



# Learning Revolution with Student Worksheets Based on Bondowoso Local Wisdom for Fourth Grade of Elementary School

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## ABSTRAK

Kearifan lokal adalah hal yang sangat penting dikenalkan kepada peserta didik, namun belum banyak sekolah yang mampu memperkenalkan kearifan lokal daerah setempat dan mengintegrasikan ke dalam materi pembelajaran. Bahan ajar yang digunakan guru juga belum memuat materi berbasis kearifan lokal. Hal tersebut berdampak pada peserta didik yang tidak mengetahui kearifan lokal daerah tempat tinggalnya dan hasil belajarnya menurun. Penelitian ini bertujuan untuk menguji validitas, keefektifan, dan kepraktisan LKPD berbasis kearifan lokal Bondowoso untuk meningkatkan hasil belajar peserta didik. Jenis penelitian ini yaitu penelitian pengembangan. Model yang digunakan untuk mengembangkan produk yaitu model Borg and Gall. Subjek penelitian ini adalah peserta didik kelas IV. Metode pengumpulan data menggunakan teknik observasi, wawancara, angket, dan tes hasil belajar. Teknik analisis data menggunakan validasi produk, uji t-test, uji keefektifan relatif, respon peserta didik, dan uji kepraktisan. Hasil validasi yang dilakukan oleh 4 validator mencapai skor 94,75 dengan kategori sangat layak. Hasil uji keefektifan relatif adalah 43,43% dengan kategori keefektifan sedang. Hasil perhitungan respon peserta didik mencapai skor 97,67 dengan kategori sangat efektif. Uji kepraktisan oleh para observer mendapat skor 94,25 dengan kategori sangat praktis. Disimpulkan LKPD berbasis kearifan lokal Bondowoso valid, efektif, dan praktis untuk digunakan dalam pembelajaran.

## ABSTRACT

Local wisdom is essential to introduce to students, but only a few schools can introduce local wisdom from the local area and integrate it into learning material. The teaching materials used by teachers also do not contain material based on local wisdom. This impacts students who need to learn the local wisdom of the area where they live, and their learning outcomes decrease. This research aims to test the validity, effectiveness, and practicality of Bondowoso's local wisdom-based LKPD to improve student learning outcomes. This type of research is development research. The model used to develop products is the Borg and Gall model. The subjects of this research were class IV students. Data collection methods use observation techniques, interviews, questionnaires and learning outcomes tests. Data analysis techniques use product validation, t-test, relative effectiveness test, student response, and practicality test. The validation results carried out by 4 validators achieved a score of 94.75 in the very feasible category. The relative effectiveness test result was 43.43% with the medium effectiveness category. The results of calculating student responses scored 97.67 in the very effective category. The practicality test by the observers received a score of 94.25 in the convenient category. It was concluded that the LKPD based on Bondowoso local wisdom was valid, effective and practical for use in learning.

## 1. INTRODUCTION

Education is an action undertaken by each individual to gain insights, knowledge, and to develop attitudes and skills. Education is a crucial element for human needs in preparing human resources to enhance the welfare, prosperity, as well as the development of the nation and the state of Indonesia (Maulana, 2021; Puspitaningrum et al., 2018; Sajnani et al., 2020). Education also plays a significant role in

enlightening the life of the nation (Tajvidi et al., 2014; Mehrtash dkk., 2019). Human beings can determine and alter their lives through education

The rapid advancement of Science and Technology has complex implications for society. Therefore, education is expected to develop the potential of learners to become individuals who have faith and piety towards the One Almighty God, possess noble character, are healthy, knowledgeable, capable, creative, independent, as well as becoming democratic and responsible citizens (Chauhan, 2017; Lynch et al., 2021; Rahardja et al., 2019). Therefore, a good educational system is one that can shape the character of the younger generation to be of high quality and able to adapt to life within the community.

The government itself always strives to enhance and improve the quality of education in Indonesia (Hairunisya & Sunaryanto, 2020; Shufa, 2018; Sofiyan et al., 2019). "One of the efforts made by the government is to update and refine the curriculum, as the curriculum is one of the crucial components in achieving educational goals." (Abdullah et al., 2022; Ramli, 2019; Siahaan & Ani, 2019). The curriculum is a content that contains rules and activities used to achieve educational goals as a reference in the learning process (Arianty et al., 2021; Puad & Ashton, 2022). The enhanced curriculum has undergone changes towards a more positive direction. (Hairunisya & Sunaryanto, 2020; Kurniaman & Noviana, 2017; Muhajir et al., 2020).

