Development Of Local Content Agricultural Learning Tools In Elementary Schools In Enrekang Regency

[1]Derman, [2]Patta Bundu, [3]Bahkrani A. Rauf
[1,2,3]Universitas Negeri Makassar, Indonesia.
[1]derman.alfayyadh@gmail.com, [2]patta.bundu@unm.ac.id, [3]bakhrani@unm.ac.id

Correspondence Email: derman.alfayyadh@gmail.com

Abstract: *This study aims to develop relevant and contextual local agriculture learning tools for elementary school students in Enrekang Regency. Local potential-based education is an effective strategy for instilling local wisdom values from an early age. However, initial observations show that most elementary schools in Enrekang Regency do not yet have well-structured learning tools that are in line with the socio-cultural characteristics of the region. The development model used in this study is the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model, which is a systematic process for producing valid, practical, and effective learning tools. The results of the study show that the learning tools developed have a very high level of validity with an average score of 87.74%. The practicality of the tools reached an average of 86.91%, based on observations of implementation and positive responses from teachers and students. In terms of effectiveness, there was a significant increase in student learning outcomes from an average of 71.3 on the pretest to 84.1 on the posttest, with a gain score of 0.72, which is classified as high.*
Keywords: Learning, Local Content, Agriculture, Elementary School, Enrekang

INTRODUCTION

Basic education is an important foundation in shaping the character, knowledge, and skills of students to face the developments of the times. According to Arifin and Hartati (2023), a meaningful educational process lies not only in the transfer of knowledge, but also in the formation of values and attitudes that are in line with the socio-cultural environment of students. In this context, the application of local content becomes a strategic means of bridging academic knowledge with the realities of community life. Local content provides space for students to recognize, appreciate, and develop the potential of their own region as part of contextual learning. Enrekang Regency is one of the regions in South Sulawesi Province that is known for its abundant agricultural potential, especially in the horticultural sector such as vegetables, coffee, and food crops.

According to Rahman and Darlis (2020), strong regional potential such as this should be integrated into the elementary school curriculum so that children not only understand the

theoretical aspects of agriculture but are also able to appreciate and practice the productive values that arise from their environment. Unfortunately, initial observations in several elementary schools in Enrekang show that local content learning in agriculture is still formal and lacks systematic learning tools that are appropriate for students' needs.

Hidayat and Sumarno (2021) reveal that many schools in the region still have difficulty designing local content learning tools due to limited references, minimal teacher training, and the absence of standard guidelines from the local government. As a result, learning tends to be theory-centered without providing students with direct experience. In fact, meaningful learning should provide students with opportunities to learn through real experiences and direct practices related to their daily lives. Kusumawati, Rahmawati, and Jannah (2021) emphasize that the development of learning tools that are relevant to local potential can significantly increase student motivation and learning outcomes.

In local agriculture learning, for example, students not only learn about plant types and farming techniques, but also understand social values, cooperation, responsibility, and independence. Therefore, teachers need structured and contextual learning tools so that the learning process is not only interesting but also meaningful. Suryani and Gunawan (2022) state that a contextual-based learning approach can create authentic learning experiences because students interact directly with their social and natural environments. Thus, integrating local agricultural potential into elementary school learning can be an effective medium for instilling local wisdom values while strengthening students' conceptual understanding.

The challenges in developing local content learning tools at the elementary school level are still quite significant. Based on a study conducted by Putri and Mulyadi (2023), many teachers in elementary schools are still not skilled in designing contextual lesson plans (RPP). Most of the tools used are still adaptations from general sources without adjustments to student characteristics and regional contexts. This condition indicates an urgent need for research on the development of learning tools that can accommodate local potential and support the implementation of an independent curriculum. The Indonesian government, through its Merdeka Belajar (Independent Learning) policy, emphasizes the importance of school independence in developing curricula according to the needs and characteristics of each region. In this context, research on the

development of local agriculture learning tools is very relevant. This is in line with the views of Ahmad and Purnomo (2024), who state that local content serves as an important instrument in strengthening the cultural identity of students while improving life skills based on the economic potential of the region.

Thus, contextual and applicable learning tools not only contribute to students' academic achievement but also to their character building and independence. Furthermore, Nieveen (2013) explains that in the process of developing learning tools, the aspects of validity, practicality, and effectiveness are the main indicators that determine the quality of an educational product. Valid learning tools must have content, objectives, and methods that are in line with the basic competencies to be achieved. Practical tools must be easy to use by teachers and students, while effective tools must be able to significantly improve student learning outcomes.

