

Evaluating Local Wisdom-Based Instructional Media in Early Childhood Education

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ABSTRACT

Instilling local wisdom values in early childhood is crucial for strengthening cultural identity and contextual learning. Learning media based on local wisdom needs to be developed and its effectiveness evaluated in early childhood education. This study aims to evaluate the quality of local wisdom-based instructional media for early childhood education across five aspects: systematics, language, substance, graphics, and usefulness. A descriptive quantitative survey was conducted with 100 early childhood teachers in Surakarta. The instrument was a validated questionnaire using a four-point rating scale. Reliability testing confirmed internal consistency, and ethical protocols (informed consent, anonymity) were observed. The research results show that, Findings reveal that systematics and usefulness scored highest, showing that the media is well-structured and supportive for teaching practice. In contrast, the substance and graphic aspects scored lower, indicating limited content depth and visual quality. Divergent views were noted on the use of foreign terms. Local wisdom-based instructional media is highly relevant and useful, but improvements are required in substance integration and visual design. This study contributes novelty by providing a comprehensive evaluation framework for media grounded in local culture. Practical implications highlight the importance of contextualizing media development for teachers, while future research should examine direct impacts on children's learning outcomes.

Keywords: *Instructional Media, Local Wisdom, Early Childhood, Media Evaluation*



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INTRODUCTION

Early childhood education (ECE) requires instructional media aligned with developmental characteristics, considering that children at this stage are in the preoperational phase (Piaget, 1930), where concrete, visual, and contextual learning is easier to understand (Lutz et al., 2018). Vygotsky (1978) also emphasized the importance of media as a tool to assist learning within the zone of proximal development (ZPD), enabling children to learn more optimally through environmental support. Research consistently shows that culturally appropriate and visually engaging media can improve children's engagement and comprehension (Amelia & Prameswari, 2025; Wahyuni, 2024). Thus, media development in the context of early

childhood education must consider the cognitive, language, and social development aspects of children in an integrated manner.

Linguistic aspects and visual appearance are crucial components in determining the effectiveness of learning media for early childhood. The language used should be simple, clear, and appropriate for the child's language development level, considering the limitations in vocabulary and the ability to understand complex sentence structures at an early age (Radianti et al., 2020; Tavecchio & Van IJzendoorn, 1987). Visual elements such as color, illustrations, and layout also play an important role in attracting attention and helping children understand concepts concretely (Astini, 2020). The use of communicative language that is appropriate for the child's cultural context can improve understanding and learning interest (Kao et al., 2023). Meanwhile, an attractive graphic display, with the use of bright colors, familiar illustrations, and a structured layout, helps to effectively convey information to children (Ng & Fergusson, 2019). Previous research findings indicate that learning media is not only informative but also needs to be designed with integrated attention to linguistic and visual aspects to support an optimal learning process.

However, when learning media is developed with local wisdom content, the quality challenges become more complex. It is not enough to only consider the linguistic aspects and visual appearance; media must also be thoroughly evaluated from the perspectives of systematics, substance, and usefulness (Utami et al., 2017; Yuniarni et al., 2024). Although the potential of local wisdom in early childhood education is increasingly recognized, there are still few studies that comprehensively assess the quality of local wisdom-based learning media from various aspects such as systematics, language, substance, graphics, and usefulness (Anida & Eliza, 2020; Aulia & Utami, 2021; Kusumaningtyas et al., 2020). Most research has focused only on cultural content or child engagement (Kaya et al., 2023; Rupnidah & Suryana, 2022). This creates a gap between the ideal potential of local wisdom-based media and its actual classroom implementation (Anida & Eliza, 2020; Yuniarni et al., 2024).

One important aspect of evaluation is how the media presents language and visuals, especially in the context of using foreign terms and presenting the learning process. The use of foreign terms and process visualization in early childhood learning media is still a subject of debate among practitioners and researchers. On the one hand, foreign terms introduced contextually can enrich children's vocabulary and prepare them for the era of globalization (Amzaleg & Masry-Herzallah, 2021). The appropriate and gradual use of foreign terms can support children's language development, especially when linked to real objects or experiences (Purnama et al., 2021). However, on the other hand, some practitioners believe that foreign terms can actually confuse young children who are in the early stages of acquiring their mother tongue, potentially hindering their understanding of basic concepts (Santrock, 2009). Visualizing processes using flowcharts or tables is considered important for building conceptual understanding and cause-and-effect relationships (Shen et al., 2024). However, its effectiveness is highly dependent on the level of abstraction of the information presented (He et al., 2023). At an early age, children find it easier to understand information in concrete and visual narrative forms compared to diagrammatic forms, which tend to be abstract (Piaget, 1930). Thus, the differences in perspective reflect the need to adjust the design of learning media, considering the cultural context, cognitive developmental level, and visual literacy skills of early childhood children.

