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The Influence of Multiliteracy Learning of Local Bima Fiction Texts Based on Multimodal Approach to Improve Students' High Order Thinking Skills

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Abstract
In the digital era, literacy transcends conventional reading and writing, encompassing the ability to understand, analyse, and produce meaning through various media. This research examines the influence of multiliteracy learning based on local Bima fiction texts with a multimodal approach to improve students' Higher Order Thinking Skills (HOTS) through experimental research with quantitative design involving 60 students from MA Darul Hikmah, Bima Regency, divided into experimental group (30 students) and control group (30 students). The learning implementation was conducted for four months using HOTS test instruments and student perception questionnaires, showing significant improvement results in the experimental group with average scores increasing from 74.27 (pre-test) to 82.40 (post-test) or an increase of 8.13 points, while the control group only increased by 3.90 points with significant differences based on statistical tests ($t = 8.98$, $p < 0.0001$). Multimodal learning successfully developed students' analytical, evaluation, and creation abilities through various activities such as creating digital infographics and interactive multimedia presentations, with questionnaire data showing very positive responses with an average score of 52.07 out of maximum 60 (86.8%), proving that the integration of multiliteracy, multimodality, and local Bima wisdom is effective in improving students' HOTS and creating more interactive and meaningful learning.

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1. INTRODUCTION

In the digital era, literacy transcends conventional reading and writing, encompassing the ability to understand, analyse, and produce meaning through various media. Multiliteracy learning based on local Bima fiction texts with a multimodal approach is important for developing students' HOTS, creativity, and technology adaptation. However, research that combines multiliteracy, multimodality, and local culture is still limited, so this research offers novelty. Implementation of multimodal multiliteracy encourages students not only to remember, but also to apply, analyse, evaluate, and create new solutions (Anam et al., 2025).

Although HOTS is important, many students at MA Darul Hikmah, Bima Regency, still struggle to develop critical and creative thinking skills. Main problems include learning that emphasizes memorization rather than understanding, lack of technology integration in multiliteracy, low appreciation for local wisdom, teachers' limitations in implementing HOTS strategies, and suboptimal utilization of multimodal approaches for various student learning styles.

Previous research shows that much learning in schools is still mechanical and less interactive, where students memorize more than understand, and participate less actively in

class (S. R. Aulia & Prastowo, 2024). Most learning is still cantered on lecture methods and memorization-based exercise drills (Alaudin & Missouri, 2023). Additionally, teachers' low understanding and readiness to implement Problem-Based Learning (PBL) is also a major obstacle (Selirowangi et al., 2024). Most of these studies have not yet integrated the dimension of local wisdom as authentic learning content, even though local Bima fiction texts have philosophical richness and values that can stimulate students' higher-order thinking abilities through cultural analysis processes, moral evaluation, and creative synthesis.

To overcome these problems, a multiliteracy learning approach based on multimodal technology that integrates contextual materials such as local Bima fiction texts is needed to improve students' HOTS. The use of various media such as video, audio, and interactive texts in multimodal-based multiliteracy learning has proven effective in helping students understand material better. This research develops adaptive multimodal technology that enables learning personalization and digitization of local Bima stories.

The use of multimodal media in learning can encourage students to be more independent in learning, develop language skills, and increase interest in reading texts (Ganapathy & Seetharam, 2016). Card media, for example, can make learning more interactive, with classical completeness success rates reaching more than 85% (S. N. Aulia et al., 2024). Additionally, the use of digital platforms like Padlet can enhance collaboration, information sharing, and interactive idea organization among students (Melani et al., 2024).

The stages of multimodal-based multiliteracy learning to improve HOTS include analysis, evaluation, synthesis, problem-solving, and reflection. By combining text and media dynamically and interactively, students are invited to think more deeply and creatively, developing their ability to make informed judgments and innovate in creating new works. Therefore, the multimodal multiliteracy process is very effective in training students' HOTS.

In education, multiliteracy requires students to develop critical thinking by analysing factual problems through multimodal learning (Handini et al., 2017). This interdisciplinary approach supports literacy success by utilizing various forms of communication such as oral, audio, spatial, informational, and visual (Nabhan & Hidayat, 2018). The challenge for educators is designing curricula that develop high-level multiliteracy skills Ganapathy & Seetharam, (2016) with adapted approaches because each student has different abilities and learning styles.

