The Effectiveness of Utilizing Context Based Teaching Modules to Improve the Cognitive Abilities of Fourth Grade Students at SDN Unsongi

Asmi, Juraid Abdul Latief, Misnah
Program Studi Magister Pendidikan IPS, Universitas Tadulako, Palu, Indonesia

ABSTRACT
This study aims to determine the effectiveness of utilizing context based teaching modules in improving the cognitive abilities of students and to describe the process of its implementation in the fourth grade science (IPAS) learning at SD Negeri Unsongi. Data collection techniques include classroom observation, in depth interviews with teachers and students, questionnaire administration, and documentation of learning outcomes. The results indicate that the use of context based teaching modules is considered highly effective. Students show positive responses, with better comprehension levels, active involvement in classroom activities, and enthusiasm for material presented in a concrete and relevant manner. The module implementation is adapted to the science subject matter on the sub theme of utilizing and conserving natural resources within the context of students' daily lives. The teacher successfully manages active and meaningful learning. Assessment simulations show an improvement in students' cognitive abilities, with average scores reaching the good category. Students are able to connect the material with real life experiences and demonstrate critical and analytical thinking skills.

Keywords: Contextual Module, Science Learning (IPAS), Cognitive Ability, Elementary School

Corresponding author
Name: Asmi
Email: asmimorowali@gmail.com

INTRODUCTION

Entering the 21st century, education has become a fundamental necessity in shaping individuals who are capable of thinking critically and adapting to rapid changes in the world. At the primary education level, students' cognitive abilities such as thinking, understanding, and problem solving serve as key indicators of successful learning outcomes. However, one of the major challenges often faced in the learning process is the lack of relevance between the teaching materials and the real-life context of the students (Anjarsari M, 2022). When teaching modules are too theoretical and lack contextual connections, students tend to struggle in comprehending the material and show low engagement in classroom activities (Fauzi R, 2021). SDN Unsongi is one of the elementary schools encountering similar challenges, especially in the fourth-grade science subject known locally as IPAS (Ilmu Pengetahuan Alam dan Sosial). Observations revealed that

teachers predominantly use lecture-based methods combined with conventional teaching modules that have limited connection to students' everyday experiences. Consequently, students' cognitive abilities tend to be underdeveloped, particularly in higher-order thinking skills such as comprehension, application, analysis, and evaluation. In addition to these difficulties, teachers also face obstacles in designing contextual modules due to constraints in resources and time (Indrawati S, 2023).

Contextual-based learning is believed to offer an effective solution by linking the lesson materials to the students' daily life environment. This approach not only makes the content more relatable but also encourages active participation and deeper understanding. By situating learning within a familiar context, students can better connect abstract concepts to tangible experiences, enhancing their motivation and cognitive engagement (Marinda E, 2020). In light of these issues, this study was conducted to explore the effectiveness of utilizing context based teaching modules to improve the cognitive abilities of fourth-grade students at SDN Unsongi. The study also aims to provide practical recommendations for teachers and school administrators to enhance the overall quality of learning by incorporating contextual approaches in their instructional design (Hyun et al, 2020). The significance of this research lies in its focus on bridging the gap between theory and practice in primary education. By adopting context based modules, teachers can foster an interactive learning atmosphere that stimulates critical thinking and problem-solving skills competencies that are essential in preparing students for future academic and real-world challenges (Nurdin H, 2022). Moreover, the research highlights how relevant, meaningful learning experiences can positively impact student outcomes, moving beyond rote memorization to a more comprehensive understanding of scientific concepts (Khairunnisak et al, 2023).

The contextual teaching modules developed for this study specifically focus on topics within the IPAS curriculum related to the use and conservation of natural resources. These topics were chosen because they naturally lend themselves to connections with the students' everyday surroundings, making it easier for learners to see the relevance and importance of the material (Widiastuti S, 2020). For example, lessons about local water sources, plants, and environmental preservation were integrated with activities that required students to observe, analyze, and discuss real-life phenomena in their community. Implementation of the modules involved several stages, beginning with teacher training to familiarize educators with the principles of contextual learning and the new teaching materials (Prandini R, 2023). Teachers were encouraged to move away from traditional lecture methods and adopt more student-centered techniques such as group discussions, hands-on experiments, and field observations. Classroom activities were designed to be interactive, allowing students to actively construct their knowledge through exploration and collaboration.

Data collected from classroom observations, interviews with teachers and students, questionnaires, and assessments showed promising results. Students demonstrated increased engagement, higher motivation, and improved cognitive performance compared to previous learning experiences. They were better able to apply

concepts to practical situations, analyze information critically, and evaluate environmental issues thoughtfully. The positive response from students also reflected in their enthusiasm and willingness to participate in class activities (Harahap M, 2020). Furthermore, teachers reported that the use of contextual modules helped them manage the learning process more effectively (Lestari W, 2021). The modules provided clear guidance and structured activities that supported meaningful learning experiences. Despite initial concerns about resource limitations, the integration of locally available materials and community involvement made the contextual approach feasible and sustainable. In conclusion, the study confirms that the utilization of context based teaching modules in fourth-grade IPAS learning at SDN Unsongi significantly enhances students' cognitive abilities. This approach fosters a more engaging and relevant learning environment that not only improves academic outcomes but also prepares students to become thoughtful, responsible individuals aware of their role in preserving natural resources (Yuliana F, 2022). The findings suggest that schools and educators should prioritize the development and implementation of contextualized learning materials to support meaningful education in primary schools. To sustain and expand the benefits, it is recommended that schools invest in ongoing professional development for teachers, encourage collaboration among educators to share best practices, and engage parents and the community in supporting contextual learning activities. By doing so, the quality of education can be continuously improved, creating a strong foundation for students' lifelong learning and success.

