importance of maintaining the spirit of Indonesian language learning as a whole.

Indonesian language learning is considered to be something that is difficult to teach and learn by students. Learning is more dominant only in the nature of providing information and providing knowledge. In addition, teachers more often carry out learning in the form of giving only performance tasks. Thus, it is necessary to optimize teacher creativity in order to carry out the learning process while still prioritizing the interaction between teachers and students, so that learning objectives can be achieved properly, (Esnita, 2021).

The implementation of Indonesian language teaching in class V of SDN Kelayan Selatan 9 still uses the old method, this can be seen from how the teacher teaches Indonesian in class which only gives

assignments through the package book for students to answer. Therefore, this is a problem that is considered serious because it hampers students' enthusiasm in participating in classroom learning.The impact of this problem is the lack of interest in learning Indonesian, plus teaching patterns that are already considered irrelevant to be applied in this day and age. This is one of the special concerns that must be solved or given a solution that can attract students' sympathy to find out more about Indonesian language learning itself.

Departing from research conducted by Kurniawan, et.al (2020) discussing the problematics of learning Indonesian in the low grades of SDN Kaliurip, Kemiri District, Purworejo Regency, Central Java, the results obtained that the problems faced by teachers are low-grade students who still have difficulty in listening, speaking, and writing. Teacher problems are caused by a lack of time for professional activities where teachers in their daily lives come to school, deliver material, and go home.

In line with research that also has relevance related to the problems of learning Indonesian, namely research conducted by Failasufa, et.al (2022) regarding the problems of Indonesian language which is less attractive to students. This study states that the problem of learning Indonesian is caused by several factors and ways of learning carried out by educators, thus causing a serious impact on interest in learning Indonesian lessons. There are several factors that become learning problems, including factors that come from within students, namely students who are lazy in learning, cool with themselves and their friends, and do not pay attention to the educator's explanation. While factors originating from the school environment include the lack of supporting facilities for students in learning, as well as the lack of intense additional guidance for students. On the other hand, family environmental factors also influence such as financial conditions that are lacking in meeting children's learning needs, lack of parents' participation in paying attention to their children's academic development, and lack of parental motivation in guiding their children at home.

Based on the results of observations made by researchers in class V of SDN Kelayan Selatan 9, several problems were found in the classroom such as a mismatch in teaching methods, lack of enthusiasm for student learning, and lack of student interest in learning. In addition, interviews were also conducted with homeroom teachers V A and V B regarding Indonesian language teaching which focuses more on teachers and textbooks. In this regard, it is rational to research the problematic nature of Indonesian language teaching at SDN Kelayan Selatan 9 in Banjarmasin City in order to gain new understanding and knowledge about Indonesian language teaching at the primary level, especially at SDN Kelayan Selatan 9. This can motivate related parties to participate in improvement efforts.

2 Method

This research was conducted at SDN Kelayan Selatan 9, Banjarmasin City. The subjects in this study were V A and V B homeroom teachers. This research uses qualitative research with a qualitative descriptive approach. Qualitative research is a research procedure that produces descriptive data in the form of written or spoken words from people and observed behavior; the approach is directed at the setting and the individual as a whole (Abdussamad, 2021). Primary data collection techniques with observation, interviews, and questionnaires and secondary data collection techniques through various research references, journals, books, and data analysis sources related to research. Observations were made to the Teachers of Class V A and V B to find out the form of Indonesian language teaching problems. Meanwhile, interviews were conducted to find out what were the problematic factors of Indonesian language teaching and strategies to overcome Indonesian language teaching problems in grade V students of SDN Kelayan Selatan 9. The questionnaire was used to strengthen and complete the research results. The data collection procedures used are observation sheets, interviews, and questionnaires. The data analysis technique used is the Miles and Huberman analysis technique (Sugiyono, 2022) in the form of data reduction, data presentation, and conclusion drawing. The data validity plan was carried out using source triangulation techniques.

3. Results and Discussion

A. Problematics of Indonesian Language Teaching for Fifth Grade Students at SDN Kelayan Selatan 9

The problematic form of teachers in teaching Indonesian to fifth grade students of SDN Kelayan Selatan 9 was found as follows.