Multimodal learning uses various communication modes such as text, images, sound, and movement Damayanti et al., (2020), allowing students to access and analyse information from various channels (Turner & Tour, 2025). This method facilitates understanding of complex concepts while improving critical and creative thinking abilities (Krathwohl, 2002), especially in analysis, evaluation, and knowledge creation. For example, (Subhan et al., 2025) writing not only channels words but also requires deep understanding. This approach adapts individual student learning styles in each session.

It is important for educators to integrate local elements in multiliteracy learning because it can improve student learning outcomes. The local Bima context is rich in oral traditions such as folktales, advice, and pantun that contain philosophical and moral values. Local Bima stories have 22-character elements according to Pancasila student profiles and 15 HOTS indicators that can be developed. Through socio-cultural acculturation, multiliteracy helps students recognize, understand, and apply these cultural values (Firdausiyah et al., 2024; Tanjung et al., 2023). Folktales and local short stories enrich learning experiences, provided teachers can transform socio-cultural phenomena into relevant and meaningful literary texts (Muhamad Fadli et al., 2021).

Multimodal-based multiliteracy learning can make a major contribution to improving students' HOTS skills. The success of this approach greatly depends on the active role of educators who can design and implement learning according to student needs and local cultural contexts. Awareness, maturity of mind, and sensitivity from teachers and students are needed to see the surrounding world and change their mindset, as well as design and implement good multiliteracy learning (Fadli, 2016).

Education plays a role in developing science and human potential of students, including through cultural inheritance (Haris et al., 2024). With a focus on multiliteracy in local, multimodal, and HOTS contexts, this research formulates problems: the influence of multiliteracy learning based on local Bima fiction texts with a multimodal approach on improving students' higher-order thinking skills; how student interaction with learning media affects higher-order cognitive processes; and factors that influence successful classroom implementation.

This research has novelty because it not only develops multiliteracy and multimodal separately but integrates both in the context of local Bima fiction texts. Students not only read and write, but also interpret, reconstruct, and present story meanings through various media: text, audio, visual, video, and interactive digital. Strengthening local Bima cultural values becomes the main source of learning, so students not only improve HOTS but also cultural identity and character.

The innovative and adaptive learning model developed encourages students to be active, creative, and collaborative. Students are invited to create multimodal projects (such as infographics) based on local Bima stories, so HOTS is sharpened authentically and holistically. HOTS assessment is conducted not only through written tests, but also through digital portfolios, creative projects, multimodal presentations, and students' critical reflection.

This research develops multimodal and contextual HOTS assessment instruments, which have not been widely developed in Indonesia. This research answers globalization challenges by strengthening student identity through introduction and preservation of local Bima stories, while improving their digital and multimodal literacy. By integrating multiliteracy, multimodality, and local Bima wisdom in one learning model, this research offers high novelty and depth.

2. METHODOLOGY

2.1.Research Design

The methodology of this research will use a quantitative approach with an experimental design. This research will involve two groups of students, namely an experimental group that will implement multimodal-based multiliteracy learning and a control group that will follow conventional learning. The research sample will be taken from upper secondary students at MA Darul Hikmah in Woha sub-district, Bima regency, with a total of approximately 60 students. The experimental class consists of 30 students, and the control class consists of 30 students.

In conducting this research, the researcher will collaborate with Indonesian language teachers at the schools involved in the research implementation. Training will be provided to teachers to ensure they understand how to properly implement this learning approach. This is important so that the learning process can run smoothly and achieve the desired objectives.

2.2.Research Stages

The research stages include preparation, implementation, and data analysis. The preparation stage will be conducted for two months, which includes research location

selection, sampling, and research instrument preparation. At this stage, the researcher will also conduct training for teachers to ensure they are ready to implement multimodal-based multiliteracy learning.

