

Development of Social Studies E-Module Based on Culturally Responsive Teaching Containing Local Wisdom Ngalaksa Baliung: A Study Of Validity, Practicality, and Effectiveness in Improving The Collaboration Ability of Elementary School Students

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ABSTRACT

This research aimed to develop a Social Studies e-module based on Culturally Responsive Teaching incorporating the local wisdom of Ngalaksa Baliung to improve elementary school students' collaboration skills. The study employed a Research and Development (R&D) approach using the ADDIE model, which includes analysis, design, development, implementation, and evaluation stages. The research subjects consisted of subject matter experts, media experts, teachers, and elementary school students. Data were collected through validation questionnaires, practicality questionnaires, collaboration skill tests, and observations. Data analysis techniques included Aiken's V, Cronbach's alpha, and the N-gain index. The results showed that the developed e-module had a high level of validity in terms of content, construct, and instructional design. The product also demonstrated a high level of practicality based on teacher and student responses and was effective in improving students' collaboration skills, with improvements in the medium to high category. The integration of local wisdom values and culture-based learning approaches was proven to enhance students' social engagement and interaction. This study contributes to the development of culturally based digital teaching materials that support the implementation of deep learning within the Independent Curriculum and strengthen elementary students' collaborative character.

INTRODUCTION

The development of 21st-century education demands an education system that produces human resources who are not only cognitively competent but also possess strong social competencies, including collaboration, communication, creativity, and critical thinking skills (Díaz et al., 2022; González-Pérez & Ramírez-Montoya, 2022; Novia et al., 2024; Purwanto et al., 2023; Thornhill-Miller et al., 2023). UNESCO reports emphasize that modern education must develop social and cultural competencies as preparation for a complex and multicultural global society (Azhari et al., 2024; Mansoor, 2023; Nasution & Fauzan, 2025; Oubkkou, 2025; Papadopoulou et al., 2022; Sung, 2024; Zahra, 2022). Similarly, the Organisation for Economic Co-operation and Development (OECD), through the Education 2030 framework, positions collaboration as a core competency needed to face future challenges in work and social life. However, studies indicate that education systems in

many developing countries, including Indonesia, still face challenges in systematically integrating collaborative skill development into primary school learning.

In the context of national education, the implementation of the Independent Curriculum emphasizes a deep learning approach oriented toward strengthening student character and competencies through the Graduate Profile dimensions, including collaboration (Fauzan et al., 2023). Policies developed by the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia highlight the importance of contextual, meaningful, and student-centered learning to develop teamwork, tolerance, and social responsibility (Utami et al., 2025; Warsihna et al., 2023). However, in practice, elementary school learning is still dominated by content-oriented conventional approaches, resulting in suboptimal development of collaboration skills (Wahyono et al., 2024; Rasmitadila et al., 2022). This condition reflects a gap between curriculum policy and classroom implementation (Retnaningrum et al., 2023; Wijayanti & Tirtoni, 2024).

This issue is particularly evident in Social Studies (IPS) learning at the elementary level, which should play a strategic role in developing students' social competence. Social Studies is characterized by social interaction, cultural understanding, and democratic attitude formation, making it highly potential for fostering collaboration skills. However, recent studies show that Social Studies learning still tends to emphasize memorization of concepts and does not fully utilize students' socio-cultural contexts as authentic learning resources. As a result, student engagement in collaborative activities remains low, and expected social competencies are not optimally developed.

In response to these challenges, the Culturally Responsive Teaching (CRT) approach offers a relevant pedagogical solution to improve learning quality (Liu et al., 2025). CRT emphasizes the integration of students' cultural backgrounds into the learning process, thereby increasing engagement, relevance, and meaningful learning experiences (Zeng et al., 2025). Empirical studies from 2022 to 2025 show that CRT implementation can enhance student participation, social interaction, and learning outcomes through contextual and culturally responsive instruction (Rahmawati et al., 2023; Abdulkareem, 2025). In addition, integrating local wisdom in learning has been shown to strengthen students' cultural identity, social attitudes, and collaboration skills (Uge et al., 2019; Oktaviani et al., 2025; Amaliyah et al., 2026).

