



Development Of An Interactive Digital Module Based On Local Wisdom To Support The Independent Learning Curriculum For Grade VI

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Abstract

This study aims to develop an interactive digital module based on local wisdom as an alternative learning medium to support the implementation of the Merdeka Belajar Curriculum in elementary schools. The background of this research is based on the need for contextual, engaging learning media that can instill local cultural values in students from an early age. The method used is Research and Development (R&D) with the ADDIE development model, which includes the stages of analysis, design, development, implementation, and evaluation. The trial subjects in this study were fourth-grade students of GKPS Rambungmerah Private Elementary School in an area with a rich local culture. The module was developed by combining thematic curriculum content with folklore, traditional games, and regional songs, packaged in an interactive digital application-based format. Validation results by material and media experts indicated that the module had very good feasibility, while field trials showed increased learning motivation, material understanding, and positive attitudes towards local culture. These findings indicate that an interactive digital module based on local wisdom can be an effective, relevant learning innovation, and in line with the spirit of Merdeka Belajar.

Keywords : digital modules, local wisdom, Independent Learning, elementary schools, ADDIE

INTRODUCTION

The shift in the national education paradigm through the Independent Learning Curriculum policy encourages teachers and educational institutions to provide more contextual, flexible, and student-centered learning (Putra, 2021). In this context, learning media plays a crucial role as a key driver in fostering meaningful learning experiences. One relevant approach is the use of interactive digital modules, as they facilitate more active, adaptive learning, and are aligned with developments in information technology. However, many currently available digital modules are still generic and fail to explore the local values inherent in

students' lives in their respective regions. This presents both a challenge and an opportunity for developing learning media that are not only modern but also rooted in local culture.

Local wisdom, as an integral part of the nation's cultural identity, can be a rich source of learning, instilling educational values such as mutual cooperation, honesty, responsibility, and love for the environment. According to Suparlan (Azizaturrohmi, Irfan, Hamdi, & Sururuddin, 2021) local wisdom is a noble value that grows and develops within society and has proven to be able to survive the dynamics of the times. The application of these values in elementary school learning is considered strategic in shaping the character of the younger generation. Therefore, the integration of digital technology and local content is an urgent need (Noor & Sugito, 2019).

Previous research, such as that conducted by Rahmawati & Susanto (Firdaus, Suryanti, & Azizah, 2020) shows that the use of digital learning media based on local culture can improve student motivation and learning outcomes. Meanwhile, a study by Nuryanti et al. (Sari, 2024) developed an e-module based on folklore that was effective in fostering students' love of culture. However, these studies have not fully integrated digital interactivity and have not been explicitly linked to the Merdeka Belajar (Freedom to Learn) program. Furthermore, most module developments are still monomedia (text or video only) and do not integrate multimedia components, interactive such as quizzes, animations, audio visuals, and adaptive assessments (Mashuri, Pettalongi, Nurdin, Paozia, & Yusran, 2022).

The problem identification in this study was conducted through observations at GKPS Rambungmerah Private Elementary School, interviews with fourth-grade teachers, and a study of lesson plans and teaching materials. Observations revealed that teachers still rely on textbooks as the primary source, and students lack enthusiasm due to a lack of familiarity with local content in their learning (Djaha & Darmastuti, 2020). Teachers also expressed the limited availability of contextual learning media that align with local cultural characteristics. These findings underpin the need for a digital module that is not only interactive but also able to integrate local culture with thematic learning under the Merdeka Curriculum (Fauziah et al., 2024).

Thus, this research addresses the gap between the need for interactive digital media based on local wisdom and aligned with the principles of Freedom to Learn (Merdeka Belajar) and the actual situation on the ground, which demonstrates the limited availability of contextual teaching materials (Fiteriani, Ningsih, Irwandani*, Santi, & Romlah, 2021). The development of this digital module is an innovation that not only supports the transformation of digital learning but also actively supports the preservation of local culture in the classroom (Rezeki, 2023).