After the preparation stage is completed, research implementation will be conducted for four months. In the first month, a pre-test will be conducted to measure students' HOTS skills before implementing the learning approach. Subsequently, the experimental group will follow multimodal-based learning for three months, while the control group will follow conventional learning. During this period, the researcher will observe the learning process and collect data regarding student involvement.

After the learning period is completed, a post-test will be conducted to measure changes in students' HOTS skills. Data obtained from pre-test and post-test will be analysed to determine the effectiveness of the applied learning approach. Data analysis will be conducted for one month, where the researcher will use descriptive and inferential statistics to obtain valid results.

After data analysis is completed, the researcher will compile progress reports and final research reports that include results and discussions along with mandatory research outputs. This report will be compiled within one month and can be published in accredited national journals (Sinta 1-4). Thus, the results of this research can be accessed by educators and policymakers to improve the quality of education in Indonesia.

2.3. Research Instruments and Data Collection

Research instruments use tests and non-tests, namely questionnaires. Data collection through tests uses pretest and post-test, then validated questionnaire sheets. Reliability and validity tests of instruments are conducted empirically with expert judgment.

Data collection will be conducted through pre-test and post-test to measure students' HOTS skills before and after implementing the learning approach. This test will be designed to evaluate higher-order thinking abilities in the context of multiliteracy learning of local Bima fiction texts, Indonesian language learning. Additionally, questionnaires will be used to collect data about student perceptions of multimodal-based learning and factors that influence their motivation.

2.4. Data Analysis

Data analysis will be conducted for one month using descriptive and inferential statistics. T-tests will be used to compare pre-test and post-test results between the experimental group and control group. Thus, it is expected that clear information can be obtained regarding the effectiveness of multimodal-based multiliteracy learning in improving students' HOTS.

3. RESULTS AND DISCUSSION

3.1. RESULTS

3.1.1. Data Description and Statistics

Based on quantitative data obtained from 30 students, the following are descriptive statistics of pre-test and post-test scores for experimental and control groups:

Table 3.1 Descriptive Data

Group	Mean Pretest	Mean Posttest	Dev Std Pretest	Dev Std Posttest	Mean Increasing
Experiment	74,27	82,40	3,74	3,88	8,13
Control	70,40	74,30	3,07	3,05	3,90

Statistical tests show significant differences in HOTS score improvement between pre-test and post-test in both groups. In the experimental group, paired t-test resulted in t = -24.30 with p < 0.0001, while in the control group, t = -26.60 with p < 0.0001. This indicates that there was significant improvement in both groups after intervention, but the improvement in the experimental group was much greater.

Additionally, independent t-test between post-test scores of experimental and control groups shows significant difference (t = 8.98, p < 0.0001), proving that multimodal-based multiliteracy learning applied to the experimental group provides greater positive influence on improving students' HOTS abilities compared to conventional learning in the control group. The following graph displays the comparison of average pre-test and post-test scores in both groups, showing sharper improvement in the experimental group.