Wahyuni and Idris (2022) add that the application of learning tools that are relevant to students' daily lives can increase their interest and motivation to learn because students feel that what they are learning is directly related to the reality of their lives. Therefore, the development of local content-based learning tools is not only aimed at improving academic competence, but also at fostering awareness of local wisdom values, environmental sustainability, and food security at the local level.

This study focuses on the development of local content learning tools for agriculture for elementary schools in Enrekang Regency using the ADDIE development model, which includes the stages of analysis, design, development, implementation, and evaluation. The ADDIE model was chosen based on its systematic and flexible advantages for application in various educational contexts. Based on the above description, this research has high urgency in the context of developing regional potential-based education. Practically, the results of this study are expected to assist teachers in designing more contextual and interactive learning. Theoretically, this research contributes to the development of local potential-based education theory that emphasizes the relationship between learning, culture, and the environment.

Thus, this study is designed to answer the following main questions:

1. How valid are the local content learning tools for agriculture for elementary schools in Enrekang Regency?

2. How practical are the learning tools developed based on the results of observations and user responses?

3. To what extent are the local content learning tools for agriculture effective in improving the learning outcomes of elementary school students?

The purpose of this study is to produce valid, practical, and effective local agriculture learning tools that can be widely used in elementary school learning. In addition, this study also aims to strengthen the relevance between formal education and the potential of the students' surrounding environment, especially in the context of human resource development in agrarian-based areas such as Enrekang Regency.

METHOD

This study uses a research and development (R&D) approach that aims to produce educational products in the form of valid, practical, and effective local agricultural learning tools for use in elementary schools. According to Nieveen (2013), development research is a systematic process designed to produce educational products and simultaneously test the validity, practicality, and effectiveness of these products.

Development Model

The development model used in this study is the ADDIE model, which consists of five main stages, namely Analysis, Design, Development, Implementation, and Evaluation. This model was chosen because it is systematic, flexible, and able to ensure that each stage of development runs according to the planned objectives. According to Arifin and Hartati (2023), the ADDIE model provides clear guidelines for developing learning tools, from the needs analysis stage to the evaluation of the results of implementation in the field. Each stage has specific outputs that form the basis for the next stage, so that the final results obtained are more measurable and of higher quality.

1. Analysis Stage (Analysis)

At this stage, an analysis of learning needs is carried out, which includes an analysis of the curriculum, student characteristics, school environment conditions, and regional potential that can be used as learning resources. Based on observations in several elementary schools in Enrekang Regency, it was found that most teachers did not have learning tools that explicitly integrated local agricultural potential into learning activities. This is in line with the findings of Putri and Mulyadi (2023), who stated that limited resources and guidance made it difficult for teachers to develop local content-based learning.

2. Design Stage

In the design stage, the researchers began to compile a learning tool design, including a syllabus, lesson plans, teaching materials, and student worksheets. According to Hidayat and Sumarno (2021), the design of learning tools must take into account the suitability of basic competencies, achievement indicators, learning objectives, as well as learning activities and evaluations. Therefore, in this study, the learning tools were designed with reference to the local agriculture curriculum contextualized with the environmental conditions of the Enrekang community.

Learning activities are designed so that students can interact directly with the agricultural environment around them. For example, activities such as observing the types of plants that grow in the school yard, planting vegetables in polybags, and recording plant growth. This approach is in line with the views of Suryani and Gunawan (2022) that contextual learning needs to provide authentic experiences that are relevant to students' lives.

1. Development Stage This stage involves the creation and refinement of learning tools based on the design that has been made. The tools are then validated by three experts, namely subject matter experts, media experts, and learning experts. Each expert assesses the suitability of the content, clarity of instructions, integration between components, and suitability for elementary school students. Revisions are made based on expert input to make the product more suitable and relevant to the local context.

As explained by Kusumawati et al. (2021), the expert validation process is an important step to ensure that learning tools meet pedagogical and didactic standards. In this study, validation was carried out using a Likert scale assessment sheet covering aspects of content, presentation, language, and suitability to the local context.

