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Validation of FLIK-5 Innovative Teaching Materials Based on Local Wisdom to Encourage Creativity of Elementary School Students

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Abstract
Learning in elementary schools requires innovative teaching materials that foster students' creativity and instill a love for local culture. However, the teaching materials available are generally still general and have not raised the region's potential, so they do not support the development of creative thinking skills. This research aims to validate the innovative teaching materials FLIK-5 (Interactive Flipbook of Local Wisdom for Grade 5 Students), developed based on the local wisdom of Musi Banyuasin, especially on regional superior product materials. The superior products raised include gambo jumputan cloth, a typical handicraft of the Musi Banyuasin community. The research uses a research and development (R&D) approach with the ADDIE model at the expert validation stage. The research subjects comprised five validators: material experts, media experts, and linguists. Data was collected using a validation sheet that assessed the feasibility aspects of content, appearance, language, and linguistics, then analyzed in a quantitative descriptive manner. The validation results showed that FLIK-5 obtained the "very valid" category in all aspects of the assessment, indicating that this teaching material is suitable for use in learning. These findings prove that integrating regional superior products as a form of local wisdom into digital media can be an effective strategy to encourage students' creativity from the elementary school level.

INTRODUCTION

Basic education is an important foundation in forming students' thinking skills and character (Lestari & Ramadhan, 2023). At the elementary school level, learning focuses on mastering academic materials, developing creativity, and understanding local cultural values that are the nation's identity (Rajović et al., 2024; Muktadir & Wardhani, 2022). One of the main challenges in learning today is the lack of innovative teaching materials that can integrate regional potential into the teaching and learning process (Jamilah et al., 2024). The teaching materials tend to be general and do not fully raise local wisdom, so students lack a contextual, meaningful, and stimulating experience (Munisa et al., 2024; Wibawa et al., 2024; Lestari et al., 2024).

Along with technology development, integrating digital teaching materials in education is getting more attention, especially in interactive teaching materials (Nikou & Aavakare, 2021; Ye et al., 2023). Interactive flipbooks are an effective form of digital teaching material innovation because they can present material with text, images, audio, and animation interestingly and dynamically (Marisda et al., 2024). The advantage of flipbooks lies in their interactive visualizations and flexibility in adapting content to learning needs (Darmawan et al., 2024; Sabitri et al., 2024). In this context, the development of FLIK-5 (Local Wisdom Interactive Flipbook for Grade 5 Students) becomes relevant

because it is specifically designed to present material based on the local wisdom of Musi Banyuasin, especially related to regional superior products, namely jumputan gambo fabric, which is a characteristic of the Musi Banyuasin Community.

Several previous studies have shown that teaching materials based on local wisdom can increase student involvement, foster love for regional culture, and strengthen critical and creative thinking skills (Marisda et al., 2024; Darmawan et al., 2024; Agustina & Fitrihidajati, 2020). However, most research still focuses on printed modules or conventional teaching materials, while studies that integrate local wisdom into interactive digital teaching materials are still limited (Novayana et al., 2021; Septiani & Listiyani, 2021). This indicates a research gap that needs to be answered, namely, how the validity of interactive teaching materials based on local wisdom can be developed systematically and measured in terms of their feasibility to support learning in elementary schools.

This research is here to answer the need to validate FLIK-5's innovative teaching materials at the expert validation stage. This validation includes assessing the feasibility aspects of content, language, appearance, and linguistics. Through a systematic validation process, FLIK-5 can ensure its quality and feasibility as an interactive teaching material that supports learning. Theoretically, this research is based on a constructivist approach emphasizing the importance of real, contextual experiential learning (Shah, 2022; Uji et al., 2022; Sundari et al., 2023). Local wisdom is positioned as a learning resource that enriches students' knowledge and strengthens their cultural identity. Practically, this research contributes to providing alternative digital teaching materials that are innovative, contextual, and in accordance with the characteristics of elementary school students.