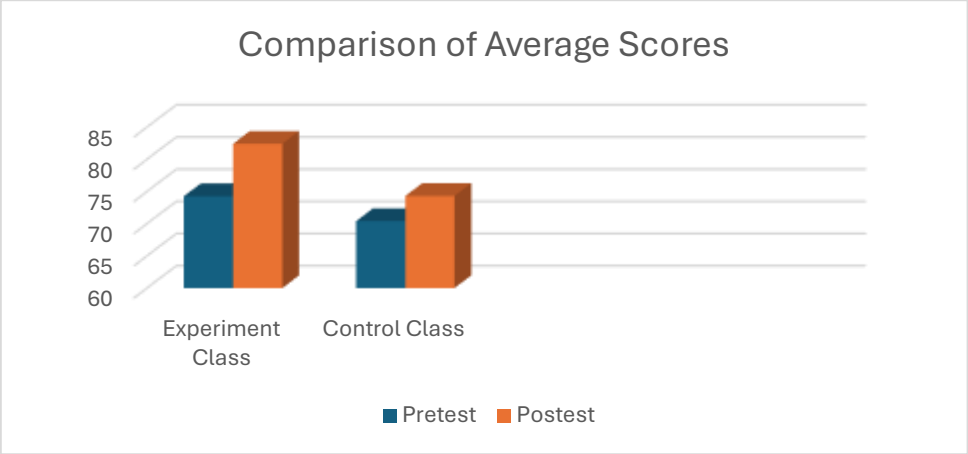

Figure 3.1. Comparison of Average Scores

Based on Figure 1, the comparison of average HOTS ability scores shows a very interesting and meaningful pattern in the context of learning effectiveness. In the initial condition (pre-test), the experimental group had an average score of 74.27 while the control group recorded a score of 70.40, with a difference of 3.87 points or about 5.50%. This difference shows that both groups had relatively homogeneous initial HOTS abilities and were in the "fairly good" category on the assessment scale, making them suitable for comparison in experimental research. This relatively equal baseline condition provides a solid foundation for measuring the impact of learning interventions to be given.

After learning implementation, the post-test condition shows significant transformation in the achievement of both groups. The experimental group achieved an average score of 82.40, successfully entering the "good" category with an improvement of 8.13 points or 10.95% from their initial score. Meanwhile, the control group achieved a score of 74.30 with an improvement of 3.90 points or 5.54% from the initial condition. The post-test difference between the two groups reached 8.10 points or 10.90%, which is more than twice the initial condition difference. This indicates a strong divergent effect, where multimodal-based multiliteracy learning not only provides improvement but also widens the ability gap between the two groups.

3.1.2. Improvement in Higher Order Thinking Skills (HOTS)

Research results show significant improvement in higher-order thinking skills (HOTS) of experimental group students who followed multiliteracy

learning based on a multimodal approach. HOTS aspects that experienced improvement include analytical, evaluation, and creation abilities.

Students in the experimental group were not only able to identify and critically analyse the content of local Bima fiction texts, but also able to evaluate content by connecting local cultural contexts and developing creative works that reflect their deep understanding. Multimodal learning that combines text, images, audio, video, and digital technology supports students to explore various ways of interpreting and conveying information, which effectively enhances their higher-order thinking skills.

When examined in detail, analytical and evaluation abilities show improvement through learning tasks that require students to explore meaning and compare cultural values in local texts. Creation ability is demonstrated through students' multimodal projects, such as creating infographics that show creativity and holistic mastery of material. Digital Infographics: students create digital infographics that contain summaries of cultural values, character traits, and moral messages from local Bima fiction stories. This project trains analytical and evaluation abilities while creatively presenting information in interactive visual form. And interactive multimedia presentations using text, sound, and images, which integrate all aspects of multiliteracy learning.

As concrete evidence, several students produced multimodal works that combined images, sound, and interactive text in their digital presentations. This shows that multimodal-based multiliteracy learning not only improves cognitive abilities but also sharpens their creativity and high-level communication skills.

Similar research also states that multiliteracy learning models can improve critical and creative thinking skills through complex thinking activities involving analysis, evaluation, and synthesis (creation) so that learning experiences become more meaningful and adaptive to 21st-century needs.

Thus, multimodal-based multiliteracy learning is very effective in developing all aspects of students' HOTS significantly and sustainably. This is proven by research results showing that the experimental group experienced significant improvement in analytical, evaluation, and creation abilities. Post-test scores that are much higher than pre-test scores show that multimodal multiliteracy learning can sharpen students' critical and creative thinking skills.

The following table shows observation results conducted by researchers when observing the learning process and collecting data regarding student involvement in improving HOTS (Higher Order Thinking Skills):

Table 3.2. Overview of Results for Improvement in Analysis, Evaluation, and Creation Abilities.