1) Teacher Problematics

Based on the results of observations made in examining the problematic forms of teaching Indonesian to fifth grade students at SDN Kelayan Selatan 9, several problems experienced by teachers were found. Teachers of Grades V A and V B of SDN Kelayan Selatan 9 have difficulty in classroom management in involving students because of the diverse discipline of students. In addition, difficulties in using Indonesian language learning media are also problematic because of the different characteristics of students. Meanwhile, in the case of delivering Indonesian language material, teachers do not feel they are experiencing difficulties.

2) Problems in Learning

The problem of students' lack of understanding of learning materials is not a problem that we have only recently seen, this also happens to grade V students of SDN Kelayan Selatan 9 when following the course of Indonesian language learning in the classroom. In addition, teachers of classes V A and V B of SDN Kelayan Selatan 9 also feel that students' lack of motivation in learning Indonesian is a serious problem, because it can be an obstacle in achieving learning objectives. Regarding the problem of students' lack of motivation, on the other hand, the teacher noticed that students tend to pay less attention to what is delivered in front of the class, so that in the end they do not understand the content or meaning of the lesson.

3) Problems with learning objectives, materials and methods

Problems experienced by grade V A and V B teachers at SDN Kelayan Selatan 9 in teaching Indonesian include difficulties in developing teaching materials because they have to adjust to different student characteristics. This problem is considered quite complex, because teaching material is a component that must be studied, examined, studied and used as material that will be mastered by students. In addition to the problem of developing teaching materials, teachers of grades V A and V B of SDN Kelayan Selatan 9 also face problems regarding the use of learning methods, teachers find it difficult to use varied learning methods due to differences in student learning styles, so that the teaching takes place casually. The selection of methods also determines the success of learning, but the problem is that not all teachers can use methods in Indonesian learning to cover each student's different learning styles. In the formulation of focused and clear learning objectives in Indonesian language learning, class V A and V B teachers do not feel that this is a problem in teaching, because there is a reference to the teacher's book in formulating learning objectives. This is considered normal, because teachers already understand how the learning environment of grade V students at SDN Kelayan Selatan 9 is.

4) Problems with learning objectives, materials and methods

Problems experienced by grade V A and V B teachers at SDN Kelayan Selatan 9 in teaching Indonesian include difficulties in developing teaching materials because they have to adjust to the different characteristics of students. This problem is considered quite complex, because teaching material is a component that must be studied, examined, studied and used as material that will be mastered by students. In addition to the problem of developing teaching materials, teachers of grades V A and V B of SDN Kelayan Selatan 9 also face problems regarding the use of learning methods, teachers find it difficult to use varied learning methods due to differences in student learning styles, so that the teaching takes place casually. The selection of methods also determines the success of learning, but the problem is that not all teachers can use methods in Indonesian learning to cover each student's different learning styles. In the formulation of focused and clear learning objectives in Indonesian language learning, class V A and V B teachers do not feel that this is a problem in teaching, because there is a reference to the teacher's book in formulating learning objectives. This is considered normal, because teachers already understand how the learning environment of grade V students at SDN Kelayan Selatan 9 is.

5) Problems with Educational Facilities and Infrastructure

Educational facilities and infrastructure are a supporting part in the success of teaching, one of the problems of the availability of language laboratories at SDN Kelayan Selatan 9 was also mentioned by class V A and V B teachers of SDN obtained based on observation results. This is also a problem because the facilities and infrastructure supporting learning are aspects that cannot be ruled out. Indeed, the school currently has internet access with the installation of wifi and the availability of LCD projectors. However, this is still considered insufficient in maximizing Indonesian language learning to students.

B. Causal Factors of Indonesian Language Teaching Problems among Fifth Grade Students at SDN Kelayan Selatan 9

Based on the teaching problems that have been found, there are several factors that cause problems in teaching Indonesian to fifth grade students of SDN Kelayan 9 Banjarmasin. These factors consist of internal factors and external factors. Internal problems of Indonesian language teaching are factors that come from within the individual or the expertise possessed by the teacher. Some of the problems of Indonesian language teaching that occur at SDN Kelayan Selatan 9, namely the teacher's problems in conducting classroom management and the use of Indonesian language learning media in utilizing educational technology as a learning medium along with the times. In addition, the problems of objectives, materials and methods of Indonesian language learning are also internal problems where teachers find it difficult to compile Indonesian language teaching materials and have difficulty using various Indonesian language learning methods.

