

Textbooks based on local wisdom to improve reading and writing skills of elementary school students

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ABSTRACT

Many elementary students still find it difficult to understand the literature content used and it automatically affects their reading and writing skills. However, the adjustment of literature with local wisdom-based content needs to be considered as a supporting tool. This study aimed to improve reading and writing skills using textbook based on local wisdom. The sample was grade 4 of elementary school students who selected using purposive random sampling. This research used a nonequivalent control group design through the experiment and control classes. Data were collected through writing and reading skills test of 32 students in each class and analyzed using N-gain to describe the treatment effect. The results showed that textbooks based on local wisdom were more effective than teaching materials that were not integrated by local wisdom at improving students' reading and writing skills. In the future, this study is a reference for teachers to apply local wisdom to other learning themes.

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1. INTRODUCTION

Literacy is basic skills that include reading, writing, speaking, listening, and operating skills (analyzing, perceiving information, communicating, and describing information based on personal understanding and conclusions in everyday life) [1]-[3]. These skills must be possessed by elementary school students to acquire further learning and knowledge. In actuality, there are still many Indonesian Elementary school students who have low reading and writing skills. This statement was strengthened by the publication Center for Research on Education and Culture Policy in 2019 [4]. Therefore, efforts are needed that require student characteristics and learning resources, one of which is through the local wisdom approach. Learning by considering these characteristics can reduce the gap between goals and learning outcomes [5]-[8].

The gap between literacy goals and learning outcomes is usually caused by the teaching materials scope that are too broad, abstract, and not integrated with local wisdom [9], [10]. Uge, *et al.* [11] states that teaching materials that are integrated with local wisdom can make it students easier to learn and understand. Through local wisdom, students can relate teaching materials to real life contexts. Wijayanti and Sudrajat [12] have confirmed that local wisdom is a view of community life that is different from other communities and adheres to life traditions, norms, and values from generation to generation to become a culture.

Previous research related to local wisdom was mostly carried out in Asian countries, especially Indonesia. This is due to the variety of cultures in it. These researches have proven many positive impacts of engaging local wisdom in learning. Several studies [9], [13] revealed that local wisdom is a people's treasure that must be preserved as knowledge in Thailand, Toharudin and Kurniawan [14], [15] involve local wisdom in assessment, remedial and improve learning outcomes, fostering morality [16], tolerance education [17], mathematics problem solving and higher-order thinking [18], [19], and increased interest in writing and reading [8], [20]-[24]. This study shows that it is important to consider local wisdom to improve reading and writing skills. In addition, it is also concluded that learning that integrates local wisdom has positive implications for learning outcomes.

At present, education still ignores the importance of local wisdom and the result of globalization which focuses on the level of technological progress, resulting in uneven understanding of students [13], [25]. Therefore, the implementation of education must be able to integrate local wisdom as knowledge for students so that learning outcomes contribute to their social environment. Various literary books are needed that integrate local wisdom as material content. In preliminary research conducted through observation, interviews, document analysis, and literature review related to learning in elementary schools in Kediri Indonesia, it was found that: low quality teaching materials, extensive and abstract material content, unintegrated with local wisdom, inappropriate with student characteristics, and low basic literacy skills (writing and reading).

Nationally, it is known that the reading student's literacy in Indonesia is classified as low. This has been shown from the results of a study by the Ministry of Education and Culture in 2019 which found that the national reading literacy index was 37.32 out of 100. Meanwhile, reading literacy for East Java was also low with a literacy index of 33.19 out of 100. Based on the positive impact in previous studies as motivation in this research to consider local wisdom as teaching material. This study applies textbooks based on local wisdom to improve reading and writing skills for elementary students. In the future, the results of this study are expected to be a trigger for teachers to develop other textbooks that involve local wisdom topics.

2. RESEARCH METHOD

2.1. Research design

This research was a quasi-experiment involving the experimental and control classes. The control class was designed as a comparison group and not given special treatment to determine the treatment effect or minimize the effects confounding variables [26], [27]. Meanwhile, the experimental class was treated using textbooks based on local wisdom. The textbooks used are the development products of researchers that have previously been reviewed by recommended experts. The research design is shown in Table 1.

Table 1. Experimental and control design

Group	Pretest	Treatment	Posttest
Experiment	O ₁	X	O ₂
Control	O ₃	-	O ₄

O₁-O₃ and O₂-O₄: Writing-reading skills before and after being given a treatment;

X: Treatment (textbooks base on local wisdom).

2.2. Participants

The samples for experimental and control classes involved were 32 grade 4 students of Elementary School 2 Burengan, Kediri, East Java, Indonesia. This school was chosen refer to preliminary studies including: 1) Low quality teaching materials, too general, abstract, and unintegrated with local wisdom; 2) Textbook material presentation tends to be theoretical and unsuitable by the elementary school student's development; 3) Textbooks format is un-interactive than makes students bored to learn it; 4) The material is adjusted based on the author's environmental; and 5) Low basic literacy skills.