No	Group	Student Name	Analysis	Evaluation	Creation
1		X1	Concept map of character relationships and conflicts in the Bima story	Short essay evaluating the moral values of the story	Digital Infographics

No	Group	Student Name	Analysis	Evaluation	Creation
2	Group 1	X2	Analysis of main character motives and their effects on the story	Critical response to the story's relevance in current context	
3		X3	Cause-and-effect flow diagram in the story	Essay comparing traditional and modern values	
4		X4	Character breakdown and their roles in the story	Evaluation of social conflicts in the story	
5		X5	Photo documentation of text analysis discussion results	Written critique of local cultural aspects in the story	
6		X6	Mapping of conflicts and resolutions in the story	Reflective essay on moral messages	
7		X7	Analysis of language style and symbols in the text	Written critical response about cultural values and their implications	
8		X8	Description of protagonist and antagonist characters	Evaluation of the story's social impact in modern life	
9		X9	Concept diagram of main themes and subthemes	Short essay comparing local vs modern stories	
10		X10	Re-reading and analysing important dialogues	Creative critique on character attitudes in the story	
11		X11	Visualization of story character mind maps	Philosophical evaluation of story and cultural values	

No	Group	Student Name	Analysis	Evaluation	Creation
12	Group 2	X12	Plot and story flow analysis	Essay examining the moral messages conveyed	Interactive multimedia presentation
13		X13	Summary review with thematic analysis	Assessing characters' internal conflicts and environmental influences	
14		X14	Analysing main characters and their backgrounds	Evaluation of characters' relationships with society	
15		X15	Elaboration of main conflicts and their effects	Critique of cultural relevance in modern life	
16		X16	Analysis of symbolic messages and their meanings	Social critique essay in cultural context	
17		X17	Description of language use effects and narrative style	Personal reflection on story values	
18		X18	Creating a concept map of social values in the story	Written criticism of the story's influence on societal behaviour	
19		X19	Analysis of themes and subthemes with quotation examples	Essay comparing tradition and modernity	
20		X20	Visualization of story chronology/timeline	Evaluation of conflict resolution and moral messages	
21		X21	Analysis of characters' internal and external conflicts	Written critique of values and morals in the story	Interactive multimedia presentation

No	Group	Student Name	Analysis	Evaluation	Creation
22	Group 3	X22	Analysing the role of environment in the story	Critical reflective essay on culture's role in the story	
23		X23	Describing character differences and objectives	Evaluation of local values conveyed	
24		X24	Re-reading and creating structured summaries	Critique of characters' influence on society	
25		X25	Extracting themes and symbols from the text	Essay evaluating socio-cultural values	
26		X26	Analysis of plot and main character characteristics	Critique of cultural values and story messages	
27		X27	Creating mind maps about story motifs	Critical evaluation of the story's contemporary relevance	
28		X28	Analysis of language style and its influence on the story	Critical essay comparing moral messages and cultural values	
29		X29	Re-reading and categorizing main ideas	Personal reflection on cultural values in the story	
30		X30	Visualization of theme and character concepts	Critique and reflection on story conflicts and solutions	

This table complements the real picture of students' higher-order thinking skills improvement based on the works and products they created during multimodal multiliteracy learning. Furthermore, the results of the student perception questionnaire regarding multimodal-based multiliteracy learning using a Likert scale and the learning experience results conducted by students

through questionnaire results can be presented and viewed through the graph below