External problems of Indonesian language teaching refer to everything outside the control of the teacher's ability, this is one part that contributes to the problematic factors of Indonesian language teaching faced. Some of the problems of Indonesian language teaching that occur at SDN Kelayan Selatan 9 include, problems in learning are also influenced by students' lack of understanding of Indonesian language learning, students' lack of motivation for Indonesian language learning, and students' lack of attention when listening to Indonesian.

C. Strategies for Overcoming Problems in Teaching Indonesian to Fifth Grade Students at SDN Kelayan Selatan 9

In overcoming the problems of teaching Indonesian to fifth grade students at SDN Kelayan Selatan 9, the strategies used by the school are described in detail below.

1) Strategies for Overcoming Teacher Problems

Providing training and professional development especially in Indonesian language teaching because providing regular professional development training can improve teaching skills, classroom management, and the use of learning media. In addition, the teachers also expect support both emotionally and socially from those involved in achieving the desired learning goals.

2) Strategies for Overcoming Problems in Learning

Teaching strategies by collaborating students in discussion rooms can be used as a solution to build social skills and deepen students' understanding of the material. Meanwhile, it was also explained that student-centered teaching strategies can be used to adapt their learning styles, interests and needs to create a more engaging learning environment for all students. It is also important to reprimand students when they are not paying attention or talking during the lesson.

3) Strategies for Overcoming Problems with Learning Objectives, Materials and Methods

Attend self-development training to help improve skills in planning and delivering Indonesian language learning to be more effective. In addition to training, continuous evaluation and adjustments must be made to learning objectives, materials and methods on a regular basis. By evaluating each lesson, we can identify what needs to be changed or adjusted in Indonesian language learning to improve learning effectiveness.

4) Strategies for Overcoming Problems with Educational Facilities and Infrastructure

Utilizing local resources in the school environment and school grounds, collaborating with organizations or companies in donating or providing the necessary learning facilities and infrastructure. Thus, this can be used as a way or alternative solution that can be used in overcoming the problem of the lack of educational facilities and infrastructure in Indonesian language teaching at school.

4. Conclusion

Indonesian language teaching at SDN Kelayan Selatan 9 faces various problems, including teacher difficulties in classroom management and the use of learning media, lack of student understanding and motivation in learning, difficulties in developing teaching materials and using appropriate learning methods, and limited educational facilities and infrastructure.

Problems in teaching Indonesian to fifth grade students at SDN Kelayan Selatan 9 are caused by internal and external factors. Internal factors include teachers' difficulties in classroom management, use of learning media, preparation of teaching materials, and choice of learning methods. Meanwhile, external factors include students' lack of understanding, motivation and attention, as well as limited educational facilities and infrastructure such as the lack of a language laboratory.

Strategies to overcome the problems of Indonesian language teaching at SDN Kelayan Selatan 9 can be done in various ways: (1) teacher problems, can be done by attending regular training and professional development as well as emotional and social support from related parties, (2) problems in learning, can be done by forming discussion rooms and student centered approaches to deepen students' understanding of the material, (3) problems with learning objectives, materials, and methods, it is recommended to attend self-development training, continuous evaluation, and adjustments to learning carried out continuously.

5. Acknowledgements

This research would not have been able to be carried out properly without the support of various parties. The contribution and contribution of the people around played a role in the completion of this research. May all the help, support and sacrifices given to researchers be an acceptable charity and get a reward from Allah SWT.

References

Abdussamad, Zuchri. 2021. *Metode Penelitian Kualitatif.* Makassar: CV. Syakir Media Press.

Adib, Noblana. 2019. Strategi Pengajaran dan Desain Pengajaran. *Jurnal Pendidikan Islam,* 19-38.

Agutina, L., & Kasmilawati, I. . (2024). The Value of Folklore Characters in Literacy Reading Materials in Elementary School. *Tunas: Jurnal Pendidikan Guru Sekolah Dasar*, *9*(2), 167–171. https://doi.org/10.33084/tunas.v9i2.6684

Agustina, I., & Cahyani. L. (2018). Interferensi Bahasa Katingan Lisan dan Tulisan di SMP Katingan Tengah Kabupaten Katingan Kalimantan Tengah (Interference of Spoken And Written Katingan Language In SMP Katingan Tengah Katingan District Central Kalimantan). Jurnal Bahasa, Sastra dan Pembelajarannya, 7(2), 204-212.