From this description, this study emphasizes the importance of the validation process of digital teaching materials based on local wisdom to ensure their quality, feasibility, and effectiveness before being used in learning. The findings show that FLIK-5 has met content, language, and media standards, suitable for growing students' creativity from an early age. FLIK-5 risks being used without guaranteeing validity if this research is not conducted. This can reduce confidence in the quality of content, hinder learning effectiveness, and undermine the role of basic education in instilling cultural identity through the innovation of teaching materials. With the validation, FLIK-5 has proven to be academically relevant and has excellent potential as a model of innovative teaching materials based on local wisdom.

METHOD

This study uses a research and development (*R&D*) approach with the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model, which is limited to the expert validation stage. This model was chosen because it follows the research objective to produce innovative teaching materials based on local wisdom, tested for validity to support learning in elementary schools.

The study's subjects were three validators selected purposively according to their expertise: material experts, media experts, and linguists. The material expert is in charge of assessing the suitability of the content with the curriculum and the relevance of the material to the context of Musi Banyuasin's local wisdom. Media experts evaluate the design aspects of the flipbook's appearance, attractiveness, and interactivity. Meanwhile, linguists assess the readability, clarity, and suitability of the use of language in teaching materials to match the characteristics of elementary school students.

The research instrument is a validation sheet in the form of a questionnaire with a Likert scale of 1–5. The validation sheet covers three main aspects: (1) content feasibility, (2) appearance, and (3) language. This instrument was developed using the teaching material validation guidelines from Borg and Gall (2003) and was checked first by experts to ensure the validity of the content.

The research procedure began with preparing the initial draft of FLIK-5, which contained the material of the superior product of the Musi Banyuasin area, namely gambo jumputan fabric. Three experts then validate this draft through an assessment sheet, which includes content, appearance, and language feasibility. The validation results were analyzed using quantitative descriptive techniques by calculating percentage scores. The validation percentage is obtained through the formula:

$$\mathbf{Va} = \frac{\mathbf{Tse}}{\mathbf{Tsh}}\mathbf{x100\%}$$

Information:
Va = Expert validation
Tse = Total empirical score obtained
Tsh = Maximum total score
The validation values of the three experts were then averaged using the formula:

$$\mathbf{Va} = \frac{\mathbf{Va1} + \mathbf{Va2} + \mathbf{Va3}}{\mathbf{3}}$$

Where *n* is the number of validators.
The average percentage result is then interpreted based on the criteria that have been set. The expert validation criteria are presented in Table 1.

Table 1. Expert Validation Criteria

Achievement of grades (Score)	Validity categories
80% - 100%	Highly Worth It
61% - 80%	Squirt
41% - 60%	Quite Decent
21% - 40%	Not eligible
0% - 20%	Totally mismatched

Based on Table 1, the expert validation criteria are determined based on the percentage of score achievement. If the score is 80%–100%, the teaching material or media is categorized as "Very Worth It" or suitable for use. The 61%–80% range is in the "Worthy" category. The 41%–60% range includes "Decent Enough" or quite decent. Meanwhile, if the score is 21%–40%, the result is declared "Not Feasible" or not feasible. The lowest score in the range of 0%–20% indicates the "Totally Not Worth It" category, which means it is not worth using at all.

In addition to quantitative data, input and comments from validators were analyzed qualitatively and descriptively to improve FLIK-5 before being implemented in the next stage. The ethical aspect of research is maintained by obtaining *informed consent* from participants, ensuring identity confidentiality, and explaining research objectives and procedures. The research was carried out within four months, including the stages of needs analysis, initial product development, validation process, data analysis, and the preparation of research reports.

RESULTS AND DISCUSSION

Result

The study results show that FLIK-5's innovative teaching materials obtained a *very valid category* in all validated aspects, namely media, materials, and language. Based on the assessment of three validators, the percentage score on the media aspect reached 95%, material 92%, and language 84%. Thus, the average validation score is in the *very valid category*. These findings indicate that FLIK-5 is suitable for use in elementary school students' learning because it meets the standards of content, display, and language readability. Table 2 presents the results of the expert validation recapitulation of FLIK-5. Recapitulation of Expert Validation can be seen in Table 2.