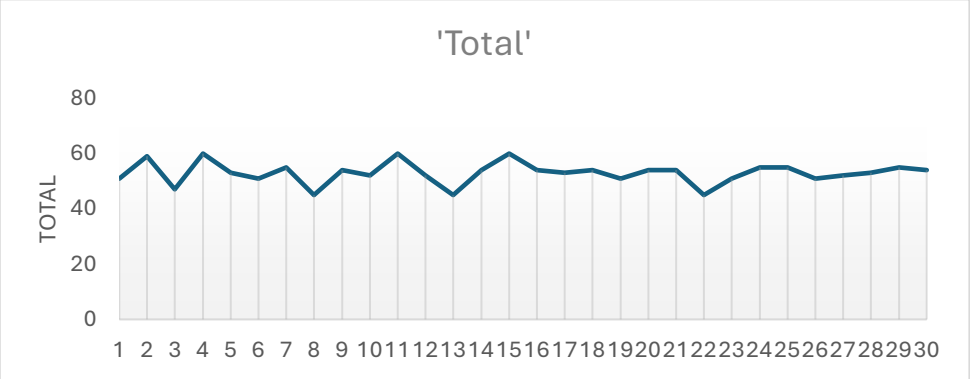

Figure 3.2. Results of Student Learning Experience Questionnaire

Based on the analysis of experimental group questionnaire data (N=30), multimodal-based learning shows a significant positive impact on student perception and motivation, with 90% of students providing positive responses (scores 47-60 out of a maximum of 60). The score distribution ranging from 45-60 indicates reasonable individual variability while remaining within the positive range, where 20% of students achieved high scores (59-60), 70% were in the medium-high category (47-55), and only 10% showed suboptimal responses (score 45). Response patterns on certain items such as P4 and P11 that were consistently high indicate the aspects of multimodal learning that were most effective in increasing student engagement, while variations on other items indicate diversity in individual learning preferences. The finding that only three students (X8, X13, X22) showed consistently low response patterns confirms that the multimodal approach was able to accommodate most student learning styles, although it still requires differentiation strategies to optimize the learning experience for students with special characteristics. Overall, this data provides strong empirical evidence that the implementation of multimodal-based learning successfully created a motivating and engaging learning environment, with potential for improvement through personalized approaches to meet the needs of the entire learner spectrum.

Table 3.3 Descriptive Statistics per Dimension

Dimension	Mean	Standard Deviation	Min	Max	Interpretation
Interest and Motivation (P1-P4)	13.67	1.42	11	16	High
Ease of Understanding (P5-P8)	14.23	1.36	12	16	Very High
Thinking Development (P9-P12)	13.40	1.50	11	16	High
Active Engagement (P13-P15)	10.77	1.17	9	12	High
Total Questionnaire	52.07	4.18	45	60	High

Based on the descriptive statistical analysis per dimension in Table 4.5, multimodal-based learning demonstrates very good effectiveness with a total average score of 52.07 out of a maximum of 60 (86.8%), indicating consistent positive responses from students in the experimental group. The "Ease of Understanding" dimension (P5-P8) achieved the highest score with a mean of 14.23 out of 16 (88.9%) and the lowest standard deviation (1.36), showing that

the multimodal approach is very effective in facilitating concept understanding with high consistency among students. The "Interest and Motivation" (P1-P4) and "Thinking Development" (P9-P12) dimensions show high categories with means of 13.67 and 13.40 respectively, but with larger standard deviations (1.42 and 1.50), indicating individual variability in responses to motivational and higher-order cognitive aspects. Interestingly, the "Active Engagement" dimension (P13-P15) has the lowest mean (10.77 out of 12) although still in the high category, with the smallest standard deviation (1.17), showing that while all students are consistently actively engaged, the intensity of that engagement has not reached maximum level. The distribution pattern with consistent min-max ranges (11-16 for 4-item dimensions, 9-12 for 3-item dimensions) and the absence of extreme outliers confirms that multimodal learning successfully created an inclusive learning experience that is acceptable to the entire spectrum of student abilities, with the main advantage in the ease of understanding aspect, indicating multimodal effectiveness in accommodating various learning styles to achieve optimal conceptual understanding.

Table 3.4 Frequency Distribution of Responses per Statement

Statement	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Mean	Standard Deviation
P1	0 (0%)	0 (0%)	17 (56.7%)	13 (43.3%)	3.43	0.50
P2	0 (0%)	0 (0%)	10 (33.3%)	20 (66.7%)	3.67	0.48
P3	0 (0%)	0 (0%)	16 (53.3%)	14 (46.7%)	3.47	0.51
P4	0 (0%)	0 (0%)	19 (63.3%)	11(36.7%)	3.37	0.49
P5	0 (0%)	0 (0%)	11 (36.7%)	19 (63.3%)	3.63	0.49
P6	0 (0%)	0 (0%)	8 (26.7%)	22 (73.3%)	3.73	0.45
P7	0 (0%)	0 (0%)	14 (46.7%)	16 (53.3%)	3.53	0.51
P8	0 (0%)	0 (0%)	12 (40.0%)	18 (60.0%)	3.60	0.50
P9	0 (0%)	0 (0%)	17 (56.7%)	13 (43.3%)	3.43	0.50
P10	0 (0%)	0 (0%)	19 (63.3%)	11 (36.7%)	3.37	0.49
P11	0 (0%)	0 (0%)	15 (50.0%)	15 (50.0%)	3.50	0.51
P12	0 (0%)	0 (0%)	20 (66.7%)	10 (33.3%)	3.33	0.48
P13	0 (0%)	0 (0%)	15 (50.0%)	15 (50.0%)	3.50	0.51
P14	0 (0%)	0 (0%)	19 (63.3%)	11 (36.7%)	3.37	0.49
P15	0 (0%)	0 (0%)	22 (73.3%)	8 (26.7%)	3.27	0.45