Based on the importance of the role of learning media in early childhood education, as well as the potential of local wisdom as a contextual and meaningful learning resource, an evaluative study is needed to assess the quality of the media in an integrated manner. The evaluation should cover various aspects such as presentation systematics, language, content substance, visual appearance, and its usefulness in the context of child development. Evaluative research becomes crucial considering the persistent gap between the ideal of

developing media based on local wisdom and its implementation quality in the field (Anida & Eliza, 2020; Aulia & Utami, 2021; Kusumaningtyas et al., 2020; Shintaliana et al., 2023; Astuti et al., 2023; Mulia Asih & Muslim, 2023; JIPPG Undiksha, 2023). The results of a systematic evaluation not only contribute to the improvement of media design and content, but also play an important role in building meaningful, contextual, and value-based learning.

METHODS

A descriptive quantitative survey design was applied to systematically evaluate instructional media based on local wisdom. 100 early childhood teachers in Surakarta, aged 28–45, with at least a bachelor's degree in ECE and 4–15 years of experience. Sampling used purposive criteria: experience in teaching, active classroom involvement, and prior use of local wisdom-based media. A structured questionnaire with five sections (systematics, language, substance, graphics, usefulness) rated on a 4-point Likert scale. Instrument validity was established through expert review, while reliability analysis yielded satisfactory Cronbach's alpha coefficients (>0.80). Procedure & Ethics: Surveys were administered with informed consent, ensuring anonymity and voluntary participation. Descriptive statistics (frequency, percentage) were used to summarize evaluations. Aspects were considered "strong" when $>50\%$ of responses were in categories 3 or 4, and "weak" when $\leq50\%$ fell in these categories.

RESULTS AND DISCUSSION

Results

The research findings are divided into five aspects, including: (1) systematic aspects; (2) linguistic aspects; (3) substantive aspects; (4) graphical aspects; and (5) usefulness aspects. The description of the research results for each aspect is as follows:

Table 1. Results of the analysis on the Systematic Aspect

No.	Criteria for Learning Media	Frequency Rating Scale (%)			
		1	2	3	4
1	The availability of learning media has been adjusted to support the knowledge of early childhood, especially the introduction of food made from local wisdom.	-	-	42,9	57,1
2	The availability of learning media has provided understanding to early childhood, especially in the process of food processing using local wisdom.	-	14,3	14,3	71,4
3	The availability of learning media has provided insights to early childhood children, especially the health benefits that can be obtained from consuming food made with local wisdom.	-	-	42,9	57,1

The first criterion, 57.1% of respondents believe that learning media is very much needed to support children's knowledge about local food, while 42.9% stated that the media is needed. The second criterion, which is children's understanding of the processing of food made from local wisdom, where 71.4% of respondents consider the media very much needed, and 14.3% stated it is needed. The results for the first criterion, similar to the third criterion which emphasizes the health benefits of consuming food made from local wisdom, also received similar responses: 57.1% of respondents stated that the media is very much needed and 42.9% stated it is needed. No respondents stated that the media was not or very much not needed, which indicates that, in general, media based on local wisdom is considered relevant and important in supporting early childhood education.

Based on the analysis results in the linguistic aspect, it can be concluded that the majority of respondents consider the learning media used to be quite good in terms of the proper and correct use of the Indonesian language, especially in introducing the concept of food made from local wisdom to early childhood. The detailed analysis results are presented in Table 2.

Table 2. Results of the analysis on the Linguistic Aspect

No	Criteria for Learning Media	Frequency Rating Scale (%)			
		1	2	3	4
1	Learning media so far has used proper and correct Indonesian, especially in introducing the concept of local wisdom-based food to early childhood.	-	-	50,0	50,0
2	The learning media so far has used clear and easily understandable Indonesian, especially in introducing the food processing methods using local wisdom to early childhood.	-	14,2	42,9	42,9
3	Learning media so far have used appropriate and accurate foreign terms, especially in introducing the concept of local wisdom-based food to early childhood.	-	42,9	42,9	14,2
4	Learning media so far has used language that does not lead to multiple interpretations, especially in introducing the concept of local wisdom-based food to early childhood.	14,2	28,7	42,9	14,2

This is evident from the 50.0% of respondents who chose the "needs" category and 50.0% who chose "very much needs" in the first criterion. In the second criterion, namely the clarity and ease of understanding of the language in the context of introducing the food processing process using local wisdom, it also shows a positive tendency with 42.9% choosing needs and 42.9% very much needs. However, in the third criterion regarding the appropriate and correct use of foreign terms, respondents' evaluations tended to be more varied, with only 14.2% stating a strong need, while 42.9% felt it was unnecessary and 42.9% felt it was needed, indicating a diversity of perceptions regarding the urgency of using foreign terms. Next, in the fourth aspect that assesses the use of language to avoid multiple interpretations, the results show that the majority of respondents (42.9%) feel that the media still needs improvement, only 14.2% stated it is very much needed, and there are still 28.7% who feel the media does not need improvement in terms of language. The findings indicate the need for evaluation and refinement of language use so that learning media becomes more effective and aligns with the characteristics and needs of early childhood.