Table 2. Recapitulation of Expert Validation Results on FLIK-5

Validity Test	Scores Obtained	Maximum Score	Percentage	Group
Media Validity Test	71	75	95%	Highly Worth It
Validity Test Materials	69	75	92%	Highly Worth It
Language Validity Test	63	75	84%	Highly Worth It

Based on Table 2, the results of expert validation of FLIK-5 show that all aspects tested obtained the "Very Worth It" category. In the media validity test, the score obtained was 71 out of 75, so the percentage reached 95%. This indicates that FLIK-5 is very feasible to use in terms of media. Furthermore, the material validity test scored 69 out of 75 or 92%, which also falls into the very feasible category. Similarly, the score in the language validity test was 63 out of 75 or 84%, with the very feasible category. Thus, it can be concluded that overall FLIK-5 meets valid criteria in terms of media, materials, and language. A visualization of the validation results can also be seen in Figure 1.

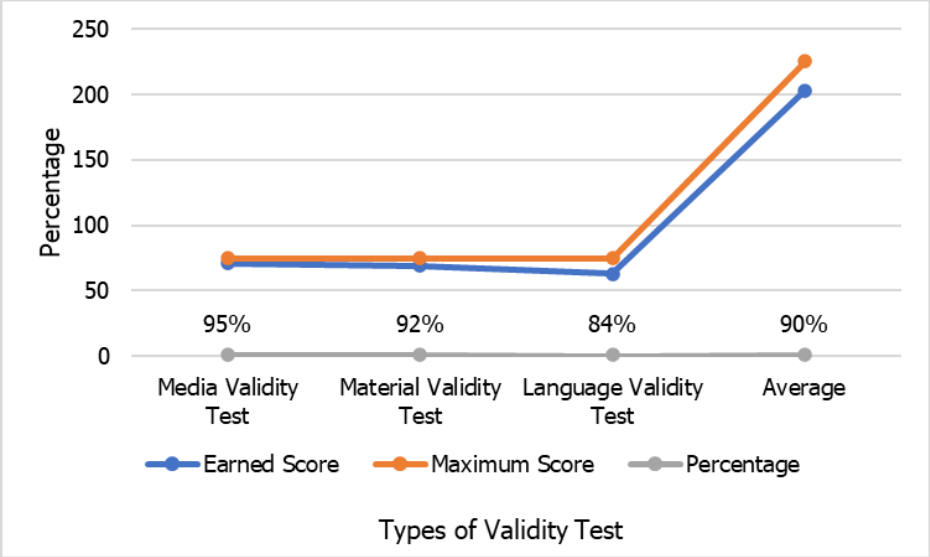

Figure 1. FLIK-5 Validation Results Graph

Based on Figure 1, the FLIK-5 validation consistently results in three main aspects. The media test recorded 95%, the material test 92%, and the language test 84%. All of these achievements are *very valid*, so it can be emphasized that FLIK-5 has met the eligibility standards as an interactive teaching material based on local wisdom. These results show that the product effectively combines local content with digital media to foster the creativity of elementary school students.

BEFORE REVISION	AFTER REVISION
SUBJECT EXPERT	
Suggestion: the activity has not yet given rise to creative thinking.	**Improvement;** has been improved on LKPD page 18 by adding a command to explain the meaning of the pattern created.
	

Figure 2. Suggestions for Improvement from Subject Matter Experts on FLIK-5

Overall, this quantitative data shows that the integration of local wisdom of the superior products of the Musi Banyuasin region, such as gambo jumputan cloth, in the form of an interactive flipbook, is proven to be in accordance with the needs of contextual learning in elementary schools. In addition, qualitative input from the validators confirmed that FLIK-5 has the advantage of instilling local cultural values while encouraging students' creative thinking skills. Some suggestions for improvement from the validator include: enriching the variety of practice questions to stimulate creative thinking skills further, simplifying some terms better to suit the level of understanding of elementary school students, and adding interactive elements such as quizzes or simple animations to increase the appeal of flipbooks. This input is accommodated in the revision process so that FLIK-5 is more optimal before being implemented at the further trial stage. Suggestions for improvement from material experts can be seen in Figure 2.