However, in the current era of globalization, often local wisdom values are marginalized within an education system that tends to adopt a general national curriculum (Ratna et al., 2022; Triastari et al., 2021). However, local wisdom is an inseparable part of a society's identity and holds significant potential to enhance students' learning outcomes. The diversity or local wisdom present in each region is crucial to introduce to the learners (Arianty et al., 2021; Habaridota, 2022; Sinthya & Ramadan, 2021). Learning that utilizes the surrounding environment as a source of study is considered more effective and beneficial for both teachers and students. Students also feel that the conducted learning is more meaningful (Wendo et al., 2022; Widiastuti, 2017). This is because the learning becomes increasingly contextual, allowing students to connect the learning materials with their environment, making it easier for them to comprehend the subject matter.

The reality is that many teachers do not introduce and integrate local wisdom from the local region into their teaching materials (Meilana & Aslam, 2022; Nabila et al., 2021; Putri & Ananda, 2020). Teachers tend to prefer using existing teaching materials (Astra et al., 2020; Raharjo et al., 2017), meanwhile, students require comprehensive information about local wisdom-based learning (Asrial dkk., 2021). Therefore, current students are often perceived as having insufficient knowledge about local culture. This is evidenced by the significant number of students who are unaware of their local wisdom (Asrial dkk., 2021). Students are more familiar with and have a greater affinity for foreign cultures. This is because they are unaware that their local area possesses such diverse local wisdom.

As observed among the students in Bondowoso district, they are unaware of the local potential in their residential areas. Based on the interview findings conducted with fourth-grade teachers at SDN Poncogati 1 Bondowoso, it was revealed that Bondowoso possesses a diverse range of local wisdom that is essential to integrate into the learning process. The instructional materials used in fourth-grade classes include thematic books and student worksheets. The content found in the thematic book, especially in theme 7, has been adjusted to match the characteristics of the students. However, material related to the local environment where the students reside has not been taught. Therefore, it is important to introduce locally-based learning materials from Bondowoso to ensure that students become acquainted with and understand the culture or local wisdom of their residential area. Additionally, concerning the implementation of instruction, it is evident that the student worksheets used in the learning process are not well-tailored to the students' environmental context. The content of the book is generally examined and lacks alignment with the students' environmental conditions and capabilities. However, the diverse characteristics, environments, needs, and abilities of students in each region are essential aspects that should be integrated into the learning process.

The purpose of introducing local wisdom is to help students better understand the taught material, as well as to serve as an effort to introduce the local wisdom of the students' residential area, so that it is not eroded by the progress of time (Meilana & Aslam, 2022; Sinthya & Ramadan, 2021). In this context, the research focuses on the development of locally-based student worksheets with Bondowoso local wisdom. student worksheets is an instructional material used by teachers in the learning process, containing summarized content and a collection of activities or tasks that students need to complete (Astawan & Agustiana, 2020). The student worksheets to be developed will be presented as a form of reinforcement, encompassing the same basic competencies as in the thematic book. However, the learning material within will include content based on Bondowoso's local wisdom, encompassing culture and arts, such as traditional houses (Tanean Lanjhâng), traditional attire (Kacong Jebing), and traditional dances (Tari Petik Kopi and Teri Singo Ulung) (Dewi et al., 2021; Efendi & Triaditya, 2020; Swastika et al., 2016; Winarni, 2019).

Bondowoso is an eastern region of East Java rich in unique and diverse local wisdom (Mashoed, 2004). The integration of local wisdom into the student worksheets is expected to enhance the holistic learning outcomes of students, enrich their learning experiences, and foster a strong cultural identity.