Based on the analysis of frequency distribution of responses per statement in Table 4.6, multimodal-based learning shows very positive acceptance with no negative responses (STS and TS = 0%) across all items, indicating strong consensus that this approach provides positive impact for all students without exception. Statement P6 achieved the highest score with a mean of 3.73 and dominance of "Strongly Agree" responses (73.3%), followed by P5 (mean 3.63; SA 63.3%) and P2 (mean 3.67; SA 66.7%), showing that aspects within the ease of understanding and certain motivational dimensions were most resonant with student experiences. The distribution pattern shows interesting polarization, where items with high means tend to have dominant "Strongly Agree" proportions, while items with relatively lower means such as P15 (mean 3.27) and P12 (mean 3.33) are dominated by "Agree" responses (73.3% and 66.7%), indicating nuanced gradations of perception intensity within the positive spectrum. Consistently low standard deviations (0.45-0.51) show high response

homogeneity, but subtle variations in the distribution of "Agree" vs "Strongly Agree" reveal that while all aspects of multimodal learning are positively accepted, there is a clear hierarchy of effectiveness, with ease of information access and increased learning motivation being the main strengths, while aspects of active engagement and development of certain thinking abilities, although positive, have room for further optimization through more targeted implementation strategy adjustments.

3.2.DISCUSSION

3.2.1. Effectiveness of Multimodal-Based Multiliteracy Learning

The results of this study indicate that multimodal-based multiliteracy learning has a significant positive impact on improving students' Higher Order Thinking Skills (HOTS). The data indicate that the experimental group experienced an increase in HOTS scores of 8.13 points (from 74.27 to 82.40), while the control group only increased by 3.90 points (from 70.40 to 74.30).

This finding aligns with the basic concept of multiliteracy, which emphasizes that "in education, multiliteracies require students to develop critical thinking by analysing factual problems through multimodal learning" (Handini et al., 2017). Research Ganapathy & Seetharam, (2016) also shows that a multimodal approach is effective in making meaning of 21st-century literacy texts, where students can "access and analyse information from various channels" for a more comprehensive understanding.

The strength of the multimodal learning effect is evident in the results of statistical tests, which showed a significant difference between the experimental and control groups ($t = 8.98$, $p < 0.0001$). These results confirm that the integration of various learning modalities can encourage students to "think more deeply and creatively," as stated in the theoretical framework of this study.

3.2.2. Improving Analytical, Evaluation, and Creative Skills

Qualitative data from the study indicate that students successfully developed all three aspects of HOTS comprehensively:

Analytical Skills

Students were able to conduct in-depth analyses of local Bima fiction texts through various activities such as "concept maps of character relationships and conflicts," "analysis of main character motives," and "cause-and-effect flow diagrams." These skills demonstrate that students not only understand the text literally but are also able to identify complex structures and elements within the narrative, in accordance with the levels of analysis in Bloom's revised taxonomy (Krathwohl, 2002).

Evaluative Skills

The results show that students' evaluative skills developed through assignments such as "a short essay assessing the moral value of the story," "a critical response to the story's relevance in the current context," and "an evaluation of the social conflict in the story." These achievements indicate that students can make judgments based on specific criteria and standards, which are key characteristics of HOTS evaluative skills.

Creative Skills

The creative aspect is manifested through multimodal projects such as "digital infographics" and "interactive multimedia presentations." The results of the study indicate that "several students produced multimodal works that combined images, sound, and interactive text in their digital presentations." This achievement reflects the highest level in Bloom's revised taxonomy, namely the ability to create new products from existing elements (Krathwohl, 2002).