The purpose of this study is to develop and test the feasibility and effectiveness of an interactive digital module based on local wisdom as a thematic learning medium for the Independent Curriculum for elementary school students, especially grade IV.

RESEARCH METHODS

This research uses a Research and Development (R&D) approach with the primary goal of developing and testing the feasibility of an interactive digital module based on local wisdom that supports the implementation of the Independent Learning Curriculum in elementary schools. Chosen because it aims to produce innovative and applicable educational products, and through a systematic development process based on real needs in the field (Setyowati, Hidayati, & Hermawan, 2020).

The development model used in this research is the ADDIE model , which consists of five stages, namely (Ramadhan, Indriyani, Asri, & Sukma, 2020):

1. Analysis : carried out to identify students' and teachers' needs for learning media, including student characteristics, basic competencies to be taught, and the potential for relevant local wisdom.
2. Design : at this stage, the module content framework, digital display design, and mapping of local wisdom integration in learning content are prepared.
3. Development (Development) : the creation of application-based digital modules is carried out. (using tools such as Canva, interactive PowerPoint, or Articulate Storyline), which contains visual content, audio, animation, interactive quizzes, and local folklore or culture.
4. Implementation : The module was tested on a limited basis with first-grade students at an elementary school in the research area. Students and teachers were asked to use the module in their lessons over several sessions.
- Evaluation : carried out to determine the feasibility of the module through expert validation and the effectiveness of the module through field trials.

Data collection technique (Pandiangan, Pasaribu, & Silalahi, 2022).

Data collection was carried out using several techniques as follows:

1. Interview : conducted with grade IV teachers to determine the need for learning media and perceptions regarding the use of local wisdom in learning.
2. Observation : carried out on the learning process and use of modules by students in class (Konapure & Lobo, 2021).
3. Questionnaire : used to measure student responses to the digital modules developed.
4. Expert validation : involves two material experts and two media experts who provide assessments of aspects of content suitability, design, interactivity, and integration of local cultural values.

Data collection technique (Ibrahim & Yanti, 2019).

Data collection was carried out using several techniques as follows:

1. Interview : conducted with a fourth grade teacher at GKPS Rambungmerah Private Elementary School to determine the need for learning media and perceptions regarding the use of local wisdom in learning.
2. Observation : carried out on the learning process and use of modules by students in class.
3. Questionnaire : used to measure student responses to the digital modules developed.
4. Expert validation : involves two material experts and two media experts who provide assessments of aspects of content suitability, design, interactivity, and integration of local cultural values (Maslahah, 2022).

Data analysis

The data obtained were analyzed using two approaches:

1. Qualitative data from interviews and observations were analyzed by reducing the data, organizing it into thematic categories, and drawing conclusions to describe user needs and responses.
2. Quantitative data from the questionnaire and validation sheet were analyzed using analytical techniques. quantitative descriptive , by calculating the average score and converting it into assessment categories (e.g. very appropriate, appropriate, quite appropriate, not appropriate), based on a Likert scale of 1-4.

By using the R&D approach and the ADDIE model, this research not only produces learning products, but also goes through a systematic validation and revision process so that the resulting products can be used more widely by teachers and students in the context of Independent Learning (Laela, Heriyanto, & Mulyanti, 2022).

RESULTS AND DISCUSSION

Research result

This research resulted in an interactive digital module for fourth-grade students of GKPS Rambungmerah Private Elementary School based on the Independent Curriculum, integrating local wisdom in the form of folktales, traditional games, and regional songs (Dako, PURWANTO, FAIDA, & SUMARDI, 2019). The module was developed using the ADDIE model, with the final output being an interactive digital file accessible via computer or tablet (Maharani, Rini, & Sugiman, 2019).

Expert Validation Results

The module was validated by two subject matter experts and two media experts using a Likert scale assessment sheet ranging from 1-4. The assessment results were averaged and converted into percentages.