The presence of locally-based student worksheets from Bondowoso's local wisdom is expected to enhance students' learning outcomes, transform the learning process from being teacher-centered to student-centered, meaning that students need to be more active in engaging with the learning process. These locally-based student worksheets are suitable instructional materials for students, as they help students understand and comprehend the concepts being taught, especially Bondowoso's local wisdom, through a systematic learning approach. The developed student worksheets will also be more practical. Besides covering content related to the students' living environment, these student worksheets include practice questions that help students exercise their minds to think and remember the previously learned material. This facilitates the teaching process for educators, as students are accustomed to independent learning by working on the practice questions provided in the student worksheets. Furthermore, these developed student worksheets serve as instructional materials for teachers to create an engaging and effective learning environment.

In the development of educational science, there are studies related to the use of local wisdom in learning. According to previous research, the development of student worksheets effectively enhances learning outcomes. The validation results of the product obtained a score percentage of 94.5% and were categorized as highly appropriate (Putri & Ananda, 2020). Based on these results, it is evident that locally-based student worksheets are suitable for use in learning. Similar studies also revealed that validation results obtained a score percentage of 88.3%, while the percentage from the student response questionnaire was 98% with a highly effective category (Arianty et al., 2021). Other studies also indicate that locally-based student worksheets are effective in enhancing student learning outcomes and meet the criteria for being highly suitable for use in learning (Aini & Fathoni, 2022). Based on previous research, it can be concluded that the development of locally-based student worksheets is effective for use in learning and can enhance student learning outcomes. However, there is still a research gap regarding the development of locally-based student worksheets with Bondowoso's local wisdom and its impact on student learning outcomes.

There is a gap in the literature regarding the development of locally-based student worksheets with Bondowoso's local wisdom. While some studies have explored the integration of local wisdom in learning, research specifically focused on the development of locally-based student worksheets with Bondowoso's local wisdom is still limited. Therefore, this study aims to fill this gap by developing student worksheets that can specifically integrate Bondowoso's local wisdom. Furthermore, the research gap lies in the limited knowledge regarding the validity, effectiveness, and practicality of locally-based student worksheets with Bondowoso's local wisdom in enhancing student learning outcomes. While there have been some previous studies indicating the positive impact of integrating local wisdom in learning, this study offers a unique contribution by exploring the validity, effectiveness, and practicality of locally-based student worksheets with Bondowoso's local wisdom specifically for fourth-grade students.

The literature review indicates a need for further research in the development of student worksheets based on Bondowoso's local wisdom. Relevant studies in this context are still limited, and the conducted research so far has yielded varied results. Therefore, this study aims to address this knowledge gap by investigating the validity, effectiveness, and practicality of locally-based student worksheets with Bondowoso's local wisdom in enhancing the learning outcomes of fourth-grade students. Considering the challenges faced by students, teachers, and the school, efforts are being made to address these issues by developing instructional materials in the form of locally-based student worksheets with Bondowoso's local wisdom. These student worksheets will be researched and tested with students. The reasons driving the development of these student worksheets are: (1) based on previous research, locally-based student worksheets have proven effective in enhancing student learning outcomes, (2) students lack awareness and understanding of Bondowoso's local wisdom, (3) the instructional materials used in learning lack variety and fail to engage students' enthusiasm, and (4) there is a lack of instructional materials based on Bondowoso's local wisdom. The purpose of this research is to examine the validity, effectiveness, and practicality of locally-based student worksheets with Bondowoso's local wisdom as an effort to enhance the learning outcomes of the theme 'The Beauty of Diversity in My Country' for fourth-grade students.

## 2. METHOD

The research design employed in this study is a research and development using the Borg and Gall development design (Masyhud, 2021). This research was conducted in May 2022 at SDN Poncogati Bondowoso. The research subjects were fourth-grade students of classes IV A and IV B at SDN Poncogati

Bondowoso, consisting of 15 students in class IV A and 15 students in class IV B. Class IV A served as the experimental group taught using locally-based student worksheets with Bondowoso local wisdom, while class IV B functioned as the control group taught using student worksheets provided by the school.

The data collection methods employed in this research include observation, interviews, questionnaires, and learning outcome tests. Observation aims to observe the learning process conducted in the fourth-grade classroom at SDN Poncogati 1 Bondowoso. Interviews are used to gather initial information regarding the teaching materials used by the teacher during classroom instruction. Questionnaire sheets are utilized to obtain validation data for student worksheets based on Bondowoso local wisdom, as well as to collect student responses during the trial use of the product. Learning outcome tests are used to determine the learning outcomes of students, comprising 22 objective questions. The types of tests conducted are pretest and posttest.