Based on the analysis results on the substance aspect of the learning media, it is evident that the majority of respondents stated that the currently available learning media still requires improvement and strengthening in the substance aspect. The respondents' assessment results on the substance aspect are presented in Table 3.

Table 3. Results of the analysis on the Substance Aspect

No.	Criteria for Learning Media	Frequency Rating Scale (%)			
		1	2	3	4
1	The availability of learning media has consistently had the appropriate substance in introducing the concept of food made from local wisdom to early childhood.	-	14,2	57,2	28,6
2	The availability of learning media has so far contained substance that illustrates material on the introduction of food made from local wisdom for children, in accordance	-	7,1	57,2	35,7

	with the theory used.				
3	The availability of learning media so far has had substance within the scope of education.	-	7,1	71,5	21,4
4	The availability of learning media has been relevant to the development of science and technology.	-	7,1	64,5	21,4

The first criterion, 57.2% of respondents believe that the learning media needs appropriate substance in introducing the concept of food made from local wisdom to early childhood, and only 28.6% consider it very necessary, while the remaining 14.2% state that it is not needed. The second criterion shows that the substance of the learning media, which describes the material in accordance with the theory, is still considered less than optimal, with 57.2% stating it needs improvement and 35.7% stating it very much needs improvement. The third criterion, 71.5% of respondents believe that the scope of education in the media still needs to be substantively strengthened. The fourth criterion also shows that the relevance of the learning media to the development of science and technology is still considered suboptimal, with 64.5% of respondents stating that strengthening is needed. Overall, the research findings indicate that the substance of current learning media does not fully meet the needs in terms of content enriched with local wisdom, theoretical relevance, educational scope, and connection with the development of science and technology (IPTEK). Therefore, further development is needed to make learning media more effective and contextual for early childhood.

Based on the analysis of the graphic aspect, it appears that the majority of respondents evaluate the learning media used so far as having quite good graphic quality, especially in terms of the use of clear and easily understandable font types and sizes. The respondents' assessment results on the graphic aspect are presented in full in Table 4.

Table 4. Analysis Results on the Graphic Aspect

No.	Criteria for Learning Media	Frequency Rating Scale (%)			
		1	2	3	4
1	Learning media so far has used clear and easy-to-understand fonts and sizes in introducing local wisdom-based foods to early childhood.	-	-	42,9	57,1
2	Learning media so far has presented flowcharts, clear and attractive tables in depicting the process of food management using local wisdom for early childhood.	-	35,7	42,9	14,3
3	Learning media so far has placed a layout that is appropriate and easy for young children to understand the health benefits they will gain from consuming food made with local wisdom.	-	21,4	42,9	35,7

As many as 57.1% of respondents stated that the graphical aspect is very much needed, and 42.9% stated it is needed, indicating that the text display in the learning media is sufficiently supporting early childhood understanding of local wisdom-based foods. However, in the aspect of presenting flowcharts and tables, the evaluation was slightly lower, with only 14.3% stating it was very necessary and 42.9% stating it was necessary, while 35.7% stated it was not needed. This indicates that the visual presentation, such as diagrams and tables in learning media, still needs to be improved to be more engaging and communicative for young children. Meanwhile, regarding the layout aspect, most respondents also assessed that the placement of graphic elements in the learning media was quite appropriate and easy to understand, with 42.9% stating it was needed and 35.7% stating it was very much needed. Thus, in general, the graphic aspects of the learning media have met the visual needs of early childhood, but there

is still room for improvement, especially in the visualization of information such as tables and flowcharts.

The analysis results on the aspect of usefulness show that the majority of respondents consider the available learning media to have a high level of usefulness, both for students and teachers in the context of introducing and managing food based on local wisdom. The complete analysis results on the aspect of usefulness are presented in Table 5.