Table 1. Expert Validation Results

Rated aspect	Maximum Score	Average Score	Percentage (%)	Category
Content Conformity	4	3.75	93.75%	Very Worthy
Design View	4	3.50	87.50%	Very Worthy
Interactivity	4	3.60	90.00%	Very Worthy
Integration of Local Wisdom	4	3.80	95.00%	Very Worthy

Total average : **91.56%** - Category: Very Eligible

Limited Trial Results

The module was tested on 24 fourth grade students at GKPS Rambungmerah Private Elementary School, with effectiveness indicators based on:

1. Increase in pretest and posttest scores
2. Student responses to the module (via questionnaire)

Table 2. Students' Pretest and Posttest Scores

Assessment Aspects	Average value
Pretest	68.3
Posttest	83.6
Gain	15.3

Table 3. Student Responses to the Module

Aspect	Percentage of Agree (%)
Easy to use module	91.7%
Engaging & interactive	95.8%
Like it because of local culture	87.5%
Increase enthusiasm for learning	89.6%

Discussion

The research results show that interactive digital modules based on local wisdom are highly suitable for use in thematic learning processes in elementary schools. This finding supports the theory of contextual teaching and learning, which emphasizes that learning experiences will be more meaningful when linked to the real-life context of students (Johnson, 2007). In this case, local wisdom becomes a bridge between the subject matter and students' life experiences (Saputro & Febriani, 2023).

In terms of effectiveness, the module has been proven to improve student learning outcomes, as evidenced by the increase in posttest scores. This aligns with research by Rahmawati & Susanto (Longo, Padovano, De Felice, Petrillo, & Elbasheer, 2023), which found that digital media containing local cultural elements can increase student engagement and understanding of the learning material (Asrizal, Zan, Mardian, & Festiyed, 2022).

The use of interactive media based on folklore, regional songs, and traditional games not only reinforces concepts in thematic learning but also serves as a means of preserving local cultural values (Kareti, Rajpoot, & Ramar, 2022). The interactivity in the modules encourages students to actively respond and participate in learning activities, in line with the *student-centered learning approach* promoted in the Merdeka Curriculum (Elisa et al., 2022).

Furthermore, the ADDIE method has proven effective in producing systematic and tested development products because it allows for evaluation at each stage. The validation and revision stages ensure that the resulting product meets pedagogical, technological, and cultural requirements (Wiyanarti, Holilah, Zahra, & Dahalan, 2024).

The theoretical implication of these findings is that integrating learning technology with local content can be an effective strategy in 21st-century learning, particularly for building students' character and cultural identity from an early age (Iswanto, 2021). Practically, this research contributes to the development of innovative teaching materials for elementary school teachers, particularly in supporting the practical implementation of the Independent Curriculum in the classroom (Asman, Menrisal, & Arsyah, 2020).

CONCLUSION

Based on the results of the research and discussions that have been carried out, the following conclusions can be drawn:

1. The development of an interactive digital module based on local wisdom has proven effective as an alternative learning medium to support the implementation of the Independent Learning Curriculum in elementary schools. This module was developed using the ADDIE model, which allows for systematic and structured needs analysis, design, development, implementation, and evaluation.

2. results indicated that the module fell into the "very appropriate" category in terms of content, presentation, interactivity, and cultural integration. Meanwhile, limited trials demonstrated that the module improved student learning outcomes and received positive feedback from both students and teachers.
3. The presence of interactive digital learning media based on local culture can be an innovative learning solution, not only in terms of delivering material, but also in building character, instilling local wisdom values, and supporting the principle of differentiation in the Independent Curriculum.

Thus, this module is recommended for use by classroom teachers as a contextual and enjoyable alternative teaching material. This research also opens up opportunities for further development at other grade levels or integration with broader online learning platforms.

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Development Of An Interactive Digital Module Based On Local Wisdom To Support The Independent Learning Curriculum For Grade VI - S. Lamriana Hutagalung¹, Insenalia S.R Hutagalung², Yosua Marasi Parningotan Siagian³

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