The data analysis in this study was conducted using several techniques. Firstly, the validation results were analyzed using a questionnaire to assess the validity of student worksheets based on Bondowoso local wisdom. Next, a t-test was performed to compare the learning outcomes between the experimental and control groups. The t-test was used to determine if there was a significant difference in learning outcomes between the two groups. Additionally, a relative effectiveness test was conducted to ascertain the degree of relative effectiveness in student learning outcomes when implementing learning with student worksheets based on Bondowoso local wisdom. The data from the student response questionnaire were analyzed to obtain information about students' responses to the use of student worksheets based on Bondowoso local wisdom. Finally, a practicality test was conducted to evaluate the extent to which student worksheets based on Bondowoso local wisdom could be practically applied in classroom learning. Student Response Questionnaire Outline showed in [Table 1](#). Teacher Interview Guideline showed in [Table 2](#). Learning Outcome Test Outline showed in [Table 3](#).

**Table 1. Student Response Questionnaire Outline**

No.	Assessment Aspects	Statement	Number
1	Usage instructions	The instructions for using student worksheets are clear and easy to understand	1
2	Material	The material description in the student worksheets is easy to understand	1
		The content is highly relevant to the culture	1
		The tasks in the student worksheets enhance learning motivation	1
3	Language	The language used in the student worksheets is easy to understand and not confusing	1
		The sentences presented are not confusing	1
4	Student Worksheet Appearance	The pictures in the student worksheets are very appealing	1
		The cover design of the student worksheets is attractive	1
		The appearance of the student worksheets is very engaging and diverse	1
5	Learning	Learning using the student worksheets is very enjoyable	1
		After using the student worksheets, I understand the material better	1
		Learning with Bondowoso's Local Wisdom is interesting	1

**Table 2. Teacher Interview Guideline**

No.	Questions
1	In addition to the teacher's book and student's book used in the 2013 curriculum, are there any other instructional materials used to support the learning process?
2	If there are other instructional materials, have you experienced any difficulties or challenges in using those instructional materials?
3	Does the instructional material used contain content that is relevant to the students' environment and is aligned with their lived experiences?
4	According to you, is it important for students to be given knowledge about their local environment, such as an introduction to local culture or wisdom?
5	Do the students have knowledge about the local wisdom present in Bondowoso?
6	What is your opinion about the thematic book for theme 7? Is the content suitable for the students' living environment?

No.	Questions
7	Have you ever developed printed instructional materials in the form of locally-based student worksheets with Bondowoso's local wisdom?
8	What is your opinion if locally-based student worksheets with Bondowoso's local wisdom are developed to enhance students' understanding of their local environment's conditions and potential?

**Table 3. Learning Outcome Test Outline**

Competency Standards	Indicators	Number
<b>Social Studies</b>		
3.2 Identifying the social, economic, cultural, ethnic, and religious diversity in the local province as the identity of the Indonesian nation and its relationship with spatial characteristics.	3.2.1 Mentioning the various forms of ethnic and cultural diversity in the form of traditional houses in Indonesia.	2
	3.2.2 Selecting the appropriate traditional house based on the province and original island.	1
	3.2.3 Explaining the form, materials used, and uniqueness of the traditional houses in the region.	2
	3.2.1 Mentioning the various forms of ethnic and cultural diversity in the form of traditional clothing in Indonesia.	2
	3.2.2 Selecting the appropriate traditional clothing based on the province and original island.	1
	3.2.3 Explaining the form, materials used, and uniqueness of the traditional clothing in the region.	1
<b>Pancasila and Civic Education</b>		
3.4 Identifying various forms of ethnic, social, and cultural diversity in Indonesia that are bound by unity and solidarity.	3.4.1 Analyzing the attitude and appropriate ways to preserve the existence of traditional houses, traditional clothing, and traditional dances in Indonesia.	4
	3.4.2 Explaining the benefits of living harmoniously in diversity while maintaining unity and togetherness.	2
<b>Indonesian Language</b>		
3.7 Exploring new knowledge contained in the text.	3.7.1 Exploring new knowledge presented in the text.	1
	3.7.2 Identifying important information from a text.	2
	3.7.3 Identifying the main ideas of a text.	3
<b>Arts and Crafts</b>		
3.3 Understanding regional creative dance movements.	3.3.1 Mentioning various regional dances in Indonesia.	2
	3.3.2 Selecting traditional dances that are appropriate for the province and island of origin.	1
	3.3.3 Explaining hand, foot, and head movements during dancing.	1