Based on Figure 2, suggestions for improvement from material experts on FLIK-5 show that before the revision, activities in LKPD were considered not to be able to grow students' creative thinking skills. After the revision is made, the improvement is displayed on page 18 of the LKPD by adding instructions for students to explain the meaning of the pattern that has been made. This change will encourage students to create patterns and understand and interpret their work more deeply. Furthermore, suggestions for improvement from media experts can be seen in Figure 3.

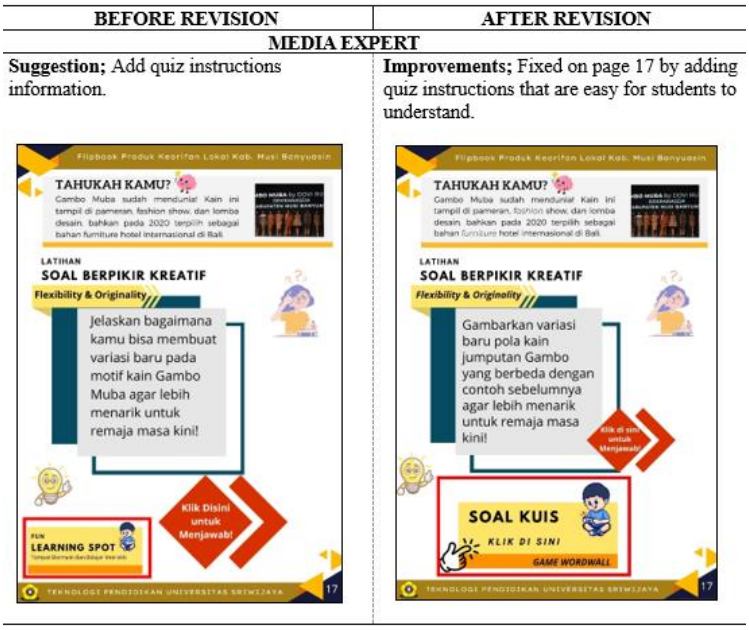

Figure 3. Suggestions for Improvement from Media Experts on FLIK-5

Based on Figure 3, the suggestions for improvement from media experts are related to adding quiz instruction information. Before the revision, in FLIK-5, there were no clear instructions regarding the work on the quiz. After revisions, improvements are shown on page 17 by adding easy-to-understand and straightforward quiz instructions. These improvements aim to improve clarity of use so students can work on quizzes more purposefully. Suggestions for improvement from linguists can be seen in Figure 4.

Based on Figure 4, linguists' suggestions for improvement focus on the consistency of writing terms in foreign languages. Before the revision, foreign language words were still written without italics. After the revision, all words in foreign languages have been written using italics. These changes are marked with a red box to distinguish between before and after the revision. This fix is important to maintain the accuracy of the use of language in the main text.

Figure 4. Linguist's Suggestions for Improvement on FLIK-5

Discussion

The study results show that FLIK-5 innovative teaching materials based on local wisdom obtained a very valid category in three validated aspects: media, materials, and language. A high validation average score confirms that this product has met the feasibility standards regarding appearance, content, and readability. These findings indicate that FLIK-5 is ready to be used as an alternative interactive teaching material relevant to learning in primary schools. This is in line with research that shows that digital-based teaching materials with a contextual approach can increase student engagement as well as learning effectiveness (Li et al., 2024; Ilyas & Liu, 2020; Rahmita et al., 2023; Simbolon et al., 2023).