2. Implementation Stage

The implementation stage was carried out at the elementary school where the research was conducted, namely a public elementary school in the Enrekang District. At this stage, the validated learning tools were used in actual learning activities to test their practicality and effectiveness. According to Rahman and Darlis (2020), implementation in development research serves to observe how the developed tools can be applied in real learning situations and how teachers and students respond to them.

Observations were made during the learning process to measure the implementation of the lesson plan, student involvement, and the suitability between the plan and the implementation of activities. In addition, teachers and students were given questionnaires to assess the ease of use of the tools and the attractiveness of the learning activities presented.

3. Evaluation Stage (Evaluation)

The evaluation stage is carried out to assess the extent to which the developed learning tools have met the criteria of validity, practicality, and effectiveness. The evaluation is carried out formatively and summatively. Formative evaluation is carried out at each stage of development to ensure that each component runs according to its objectives, while summative evaluation is carried out after implementation to measure student learning outcomes.

As stated by Wahyuni and Idris (2022), formative evaluation plays an important role in identifying design weaknesses before they are widely applied, while summative evaluation provides an objective picture of the success of educational products. In this study, learning

outcome evaluation was carried out through pre-tests and post-tests covering aspects of knowledge, attitude, and skills.

Research Subjects and Location

The subjects of this study consisted of elementary school teachers and students in Enrekang Regency. The location was selected purposively, considering schools that had implemented local agricultural content learning but did not yet have systematic learning tools. According to Ahmad and Purnomo (2024), the purposive sampling approach is effective in development research because it allows researchers to select subjects that are most relevant to the research objectives.

The number of subjects consisted of 3 classroom teachers and 62 students from three public elementary schools. The involvement of teachers was focused on the implementation stage of the tools, while students were the main participants in learning activities using the developed tools.

Data Collection Techniques

Research data was collected through several methods, namely:

1. Observation, used to assess the implementation of learning and student activities.

2. Interviews, conducted to obtain information about teachers' experiences in using learning tools.

3. Questionnaires, used to measure teachers' and students' perceptions of the practicality of the tools.

4. Learning outcome tests, used to measure the effectiveness of the tools by comparing pretest and posttest scores.

As explained by Hidayat and Sumarno (2021), a combination of qualitative and quantitative methods in development research is necessary to obtain more comprehensive results, as each method provides complementary perspectives.

Data Analysis Techniques

Data analysis was carried out in three main stages, namely:

1. Validity Analysis

Expert validation data was analyzed descriptively and quantitatively by calculating the average score for each assessment aspect. According to Nieveen (2013), a learning tool is considered valid if it obtains an average score above 80% and is categorized as "valid" or "highly valid."

2. Practicality Analysis

The practicality of the tool is measured based on observations of the implementation of the lesson plan and the responses of teachers and students. The data is analyzed using the average score from the observation and questionnaire results. The tool is declared practical if the average score is in the "practical" or "very practical" category (Kusumawati et al., 2021).

3. Effectiveness Analysis

The effectiveness of the learning tools was analyzed through improvements in student learning outcomes using gain scores. The formula used refers to the guidelines for analyzing score improvements as described by Wahyuni and Idris (2022), where gain scores ≥ 0.7 are categorized as "high," between 0.3–0.7 as "moderate," and ≤ 0.3 as "low."

Research Procedure

In summary, this research procedure includes the following steps:

1. Conducting an analysis of the needs of teachers and students regarding local agriculture content learning.

2. Developing a learning tool design (syllabus, lesson plans, teaching materials, and student worksheets).

3. Validating the tools by experts and revising them based on feedback.

4. Implementing the tools in the classroom and observing the learning process.

5. Collecting user response data and student learning outcomes.

6. Analyzing the research results to determine the validity, practicality, and effectiveness of the tools.

All of these stages follow the principles of instructional development as stated by Arifin and Hartati (2023), namely that the development of learning tools must undergo repeated validation and revision tests to achieve optimal quality.

RESULT AND DISCUSSION

The results of this study are presented in three main sections corresponding to the indicators of learning tool quality, namely validity, practicality, and effectiveness. Each section is accompanied by quantitative analysis and qualitative interpretation to provide a comprehensive overview of the quality of the locally developed agricultural learning tools.

1. Results of Learning Tool Validity Testing

The validation process was carried out by three experts, namely subject matter experts, media experts, and learning experts. Each expert assessed several important aspects, including content suitability, clarity of learning objectives, component integration, and suitability for elementary school students.