Agustina, L. (2017). Analisis Semiotik dalam Kumpulan Cerpen Air Mata Ibuku dalam Semangkuk Sup Ayam. STILISTIKA: Jurnal Bahasa, Sastra, Dan Pengajarannya, 2(1), 54–63. https://doi.org/10.33654/sti.v2i1.378

Agustina, L., & Damayant, L. (2021). Perhatian Orang Tua Terhadap Motivasi Belajar Siswa Kelas V SDN Bitahan 2 Rantau. Jambura Elementary Education Journal, 2(2), 79–89.

Esnita, Yohana, Anggraini. 2021. *Problematika Guru Bahasa Indonesia dalam Menyiapkan Materi Bahan Ajar pada Masa Pandemi di SMA Negeri 2 Bakige.* Skripsi. Padang: Universitas Negeri Padang.

Failasufa, Farah., dkk. 2022. Problematika Bahasa Indonesia yang Kurang Diminati oleh Peserta didik. *Jurnal Diglosia,* 6(2): 539-544.

Fitriawati, F., & Agustina, L. (2021). Kearifan Lokal Dalam ”1001 Peribahasa Banjar Pilihan” Karya Aliansyah Jumbawuya . *Lentera: Jurnal Ilmiah Kependidikan*, *16*(2), 1-13. https://doi.org/10.33654/jpl.v16i2.1500

Hidayah, Y., Agustina, L., & Yuliyana, L. F. (2023). Dampak Pembelajaran Daring Melalui Whatsapp Terhadap Hasil Belajar Siswa Kelas II di SDN Barambai Kolam Kiri 2 Kabupaten Barito Kuala. *Lentera: Jurnal Ilmiah Kependidikan*, *18*(1), 21 - 33. https://doi.org/10.33654/jpl.v18i1.2353

Kaif, Hermayanti, Sitti., dkk. 2022. *Strategi Pembelajaran (Macam-macam Strategi Pembelajaran yang Dapat Diterapkan Guru.* Surabaya: Innofast Publishing.

Kurniawan, Satria, Masda, dkk. 2020. Problematika dan Strategi dalam Pembelajaran Bahasa Indonesia di Kelas Rendah Sekolah Dasar. *Jurnal JRPD,* pp 65-74.

Mayasari, R., Agustina, L., & Maulana, R. (2023). Developing Science Comic Learning Media for Grade IV Elementary School Based on Local Wisdom of South Kalimantan. *Tunas: Jurnal Pendidikan Guru Sekolah Dasar*, *9*(1), 58–66. https://doi.org/10.33084/tunas.v9i1.6206\

Nor Aisyah Rosalina, Lili Agustina, & Irni Cahyani. (2024). Analysis of P5 Implementation at SDN Tanipah 2 Barito Kuala Regency as an Implementation of the Independent Curriculum. *GENIUS: Jurnal Inovasi Pendidikan Dan Pembelajaran*, *2*(1), 41–49. https://doi.org/10.58227/gjipp.v2i1.145

Putra, Darma, Agus. 2023. Problematika Pembelajaran Bahasa Indonesia di Sekolah. *Jurnal Linguistik, Pendidikan Bahasa Indonesia, dan Asing*, 1(1): 1-7.

Rismayani, dkk. 2021. Problematika Sarana dan Prasarana Pendidikan. *Jurnal,Pendidikan Islam, 2(2): 138.*

Sugiyono. 2022. *Metode Penelitian Kuantitaif, Kualitatif, dan R&D.* Bandung: CV. Alfabeta.

Yulianti, V. ., Agustina, L. ., & Asri , G. K. P. . (2024). ANALISIS KEMAMPUAN MENULIS KARANGAN NARASI KELAS V SDN KURIPAN 1 BANJARMASIN. *Jurnal Basataka (JBT)*, *7*(2), 637–645. https://doi.org/10.36277/basataka.v7i2