However, the implementation of CRT in elementary Social Studies learning still faces limitations, particularly regarding the availability of systematic and structured digital teaching materials. Advances in educational technology have encouraged the use of e-modules as flexible, interactive, and adaptive learning innovations. Recent studies indicate that e-modules can improve learner autonomy, engagement, and the effectiveness of activity-based learning. Nevertheless, e-modules that systematically integrate CRT approaches with local wisdom content remain limited, particularly in elementary Social Studies contexts.

Specifically, the local wisdom of Ngalaksa Baliung, which embodies values of togetherness, mutual cooperation, and social solidarity, has strong potential as a contextual learning resource for developing students' collaboration skills. These cultural values are highly relevant for strengthening collaborative character in Social Studies learning. However, literature reviews indicate that Ngalaksa Baliung has not been systematically integrated into

CRT-based digital teaching materials, particularly in relation to improving elementary students' collaboration skills.

Based on the state-of-the-art review, previous studies have largely focused on e-module development in general, CRT implementation in isolation, or integration of local wisdom without comprehensive testing of validity, practicality, and effectiveness. Studies that simultaneously integrate e-modules, CRT, and local wisdom to improve students' collaboration skills remain limited. This indicates a research gap in the development of culturally based digital teaching materials designed systematically to enhance elementary students' collaborative competence.

This study is important and urgent due to the growing need for learning innovations that bridge the demands of the Independent Curriculum with classroom practice. The development of CRT-based Social Studies e-modules enriched with local wisdom is expected to provide an innovative solution for improving students' collaboration skills through contextual and meaningful learning. In addition, this research has practical significance for teachers by providing valid, practical, and effective learning tools, as well as contributing to the development of culturally based Social Studies learning models.

The novelty of this study lies in the integration of three main components: the development of a digital e-module, the application of the Culturally Responsive Teaching approach, and the incorporation of Ngalaksa Baliung local wisdom as a learning context to improve elementary students' collaboration skills. This study not only develops a learning product but also evaluates its validity in terms of content, construct, and design, as well as its practicality and effectiveness in fostering collaborative character in Social Studies learning.

Based on this description, there is a need for research focusing on the needs analysis and design of a Social Studies e-Module based on Culturally Responsive Teaching incorporating Ngalaksa Baliung local wisdom that is valid, practical, and effective in improving elementary students' collaboration skills. Therefore, this study is directed at examining the development process, practicality, and effectiveness of the developed e-module in supporting Social Studies learning that is contextual, meaningful, and oriented toward strengthening students' collaborative character.

METHOD

Approaches and Types of Research

This research used a Research and Development (R&D) approach aimed at producing a Social Studies e-module based on Culturally Responsive Teaching incorporating the local wisdom of Ngalaksa Baliung to improve elementary school students' collaboration skills. The ADDIE model was used due to its systematic procedure and suitability for developing digital teaching materials.

The ADDIE model consisted of five stages: analysis, design, development, implementation, and evaluation.

ADDIE Model Development Stages

1. Needs Analysis

This stage aims to identify product development needs through:

- Curriculum Analysis (Independent Curriculum)
- Analysis of Elementary School Students' Characteristics

- Teacher Needs Analysis
- Social Sciences Material Analysis
- Analysis of collaboration capability needs
- An Analysis of the Context of Local Culture

Data collection techniques:

- Observation of learning
- Teacher Interviews
- Need Questionnaire
- document study

2. Design (Perancangan Produk)

Activities at the design stage include:

- Preparation of e-Module structure
- Collaborative Activity Design
- CRT principle integration
- The Importance of Integrating Local Knowledge
- Preparation of Collaboration Capability Indicators
- Interactive Digital Media Design
- Preparation of validation instruments

The output of this stage is in the form of an e-Module blueprint.

3. Product Development

This stage includes:

- creation of digital e-Modules
- Subject matter expert validation
- Media Expert Validation
- Learning Expert Validation
- Product revision based on expert input

The validity test uses the Aiken's V index.