### 3. RESULT AND DISCUSSION

#### Result

After going through the development phase, the product produced in this study is a student worksheet based on the local wisdom of Bondowoso. The obtained result is a well-structured worksheet that integrates elements of local wisdom into each learning activity. This worksheet covers various aspects of local wisdom, such as traditional houses, traditional clothing, and traditional dances that are relevant to the curriculum of fourth-grade elementary school. The results of this study show a significant difference in learning outcomes between the experimental group (Class IV A) that used the student worksheet based on Bondowoso's local wisdom and the control group (Class IV B) that used the student worksheet from the school.

Before implementing the student worksheet in the learning process, a validation process was conducted by a group of educational and media experts. The validation was carried out to ensure that the student worksheet meets the standards of quality and relevance to the learning needs of the students. The validation results of the student worksheet based on Bondowoso's local wisdom obtained a score of 94.75. This result was then consulted with the criteria table for validation product results, placing the score in the category of "very feasible" since it falls within the score range of 81.00 – 100 (Isnaini et al., 2021). Therefore,



the developed design of the student worksheet product is ready to be tested in the field. After going through the validation phase, the student worksheet based on Bondowoso's local wisdom is implemented in the 4th-grade classroom. This student worksheet is used as a guide and learning resource that integrates local wisdom. Throughout the learning process, the teacher facilitates the use of the student worksheet, provides clear instructions, and encourages students to actively participate in the presented learning activities. After the learning process, an evaluation of the students' learning outcomes is conducted. The effectiveness of the student worksheet is evaluated through the analysis of students' learning outcomes before and after using the worksheet. The evaluation takes the form of a test that assesses the students' ability to understand the learning materials related to Bondowoso's local wisdom. The evaluation data is used to assess the improvement in students' learning outcomes after using the student worksheet based on local wisdom.

The evaluation is conducted through t-test, relative effectiveness assessment, and student response questionnaires. The students' learning outcomes are obtained through pre-tests and post-tests. The results of the independent sample t-test are presented in Table 4.

**Table 4. T-Test Results**

Variable	Statistics	F	Sig.	t	df	Sig. (2-tailed)
Learning	Equal variances assumed	0.105	0.759	2.985	28	0.006
Outcomes	Equal variances not assumed					

The analysis using the t-test reveals that the Sig.(2-tailed) value is 0.006, which is less than 0.05, indicating a significant difference in the mean learning outcomes between the experimental and control groups. Based on the t-test analysis results, the calculated t-value is 2.985. This calculated t-value is then compared with the critical t-table value at a significance level of 0.05. The t-table value for a significance level of 0.05 with degrees of freedom (df) 28 is 2.048. The result shows that the calculated t-value is greater than the t-table value ( $2.985 > 2.048$ ).

The relative effectiveness result of the Bondowoso local wisdom-based student worksheet is 43.43%. Thus, the learning process using the Bondowoso local wisdom-based student worksheet is more effective compared to the learning outcomes of the control group that used the old student worksheet. The data analysis results indicate that the utilization of the Bondowoso local wisdom-based student worksheet is effective in enhancing the learning outcomes of the students. There is a significant improvement in the understanding of concepts and the application of knowledge by the students after using the student worksheet.

A student response questionnaire was administered after the students participated in learning using the Bondowoso local wisdom-based student worksheet. The purpose of this questionnaire was to assess the effectiveness of the student worksheet from the students' perspective. The results of the student response questionnaire for the Bondowoso local wisdom-based student worksheet yielded a score of 97.67, categorizing it as highly effective. The students provided high ratings and exhibited a positive response towards the use of instructional materials that are relevant to their local environment and culture. This indicates that the Bondowoso local wisdom-based student worksheet can provide a more engaging and relevant learning experience for the students.