According to Nieveen (2013), validity is a key aspect in development research because it ensures that the product produced is truly in line with learning needs and curriculum standards. In this study, the validation results showed that the learning tools obtained a very high average score in all aspects.

Learning Device Components	Average (%)	Kategori
Silabus	85.00	Very Valid
RPP	86.25	Very Valid

Learning Device Components	Average (%)	Kategori
Bahan Ajar	88.89	Very Valid
Lembar Kerja Siswa (LKS)	87.50	Very Valid
Instrumen Penilaian	89.06	Very Valid
Average Total (%)	**87.74**	**Very Valid**

Table 1. Learning Tool Validation Results

The results in Table 1 show that all components of the learning tools are in the highly valid category, with a total average of 87.74%. This indicates that the tools developed have met the criteria for content and construction feasibility in accordance with the local content curriculum guidelines.According to Arifin and Hartati (2023), valid learning tools must reflect the relevance between basic competencies and regional characteristics. In this context, the developed tools have integrated the values and agricultural practices of the Enrekang community, such as the introduction of local plant species, traditional planting systems, and the use of school yards as learning media.

In addition to quantitative results, the validation also included qualitative suggestions from experts. For example, subject matter experts suggested adding social context to the teaching material narratives, while media experts suggested using more attractive illustrations for elementary school-aged children. All of these inputs were accommodated in the revision of the tools, thereby significantly improving their quality. These results reinforce the findings of Kusumawati et al. (2021), which state that revisions based on expert input are an important step to ensure that learning tools meet the needs of end users (teachers and students). Thus, it can be concluded that the locally-based agricultural learning tools that have been developed are highly valid and suitable for use at the implementation stage.

2. Results of the Learning Tool Practicality Test

Practicality tests were conducted to assess the extent to which the learning tools were easy to use by teachers and attractive to students. Practicality was assessed through observation of the implementation of the lesson plans and questionnaires for teachers and students. According to

Hidayat and Sumarno (2021), learning tools are considered practical if they are easy to understand, can be applied without significant obstacles, and support the active involvement of students.

Assessment Aspects	Average (%)	Category
Teacher Observation of Lesson Plan Implementation	83.25	Very Practical
Teachers' Responses to Teaching Materials	86.70	Very Practical
Student Responses to Learning Activities	87.53	Very Practical
Student Responses to Student Worksheets (LKS)	88.17	Very Practical
Very Practical	**86.91**	**Very Practical**

Table 2. Results of the Practicality Test of Learning Tools

Based on Table 2, the practicality of the learning tools obtained an average score of 86.91% in the very practical category. This shows that the tools developed are easy to use in the learning process and have received positive responses from teachers and students. According to Rahman and Darlis (2020), the practicality of learning tools is not only measured by ease of use but also by the extent to which the tools facilitate teachers in implementing effective learning. In its implementation in the field, teachers stated that the lesson plans contained clear steps, the teaching materials were easy to follow, and student activities were in line with the learning objectives.

From the students' perspective, the questionnaire results showed that they enjoyed learning using this tool because the learning involved hands-on activities such as planting vegetables, observing plant growth, and recording their observations in their workbooks. These findings are in line with the opinions of Suryani and Gunawan (2022), who emphasize that contextual learning based on field activities can increase students' interest in learning and curiosity. In addition, during implementation, teachers observed that students were more active in asking questions, expressing opinions, and working together in groups. This condition illustrates the occurrence of student-centered active learning. Thus, this learning tool is not only practical to use but also supports the implementation of active and collaborative learning in accordance with the principles of Merdeka Belajar (Freedom of Learning).

3. Results of the Learning Tool Effectiveness Test

The effectiveness of the learning tool was tested by comparing students' learning outcomes before and after using the tool. According to Wahyuni and Idris (2022), the effectiveness of a tool can be seen from a significant increase in student competency after participating in learning using the tool. In this study, effectiveness was measured based on the increase in pretest and posttest scores in three aspects, namely knowledge (cognitive), attitude (affective), and skills (psychomotor).