3.2.3. Impact of Using Bima Local Fiction Texts

The use of Bima local fiction texts as learning resources has proven effective in improving students' HOTS. This supports the research finding that the local cultural context can enrich learning. As stated in the research framework, "Bima local stories have 22-character elements aligned with the Pancasila student profile and 15 HOTS indicators that can be developed."

The local cultural context provides an authentic dimension to learning that allows students to develop cognitive abilities while "honing their creativity and higher-level communication skills." This is evident in students' ability to connect cultural values with modern contexts through evaluative tasks such as "essays comparing traditional and modern values."

3.2.4. Student Perceptions and Motivation

The questionnaire results showed a very positive response, with an average score of 52.07 out of a maximum of 60 (86.8%). This data confirms the hypothesis that multimodal learning can increase student engagement and create more interactive learning.

Analysis by dimension revealed important findings:

Ease of Understanding (Highest Score)

This dimension achieved the highest score with the lowest standard deviation (1.36), indicating that the multimodal approach was highly effective in facilitating conceptual understanding with high consistency across students. This supports the theory that multimodal learning can "facilitate the understanding of complex concepts while enhancing critical and creative thinking skills."

Active Engagement (Lowest Score)

Although still in the high category, this dimension shows room for improvement. This indicates the need for differentiation strategies to optimize the learning experience for students with special needs.

3.2.5. Theoretical and Practical Implications

Theoretical Implications

This research strengthens multiliteracy theory, which emphasizes the importance of integrating various modalities in learning. Empirical data shows that "this interdisciplinary approach supports literacy success by utilizing various forms of communication, such as oral, audio, spatial, informational, and visual" (Nabhan & Hidayat, 2018).

Practical Implications

The research results provide empirical evidence that the implementation of multimodal-based learning successfully creates a motivating and engaging learning environment. This supports the importance of designing a curriculum

that develops high-level multiliteracy skills to meet the demands of the 21st century.

3.2.6. Limitations and Challenges

Although the research results show a positive impact, there are several important caveats:

1) Individual Variability: The data show variation in student responses, with 20% of students achieving high scores (59-60), 70% falling in the medium-high category (47-55), and 10% showing suboptimal responses (score 45).
2) Consistency of Implementation: The success of this approach depends heavily on educators' ability to design and implement learning tailored to student needs and the local cultural context.

3.2.7. Contribution to 21st-Century Education

This research makes a significant contribution to addressing the gap between conventional, teacher-centred learning and the demands of 21st-century skills, which require critical, creative, and innovative thinking.

The success of this learning model in integrating visual, digital, and cultural literacy demonstrates significant potential for broader application in the Indonesian education system, particularly in developing HOTS skills, which are essential for facing future challenges.

4. CONCLUSION

Based on the research results and discussion, it can be concluded that multiliteracy learning based on Bima local fiction texts using a multimodal approach has been proven to significantly improve students' Higher Order Thinking Skills (HOTS), as evidenced by an average score increase of 8.13 points in the experimental group compared to only 3.90 points in the control group. It successfully developed three main aspects of HOTS: analytical skills through concept maps and character motif analysis, evaluation skills through evaluative essays and critical responses, and creative skills through digital infographics and interactive multimedia presentations. The integration of Bima local fiction texts as authentic learning content has been proven effective in stimulating students' higher-order thinking skills by providing contextual dimensions that strengthen cultural identity, while the questionnaire results showed a very positive response with an average score of 52.07 out of a maximum of 60 (86.8%) indicating the effectiveness of the multimodal approach in facilitating conceptual understanding. This study provides a significant contribution in addressing the gap between conventional learning and the demands of 21st-century skills through the integration of visual, digital, and cultural literacy, with important implications for the development of multimodal-based curricula, teacher training in designing multiliteracy learning, the use of local wisdom as authentic content, and the development of multimodal and contextual-based HOTS assessment instruments to face the challenges of 21st-century education.

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The success of this research serves as concrete evidence that synergy between the school and DPPM can significantly contribute to the development of a more meaningful and adaptive quality of education that meets the needs of the 21st century. Thank you for the trust and cooperation that have been well-established, allowing us to optimally achieve the goal of developing students' potential.

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