The practicality of the student worksheet was evaluated through participatory observation with teachers and observers. The evaluation covered the implementation of the learning process, ease of use, content relevance, as well as the impact of the student worksheet on students' interest and motivation to learn. The practicality assessment of the implementation of learning using the Bondowoso local wisdom-based student worksheet yielded a score of 94.25, categorizing it as highly practical. Therefore, it can be concluded that the practicality score of the Bondowoso local wisdom-based student worksheet for the "The Beauty of Diversity in My Country" theme in Grade IV of SDN Poncogati 1 Bondowoso is in the very high practicality category. Teachers and students reported that the student worksheets based on local wisdom from Bondowoso were easy to use and relevant to the students' life contexts. Teachers mentioned that the student worksheets helped to stimulate students' interest and motivation in learning, while students felt actively engaged in the learning process through these worksheets. Referring to the research methodology employed, data analysis indicates that the locally based student worksheets from Bondowoso have good validity, are effective in enhancing students' learning outcomes, and are practical in their implementation.

**Discussion**

The development of student worksheets based on Bondowoso's local wisdom utilizes the Borg and Gall model. The student worksheets are aligned with the core competencies of Grade IV second semester at SDN Poncogati 1 Bondowoso. This research employs 8 stages, as at this phase the researcher is able to conclude the validity, effectiveness, and practicality of the student worksheets. The first stage in this

research is the preliminary study, using the paper, place, and person approaches. The preliminary study aims to obtain accurate information and data related to specific product needs that align with the requirements and desires for conducting the development research that will be carried out (Masyhud, 2021; Sinakou et al., 2019). Conducting literature review, curriculum analysis by analyzing the textbooks used, examining the characteristics of students, and conducting field studies through interviews with the 4th-grade teachers of SDN Poncogati 1 Bondowoso and students regarding the needs in the learning process.

The second phase is the planning and development phase. In this phase, you will formulate a research proposal that includes the research title, research problem statement, research objectives and benefits, literature review, research methodology, research procedures, as well as instruments and schedule of activities. The third phase is the development of the initial product design, which is in the form of student worksheets based on the local wisdom of Bondowoso. The fourth phase is the validation of the product design. The validation of the student worksheet design is conducted by four validators, including 2 content experts, 1 media expert, and 1 practitioner expert. The fifth phase is the revision of the initial product. This revision phase is carried out based on the suggestions and criticisms from the validators (Carlos et al., 2020; Kumalasari et al., 2023). There were several revisions suggested by the validators, ranging from language aspects, content feasibility aspects, and graphical aspects. The sixth phase is the trial usage. This phase aims to gather feedback or responses from students regarding the student worksheet based on local wisdom from Bondowoso (Carlos et al., 2020; Masyhud, 2021). The trial usage of the student worksheet product based on local wisdom from Bondowoso was conducted on a small scale with 15 students from class IV of SDN Badean 1 Bondowoso as respondents. During the trial usage activity, each student was given the student worksheet based on local wisdom from Bondowoso. The trial usage of the student worksheet resulted in a score of over 80% for each answer point. Therefore, no revisions were needed, and the research proceeded to the eighth phase, which is the effectiveness trial.

The effectiveness trial phase aims to determine the effectiveness of the student worksheet product based on local wisdom from Bondowoso (Carlos et al., 2020; Sinakou et al., 2019). The effectiveness trial of the product in this research was conducted in Class IV A and IV B of SDN Poncogati 1 Bondowoso using an experimental method. This phase employed a pre-test post-test experimental design. The trial of the student worksheet product based on local wisdom from Bondowoso was conducted in Class IV A as the experimental group and Class IV B as the control group. Class IV A, the experimental group, received instruction using the new product, which is the student worksheet based on local wisdom from Bondowoso. Meanwhile, Class IV B, the control group, received instruction using the old product, which is the school's standard student worksheet. After the instructional process, both classes were assessed using the same measurement tool (test). The evaluation of the effectiveness criteria of the student worksheet based on local wisdom from Bondowoso was determined using the Independent Sample t-test and Relative Effectiveness Test based on pretest and posttest results. The Independent Sample t-test aimed to determine the level of effectiveness of the student worksheet based on local wisdom from Bondowoso, while the Relative Effectiveness Test was used to assess the level of learning achievement effectiveness among the students (Hasna N, 2023).