Learning Outcomes	Pretest (Average)	Posttest (Average)	Gain Score	Category
Knowledge (Cognitive)	70.8	83.5	0.70	High
Attitude (Affective)	72.1	85.0	0.73	High
Skills (Psychomotor)	71.0	83.9	0.72	High
Average Total	**71.3**	**84.1**	**0.72**	High

Table 3. Results of the Learning Device Effectiveness Test

Based on the results in Table 3, there was a significant increase between the students' pretest and posttest scores, with an average gain score of 0.72, which is classified as high. This shows that the learning tools developed were effective in improving student learning outcomes in all three competency domains. This finding is in line with the results of Kusumawati et al. (2021), which show that local potential-based learning tools can improve students' understanding and skills because learning activities are directly related to real experiences. In the context of this study, students learned about the agricultural process by planting, caring for, and observing plants in the school environment, so that they gained direct experience that reinforced the concepts learned. In addition to improved learning outcomes, observations also showed a positive change in students' attitudes towards agricultural activities. They became more appreciative of farmers' work, showed a sense of responsibility for the plants they cared for, and learned to work together with their friends. This is in line with the views of Arifin and Hartati (2023), who emphasize that education based on local potential plays an important role in shaping students' character, especially the values of hard work, discipline, and mutual cooperation. Teachers involved in the study also stated that these learning tools inspired them to develop similar activities in the future. Learning became more interesting, meaningful, and relevant to students' real lives. Thus, the locally-based agricultural

learning tools developed not only improved learning outcomes but also fostered positive character values in elementary school students.

Discussion

In general, the results of this study indicate that the locally-based agricultural learning tools developed are valid, practical, and effective for use in elementary school learning. These findings reinforce Nieveen's (2013) view that the quality of a learning tool can be seen from these three main aspects. In terms of validity, the developed tools meet curriculum standards and contextual learning development principles. The integration of learning objectives, materials, and activities is clearly reflected in each component of the tools. This is in line with the opinion of Hidayat and Sumarno (2021), who state that learning tools are considered valid if they are able to bridge basic competencies with the local reality of students. In terms of practicality, the developed tools facilitate teachers in implementing learning. Teachers no longer have to design activities from scratch because the tools provide detailed and flexible learning steps. Meanwhile, students find learning more enjoyable because they are directly involved in real activities. This condition is in line with the findings of Suryani and Gunawan (2022) that learning activities based on direct experience are more effective in increasing student motivation and participation. In terms of effectiveness, student learning outcomes showed significant improvement in all areas. This proves that context-based learning can strengthen the integration of students' knowledge, attitudes, and skills. According to Wahyuni and Idris (2022), this occurs because contextual learning allows students to construct meaning through direct interaction with their environment. In addition, this study also reinforces the findings of Ahmad and Purnomo (2024), who state that the integration of local wisdom into the elementary school curriculum contributes to the preservation of local culture and the formation of children's social identity. Thus, the development of local agricultural learning tools not only functions as an instructional tool but also as a means of character education and preservation of local values.

CONCLUSION

This study produced valid, practical, and effective local content learning tools for agriculture to be used in elementary schools in Enrekang Regency. The development process was carried out using the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. Each stage was carried out systematically with the involvement of teachers, students, and education experts to ensure that the tools produced were truly in line with field requirements. The validation results showed that the learning tools developed had a very high level of validity with an average score of 87.74%. This proves that the tools produced have met the content and learning objective standards and are in line with the characteristics of elementary school students and the local context of Enrekang Regency. In terms of practicality, the learning tools received a very practical rating with an average score of 86.91%. Teachers and students responded positively to the ease of use of the tools, the clarity of the learning steps, and the interesting activities. The effectiveness test results showed an increase in student learning outcomes with an average gain score of 0.72, which is in the high category. This improvement occurred in all three aspects of student competence, namely knowledge, attitude, and skills.

In addition to academic improvement, the application of local agriculture learning tools also had a positive impact on shaping student character, such as hard work, responsibility, mutual cooperation, and concern for the environment. Overall, this study makes an important contribution to the development of local content curricula at the primary education level, especially in the context of agrarian-based areas such as Enrekang. The learning tools developed can be used as an implementable example for teachers in designing contextual learning oriented towards regional potential.

Recommendations

Based on the results of this study, several recommendations can be made:

1. Local governments and education agencies are advised to encourage each school to develop local content learning tools that are appropriate to their respective regional potential.

2. Teachers need to be provided with ongoing training in the development of contextual learning tools so that they are able to integrate local values into teaching and learning activities.

3. Further research can develop local content learning tools in other fields such as animal husbandry, environmental conservation, or agriculture-based entrepreneurship so that the application of local wisdom values becomes more widespread.

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