2.3. Data collection

This research was conducted to determine the textbooks effectiveness based on local wisdom in improving the writing and reading skills of elementary school students. The measured writing and reading skills assessment refers to basic competencies indicators of 4th grade. The skill indicators are: planning the value actualization base on text in everyday life, acquire new knowledge from the text, present written information according to context and circumstances, and presenting new knowledge of non-fiction texts by paraphrasing, and using literary elements in writing. The indicators are shown in Table 2.

Table 2. Writing and reading skills indicators base on basic competence

No	Writing and reading skills indicators
I	Planning the value actualization base on text in everyday life
II	Acquire new knowledge from the text
III	Present written information according to context and circumstances
IV	Presenting new knowledge of non-fiction texts by paraphrasing, and using literary elements in writing

2.4. Data analysis

Data were collected through writing and reading skills tests and analyzed using the N-gain score criteria to describe the improvement indicators as shown in Table 3 [26]. Table 3 shows that students who have an N-gain score greater than 0.7 ($g > 0.7$) then the students' reading and writing skills indicators is in the high category, scores between 0.3 and 0.7 ($0.3 \leq g \leq 0.7$) for medium category, while less than 0.3 is low category.

Table 3. Scores and N-gain criteria

N-gain Scores	Criteria
$g > 0.7$	High
$0.3 \leq g \leq 0.7$	Medium
$g < 0.3$	Low

3. RESULTS AND DISCUSSION

The results found that there was an increase in the treatment effect using textbooks based on local wisdom. The integration of local wisdom in textbooks has been proven to improve students' writing and reading skills.

3.1. Minimum completeness criteria

The minimum completeness criteria (MCC) must be met before conducting an analysis of improving writing and reading skills. MCC is a common reference for educators, students, and parents to evaluate the learning process and results [28]-[30]. However, if not fulfilled, generally the learning process has not been decided successful. The minimum MCC score for Indonesian lessons is 75. The difference in pretest-posttest scores between the experimental and control classes based on the percentage increase in students' MCC is shown in Table 4.

Table 4 illustrated that the experimental class which uses textbooks based on local wisdom has a greater percentage of the MCC average score than the control class. The MCC average score for the experimental class was 75%, while 18.75% for the control class. This difference in MCC scores proves that the use of textbooks based on local wisdom is more effective than ordinary textbooks [31]. These results concluded that students' reading and writing skills could be triggered by involving local wisdom as a learning theme.

Table 4. MCC increasement scores of experiment and control class

Treatment	MCC increasement average (%)
Experiment class	75
Control class	18.75

3.2. Writing and reading skills in each indicator

This study measures the effectiveness of local wisdom-based textbooks in improving elementary students' writing and reading skills. Ratana-Ubol and Henschke [32] stated that local wisdom as background for the lifelong learning concept. As we know, the concept of lifelong learning includes strategies for developing human qualities such as integrity, independence, adaptability, resilience, and spirituality. The effectiveness of textbooks in this case refers to the N-gain score criteria. The average increase in writing and reading skills is shown in Figure 1 and Figure 2, while the criteria are shown in Table 5.

Figure 1 shows the differences in writing skills of students in the experimental and control classes based on four indicators of Indonesian lessons. The influence of textbooks based on local wisdom on the experimental class contributed more than the control class. The average percentage of students' writing skills on each indicator I-IV is 19.11%, 17.81%, 17.81%, and 18.62%. This percentage score was obtained in the experimental class. Meanwhile, the average percentage score of writing skills in the control class on each

indicator I-IV increased by 16.11%, 15.72%, 14.81%, 15.62%. These results indicate that the effectiveness of using textbooks based on local wisdom is also better for each indicator. It means that learning themes related to local wisdom make it easier for students to paraphrase assignments in written form.

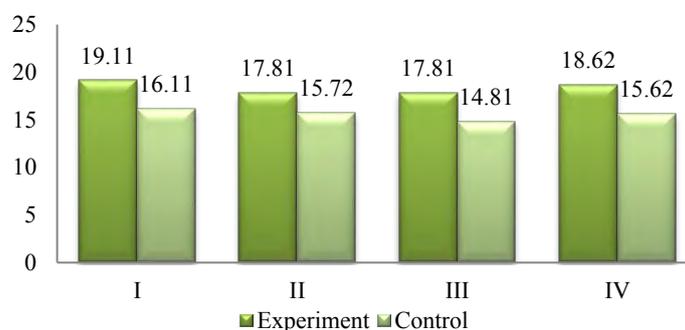


Figure 1. The average percentage improving student writing skill each indicator

The same condition occurs in reading skills that the average percentage increase in students' reading skills is several points lower than writing in the same class; however, the effect of local wisdom is higher. Reading ability increases because it is influenced by reading themes that are considered interesting and unique. Students' experiences in everyday cultural environments have a very important role in facilitating students' understanding of the context being studied. The analysis results of reading skill increase percentage for each indicator are shown in Figure 2.