The data analysis conducted indicates that the development of the student worksheet based on local wisdom from Bondowoso significantly enhances the learning outcomes of Grade IV students. The students experienced an improvement in their understanding of concepts and the application of knowledge in their everyday lives. This suggests that the use of local wisdom as a learning context can motivate students and help them connect learning concepts to real-life experiences, thereby reinforcing their understanding (Asmah et al., 2022; Fatmawati et al., 2021; Wardani & Suniasih, 2022).

The findings of this research are consistent with previous studies that have shown that the use of local cultural contexts in education can enhance students' learning interest and outcomes (Ayurachmawati et al., 2022; Hanafie Das et al., 2022; Pane et al., 2022). Previous research has found that a local wisdom-based learning approach helps students engage in a more effective learning process (Hasna N, 2023; Wulan et al., 2019). Other studies have also proven that developing instructional materials based on local wisdom is effective in enhancing students' learning outcomes (Azizah & Alnashr, 2022; Rahayu et al., 2020). These findings support the results of this study, where the use of local wisdom from Bondowoso also has a positive impact on students' learning outcomes. This finding provides a deeper understanding of the importance of integrating local wisdom into education to enhance students' learning achievements. In a broader context, this research demonstrates that an instructional approach that connects subject matter with local culture can enrich the learning experience and facilitate a deeper understanding of academic concepts. Therefore, the generalization of this study is that incorporating local wisdom into student worksheets can be an effective strategy to improve students' learning outcomes in various educational contexts.

This study has significant strengths. The main advantage of this research lies in its innovative approach to developing student worksheets based on local wisdom from Bondowoso. This approach allows

students to learn within their own cultural context, providing an authentic and relevant learning experience. By integrating local wisdom into the student worksheets, this study offers students the opportunity to explore academic concepts through the lens of their familiar culture (Astuti, 2021). The cultural diversity of Bondowoso that is reflected in the student worksheets provides a richer and deeper dimension to the learning process. Additionally, this study has provided concrete evidence of the effectiveness of the student worksheets based on local wisdom from Bondowoso in enhancing student learning outcomes. Students who used these student worksheets experienced significant improvements in their understanding of concepts, application of knowledge, and learning interest. These results indicate that using local wisdom as a learning context has a significant positive impact on student learning achievements (Kudsiah et al., 2022; Rahmawati & Margunayasa, 2022).

The findings of this research have several important implications. Firstly, the use of student worksheets based on local wisdom can serve as a relevant and engaging alternative teaching method for students. This can enhance the connection between learning and students' everyday lives, thereby increasing their learning interest and motivation (Rizkiwati et al., 2022; Tohri et al., 2022). Secondly, the utilization of local wisdom can also aid in preserving and appreciating local cultural heritage, as well as strengthening the identity of the students (Haerunnisa et al., 2020; Rahmadanty et al., 2022; Wiyani, 2022).

This research has certain limitations that need to be considered. The study was conducted in a single elementary school in Bondowoso, which means the results may not directly apply to other school contexts. Furthermore, the research focused on 4th-grade students, so generalizing the findings to higher grade levels or school levels needs further investigation. Based on the results of this study, several recommendations are offered for both research and educational practitioners. First, it is advised to involve more schools and regions in similar studies to achieve stronger generalizations about the use of local wisdom in education. Additionally, research involving different age groups and grade levels should be conducted to ascertain the extent of the effectiveness of using local wisdom in education. Educational practitioners are also encouraged to adopt a teaching approach that integrates local wisdom to enhance students' learning outcomes continuously.

#### 4. CONCLUSION

The result of this study is that the development of locally-based student worksheets with Bondowoso local wisdom has a positive impact on improving the learning outcomes of fourth-grade students. The findings of this research are consistent with previous theories that emphasize the importance of incorporating local culture in education to enhance student learning outcomes. By utilizing Bondowoso's local wisdom, this study contributes to enriching our understanding of the significance of considering cultural contexts in instructional material development. This research makes a valuable contribution in complementing our understanding of the use of local wisdom in education and provides a foundation for further in-depth research. Additionally, this study offers recommendations to educators and other researchers to consider integrating local wisdom in instruction as an effort to enhance student learning outcomes.

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