From the media aspect, the validation percentage of 95% shows that flipbooks are considered attractive, communicative, and practical to use. These results indicate that FLIK-5 not only meets technical standards but can also bring visual appeal and ease of use to students, in line with research that states that flipbook-based interactive media is proven to increase learning motivation because it provides a fun learning experience as well as simple and straightforward interactions (Anas & Hasibuan, 2023; Sukarso et al., 2023). Thus, the existence of FLIK-5 contributes to enriching a variety of digital learning media that are adaptive to the needs of the 21st century.

In the material aspect, the validation of 92% shows that the content of FLIK-5 is in accordance with basic competencies and can encourage students' creative thinking skills. Revisions made based on the input of subject matter experts, such as the addition of instructions for students to explain the meaning of the patterns made, show significant improvements. This change proves that teaching materials serve as a source of information and a means to stimulate higher-level thinking processes. This is reinforced by research confirming that teaching materials that emphasize exploration and interpretation can foster elementary school students' creative thinking skills (Gamage et al., 2022).

Although lower than other aspects, the language aspect scored 84%, still in the very valid category. Improvements in the consistency of term writing, including using italics for foreign terms, show attention to detail in maintaining readability. This is important because language is the primary medium for conveying information to elementary school students. This finding is in accordance with the principles stated in the study, which states that simple, consistent, and explicit language greatly determines the success of students' understanding of learning materials (Widiantoro & Utami, 2024).

Theoretically, this study shows that integrating local wisdom, such as gambo jumputan cloth and traditional Musi Banyuasin food, into digital media can strengthen the relevance of learning. This innovation provides a contextual learning experience while introducing the values of local wisdom to students. This supports the view that learning based on local wisdom can increase student

involvement and enrich understanding of concepts through a contextual approach (Caingcoy, 2023; Finn, 2023). From a practical perspective, FLIK-5 can be used by teachers as an innovative teaching material that not only distributes knowledge but also instills the value of local wisdom and fosters students' creativity.

However, this study has limitations because it is still in the expert validation stage and has not been extensively tested in the classroom. Field trials are needed to determine the effectiveness of FLIK-5 in improving student learning outcomes and creativity in a real way. Advanced research can also be focused on developing additional interactive features, such as digital quizzes or simple animations, that have the potential to enrich students' learning experiences. Thus, the effectiveness and scalability of FLIK-5 can be tested more comprehensively.

Overall, the results of this research make an important contribution to the development of digital-based teaching materials and local wisdom. The validation obtained confirms that FLIK-5 has the potential to be a practical innovation in improving the quality of learning in elementary schools. The main message that can be taken is that digital media enriched with local wisdom can be a strategic means in shaping intellectual development while strengthening the cultural identity of the younger generation.

CONCLUSION

This research was conducted to develop and validate FLIK-5, a digital flipbook based on local wisdom designed to support the creativity of elementary school students. The background of this research is the limitations of teaching materials that are contextual, interactive, and able to integrate the value of local wisdom into learning. Therefore, FLIK-5 is presented as an innovation to answer these needs.

The validation results showed that FLIK-5 had met the content quality, media, and language standards. These findings prove that flipbooks are not only feasible for learning but also capable of providing an engaging learning experience for students. Integrating Musi Banyuasin's local wisdom adds relevance and strengthens the relationship between the subject matter and students' real lives.

This research's main contribution lies in providing a digital teaching material model that combines technology with local wisdom. Thus, this research enriches the ethnopedagogical approach while encouraging the birth of contextual digital learning innovations. This added value is beneficial both for the practice of basic education and for the development of learning theories based on local wisdom.

The implications of this research are theoretical and practical. This study confirms that digital media based on local wisdom can support high-level thinking skills, especially students' creativity. Practically, the results of this research can be used as a reference for teachers and curriculum developers in designing interactive teaching materials that are relevant to the context of local wisdom.

Overall, FLIK-5 proves that integrating local wisdom in digital teaching materials can be an effective strategy to improve the quality of learning. This media helps students understand the material and instills the value of local wisdom from an early age. Thus, FLIK-5 has the potential to become an educational innovation that benefits the younger generation while supporting the preservation of local wisdom.

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