Figure 2 presents the differences in reading skills of the experiment and control classes. The students reading skills in the experiment class for each indicator I-IV increased by 17.11%, 15.72%, 15.81%, and 18.62%, while in the control class it increased by 15.11%, 14.72%, 13.81%, and 14.62%. These results prove that students' reading skills are better when using local wisdom cases. It means that, students feel more fun and enthusiastic about reading material that is closer to their daily environment. In addition, students find it easier to understand the material. However, the difference in the percentage increase in scores between the experimental and control classes was several points apart, but these results could affect the results of the students' analysis of reading and writing skills criteria. The criteria for students' reading and writing skills in this case are shown in Table 5.

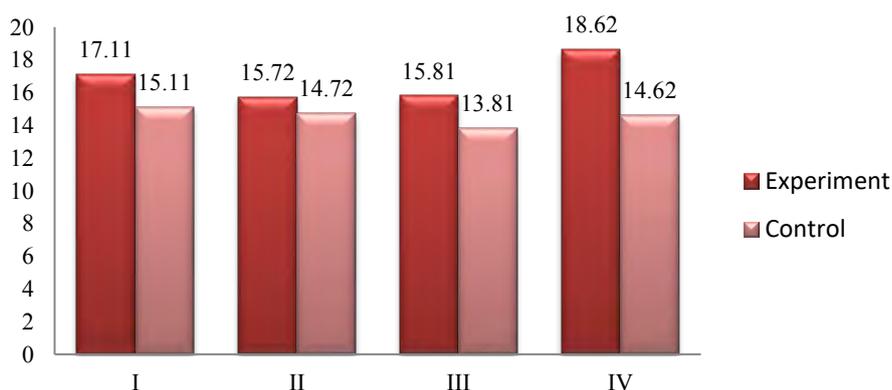


Figure 2. The average percentage improving student reading ability each indicator

Table 5. N-gain score average of experiment and control classes

Skill indicators	N-gain scores			
	Experiment class	Categories	Control class	Categories
I	0.53	Medium	0.27	Low
II	0.48	Medium	0.09	Low
III	0.54	Medium	0.14	Low
IV	0.53	Medium	0.19	Low

The different criteria for students' reading and writing skills are shown in Table 5. There are differences criteria for improving each indicator in the experimental and control classes. All indicators of writing and reading in classes using textbooks based on local wisdom are categorized as Medium. Meanwhile, students who use ordinary textbooks are in the Low category. Students' reading and writing skills on indicator I have an N-gain score of 0.53 (Medium category). This means that students' skills in planning the actualization of values obtained in everyday life. Crook and Evans [33] stated that planning skills can reduce the gap between goals and expectations. In the second indicator, students are expected to gain new knowledge about local wisdom. Students who understand the culture of local wisdom have a good attitude towards their environment [34], [35]. Dewi, *et al.* [36] also added that local wisdom can improve problem solving and communication skills. The third indicator expects students to be able to present written information based on reading results. The application of local wisdom has a positive role in improving students' writing skills [37]-[40]. Meanwhile, the fourth indicator expects local wisdom as elements in presenting non-fiction paraphrases. Dounwilai and Limmanee [41], [42] said that local wisdom can motivate students to do free writing creations, problem solving, and thereby strengthening understanding according to the reading context. Students' skills in paraphrasing tasks in written form can be interpreted as a result of students' understanding of the learning context; therefore, students are not dependent on textbook material.

Local wisdom in the Indonesian cultural system is reflected in religious diversity, ethnic diversity, and language diversity. There are more than 250 ethnic groups, with the majority of the population being Javanese [43]-[45]. The values of local wisdom in Indonesian society are reflected in community participation in every traditional activity. This makes it easier for students to re-describe related local wisdom in written form. An increase in reading and writing skills in this study means that local wisdom is highly considered as learning material. The data trend in Medium category in the experimental class was due to the difference in pretest-posttest scores that were not too adversarial, while the control class had a slight increase in pretest-posttest. However, local wisdom has succeeded in increasing students' reading and writing interest in elementary schools. Through local wisdom that is integrated with textbooks, it can strengthen the elementary school student's character. Local wisdom is very important in shaping the elementary school student's character in the globalization era. Technological developments in various fields have had positive and negative impacts. Globalization can cause a decrease in student's character quality. This is a challenge to instill character so that the nation's values do not fade. This study become evidence and reference for teachers to integrate local wisdom with various subject matter.

4. CONCLUSION

Local wisdom has contributed to improving elementary students' writing and reading skills. This study has proven that learning Indonesian with the theme of local wisdom is better than ordinary books especially for writing and reading skills. Students also understand faster, are enthusiastic, and have fun reading books independently. These results serve as recommendations for teachers to involve cases of local wisdom in learning as an effort to maintain national culture.

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