Table 5. Analysis results on the Aspect of Usefulness

No.	Criteria for Learning Media	Frequency Rating Scale (%)			
		1	2	3	4
1	The availability of learning media has been beneficial for the development of education for students in recognizing food made from local wisdom.	-	-	42,9	57,1
2	Learning media so far has provided benefits for the development of education for teachers in explaining types of food, food management processes, and health benefits of food made from local wisdom.	-	-	42,9	57,1

The first criterion, 57.1% of respondents stated that the learning media is very beneficial for students in recognizing foods made from local wisdom, while 42.9% stated that the media is quite beneficial. A similar trend is observed in the second criterion, where 57.1% of respondents rated the media as very beneficial for teachers in explaining the types of food, processing methods, and health benefits, while 42.9% stated it is quite beneficial. No respondents rated the learning media as not useful or very not useful, which indicates that, in general, the existing learning media have met the educational needs in integrating local wisdom values, both in terms of student knowledge and teacher pedagogical skills. The research findings reinforce the urgency of developing learning media based on local wisdom as a strategy to enrich contextual education relevant to the daily lives of students.

Discussion

The systematic aspect shows consistency with previous research findings regarding the importance of local wisdom-based learning media in early childhood education. Teachers rated this highest, indicating that the flow and structure of the media effectively supported children's learning about traditional foods. The study results affirm that the majority of respondents believe that learning media integrating local wisdom, particularly in the introduction of food, processing methods, and health benefits, is highly needed by early childhood. The research findings are in line with the study by Rupnidah and Suryana (2022), which states that media based on local culture can build a connection between children's experiences and their environment, thereby strengthening the meaning of learning. In addition, these results also support the study conducted by Anida and Eliza (2020), which found that learning media that highlight local wisdom not only enhance children's conceptual understanding but also instill cultural and health values from an early age.

The results of the linguistic aspect analysis in this learning media show both interesting similarities and differences. The majority agreed that Indonesian language use was clear and age-appropriate, aligning with Wahyuni (2024), who emphasizes the importance of using simple, clear, and communicative language in early childhood learning media. This shows consistency with the characteristics of early childhood language development. However, responses diverged on the use of foreign terms: while some considered them enriching, others viewed them as confusing for young learners. This highlights the tension between globalization and mother tongue preservation. The finding differs from Rupnidah and Suryana (2022), who

argued that relevant foreign terms in the context of globalization can enrich children's vocabulary if presented contextually and gradually. The difference in perception is influenced by the local context and respondents' backgrounds, which emphasize preserving mother tongue and local wisdom without mixing foreign terms.

The research results on the substantive aspect also reveal important findings. Over 60% of teachers emphasized the need to strengthen content relevance to child development theory and integration with science and technology. This supports previous research by Yuniarni et al. (2024), who found that many local wisdom-based media remain too general and lack theoretical grounding. Similarly, Anggreni and Fachrurrazi (2025) showed that most learning media for early childhood have not yet fully integrated local wisdom systematically in both content and approach. These results underline that although the media is considered valuable, there is still a need to improve its depth and theoretical relevance so that it aligns more strongly with early childhood developmental needs and modern scientific integration.

The graphical aspect presents mixed results. Font and layout were rated positively, indicating that the media display is clear and engaging, in line with Amelia and Prameswari (2025), who emphasized that attractive and understandable design elements significantly improve media effectiveness. However, process visualizations such as flowcharts and diagrams scored lower. This finding contrasts with Sari (2024), who found that process visualization enhances early conceptual understanding. The discrepancy may reflect children's limited abstract reasoning ability, as explained by Piaget (1930), making them less responsive to symbolic representations such as flowcharts. Thus, while the basic graphic design is adequate, visual communication of processes remains a critical gap in the current media.

Finally, the usefulness aspect of the media received the most positive response. Teachers unanimously recognized the benefits for both pedagogical practice and children's cultural knowledge, confirming findings by Fitriani et al. (2025) that local wisdom media not only strengthen identity but also support learning outcomes. The study shows a favorable trend: no respondents considered the media unhelpful, with the majority categorizing it as "needed" or "very needed." Compared to previous studies that mainly highlighted student interest or engagement, this research expands the scope of usefulness to cognitive, affective, and pedagogical dimensions. Overall, while the media is highly valued for its systematics and usefulness, critical gaps remain in content depth and process visualization. The novelty of this study lies in presenting a multi-aspect evaluation framework that bridges theory and practice, offering valuable insights for future development of local wisdom-based learning media.

CONCLUSION

The conclusion of this study highlights that local wisdom-based learning media is highly relevant and urgently needed in early childhood education, with key strengths found in its systematic structure and practical usefulness that support both children's learning and teachers' pedagogical practice. At the same time, several limitations remain, particularly in terms of content depth and process visualization, as well as the use of foreign terms, which require refinement to ensure better alignment with child development theories and effective visual communication. Although this research was limited to teachers in Surakarta, thereby constraining generalizability at the national level, its findings provide important implications: media developers and educators should enrich the substance and refine graphic elements, while policymakers are encouraged to adopt the proposed multi-aspect evaluation framework in training modules for early childhood teachers. Future research is recommended to employ experimental designs to assess the direct impact of local wisdom-based instructional media on children's engagement, comprehension, and cultural identity formation.

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