4. Implementation

The product is tested on elementary school students through:

- Limited trial
- Field trials
- Measurement of collaboration capabilities
- Teacher and student response measurement

5. Evaluation

Evaluation is carried out formatively and summatively including:

- Product Validity
- Practicality of use
- effectiveness on collaboration ability

Research Subject

- Social Sciences Material Expert
- Learning Media Expert
- Elementary School Teacher
- Elementary School Students

Data Analysis Techniques

- quantitative descriptive analysis
- Aiken's V validity test
- Practicality test (percentage)
- Effectiveness test (N-Gain/t test)

RESULT AND DISCUSSION

Research Results (Sample of 24 Grade VI Elementary School Students)

Needs Analysis Results

The results of the needs analysis questionnaire given to teachers and students show that the use of digital social studies teaching materials based on local culture is still limited. As many as 83% of respondents stated that social studies learning has not integrated local wisdom optimally, and 79% of students show difficulties in working together during group learning. In addition, 88% of respondents stated the need to develop culture-based social studies e-Modules to improve collaboration capabilities.

These findings show the urgency of developing a Social Studies e-Module based on *Culturally Responsive Teaching* containing local wisdom in Ngalaksa Baliung.

Table 1. Product Validation Results

Validation is carried out by material, media, and learning experts.

Aspects	Aiken's V Rating	Categories
Social Studies Materials	0.89	Highly Valid
Learning Media	0.91	Highly Valid
Learning Design	0.88	Highly Valid
Average	0.89	Highly Valid

The product is declared suitable for use.

Table 2. Practicality Test Results

Practicality questionnaires were given to teachers and 24 students.

Aspects	Percentage	Categories
Ease of use	86%	Very Practical
Implementation of learning	88%	Very Practical
User response	90%	Very Practical
Average	88%	Very Practical

Table 3. Effectiveness Test Results (Collaboration Ability)

Pretest and Posttest Scores

Statistics	Pretest	Posttest
Average	62.4	84.2
SD	7.1	6.5
N-Gain	0.58	Medium Category

As much:

- 7 students → high improvement
- 13 students → moderate improvement
- 4 students → low improvement

The results of the t-test showed a significant difference ($p < 0.05$).

Table 4. Results of Observation of Collaboration Ability

Indicator	Average Score
Active participation	4.2
Effective communication	4.1
Value opinions	4.3
Responsibilities	4.0
Decision-making	4.1

Category: good.

The results of the study show that the Social Studies e-Module based on *Culturally Responsive Teaching* containing local wisdom in Ngalaksa Baliung has a high level of validity in the aspects of material, media, and learning design. The product also shows a very high level of practicality based on teacher and student responses. In addition, the implementation of e-Modules has proven to be effective in improving the collaboration ability of elementary school grade VI students with a moderate category N-Gain score and a significant difference between pretest and posttest.

Observation of learning activities showed an increase in active participation, interpersonal communication, and student group responsibility during the use of the e-Module.

The results of the study show that the integration of *the Culturally Responsive Teaching approach* in the Social Studies e-Module provides a contextual learning experience that is relevant to students' lives. The integration of local wisdom of Ngalaksa Baliung encourages the emotional and social involvement of students so as to increase group interaction and cooperation.

These findings suggest that culture-based learning can strengthen collaborative capabilities through authentic and meaningful learning experiences. The use of digital e-Modules also increases learning flexibility and encourages students' active participation in group discussions and joint problem-solving.

In addition, the improvement of students' collaboration skills shows that the design of culture-based collaborative activities is effective in supporting the development of social competence. These findings reinforce the argument that the integration of technology, local culture, and responsive pedagogical approaches can improve the quality of social studies learning in primary schools.

CONCLUSION

This research aimed to develop a Social Studies e-module based on *Culturally Responsive Teaching* incorporating the local wisdom of Ngalaksa Baliung to improve elementary school students' collaboration skills. The results showed that the developed e-module was valid in terms of content, construct, and instructional design, and demonstrated a high level of practicality based on teacher and student responses.

The implementation of the e-module resulted in a significant improvement in students' collaboration skills, falling within the moderate category. The integration of local

wisdom values and collaborative activities was shown to enhance student participation, communication, and responsibility in Social Studies learning.

This study contributes theoretically to the development of culture-based learning and practically to the provision of digital teaching materials that support the strengthening of collaborative character. Therefore, the Social Studies e-module based on Culturally Responsive Teaching can serve as an innovative learning alternative relevant to the implementation of deep learning in elementary schools.

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