METHOD

This study employs a qualitative research approach, which is a type of research focused on understanding phenomena or problems within their specific contexts. This approach emphasizes the importance of the social, cultural, situational, and environmental backgrounds in which the phenomena occur. Rather than seeking to measure variables quantitatively, qualitative research aims to explore the meanings and interpretations that arise in real-life settings, providing a deep insight into how contextual factors influence processes, behaviors, or experiences. In the context of this study conducted in the fourth grade at SDN Unsongi, the qualitative approach allows the researcher to capture the complexity of the learning environment and how students and teachers interact with the teaching modules and learning materials. It helps to uncover not just what happens in the classroom, but also why and how certain dynamics unfold based on the unique conditions of the school and the students' backgrounds (Sugiyono, 2022)..

This research is grounded in the postpositivist philosophical paradigm, which acknowledges that reality can be understood but only imperfectly and probabilistically. According to Sugiyono (2022), postpositivism recognizes that all observation is fallible and theory-laden, so researchers must critically interpret data while considering the context and complexity of the natural conditions being studied. Using this approach, the study investigates the natural settings of the classroom without manipulation or artificial intervention. The goal is to describe and interpret the cognitive development of students as they engage with context-based teaching modules, while paying attention to the

influence of social and cultural factors that shape their learning experiences. Overall, the qualitative postpositivist methodology is well suited to educational research where understanding human behavior, attitudes, and interactions in authentic settings is essential for developing effective teaching strategies and improving learning outcomes.

FINDING AND DISCUSSION
RESEARCH RESULT

This study employs a qualitative research approach to gain a comprehensive understanding of the effectiveness of utilizing context-based teaching modules in enhancing the cognitive abilities of fourth-grade students at SDN Unsongi. Qualitative research was chosen for its strength in exploring phenomena within their natural context and uncovering the meanings and interpretations that arise from the lived experiences of both students and teachers. Data collection was conducted through multiple channels to ensure a rich and holistic view of the teaching and learning processes. These methods included in-depth interviews with the classroom teacher and participating students, administration of structured questionnaires to students, direct classroom observations during IPAS lessons, and thorough documentation of student assessment results. The study focused on a sample of 20 fourth-grade students who actively engaged with the context-based modules during their IPAS (Science and Social Studies) lessons. The research revolved around three primary questions: first, the effectiveness of the contextual modules in motivating and facilitating student learning; second, the practical application and integration of these modules within the IPAS curriculum; and third, the measurable impact of these modules on the students' cognitive development.

Effectiveness of Utilizing Context-Based Teaching Modules

The data analysis clearly showed that the implementation of context-based teaching modules had a significant positive effect on student enthusiasm and engagement in the classroom. According to the fourth-grade teacher, Mrs. Nurmalasari, S.Pd., Gr., one of the major strengths of the module lies in its direct relevance to the students' everyday lives. For example, the module incorporates themes such as buying and selling activities, which are familiar to students through their interactions with family members or local markets. This tangible connection between lesson content and real-world experiences helps to bridge the gap between abstract concepts and practical understanding, thereby capturing student interest and increasing motivation (Supriyadi A, 2023).

The structure of the modules themselves was another factor contributing to their effectiveness. The modules were carefully organized with clear, step-by-step instructions and systematic presentation of material, enabling the teacher to deliver lessons more smoothly and confidently. The clarity and organization of the module facilitated better classroom management and allowed more time for interactive activities and student participation, rather than passive reception of information. The questionnaire results offered strong quantitative support for these observations. Of the 20 students surveyed, 90% responded with "strongly agree" or "agree" when asked about the relevance of the

material, the clarity of explanations, and the ease of understanding the lessons using the module. The average score of the questionnaire was 38.53 out of a maximum of 40, indicating overwhelmingly positive feedback. Furthermore, students expressed a high degree of motivation to learn, with an average interest rating of 3.8 out of 4, reflecting genuine enthusiasm for the learning process facilitated by the module. This high level of positive response underscores the module's capacity to create a stimulating and supportive learning environment that resonates well with young learners (Prastowo A, 2022).

Application of Context-Based Teaching Modules in IPAS Learning

The contextual modules were integrated into the IPAS curriculum under the thematic unit titled "Utilization and Conservation of Natural Resources." This theme was carefully chosen because it naturally lends itself to contextualization, linking scientific concepts to students' everyday surroundings. The learning activities within the module actively encouraged students to engage with the material not just cognitively but socially and emotionally as well. During classroom observations, students were seen actively participating in group discussions, confidently asking and answering questions, and demonstrating enthusiasm in completing collaborative assignments. Practical activities embedded within the module, such as role-playing simulations of buying and selling transactions and conducting observations of the natural environment, fostered cooperation and critical thinking. These interactive exercises prompted students to analyze scenarios, evaluate outcomes, and propose ideas collectively, enhancing both their understanding and social skills (Rahmawati S, 2021).

Interviews with students further revealed that they found the learning process enjoyable and accessible. Many noted that the use of colorful images, relatable stories, and hands-on activities made complex scientific concepts easier to grasp. They appreciated how lessons connected directly with their daily experiences, such as recognizing natural resources around their homes or discussing ways to preserve their environment. This relevance made the learning more meaningful, which is a key principle of effective contextual teaching. Classroom dynamics also shifted noticeably during the module's implementation. Rather than passively listening to lectures, students actively constructed their knowledge through dialogue, experimentation, and reflection. The teacher's role evolved into that of a facilitator who guided inquiry and encouraged exploration. This shift not only increased student engagement but also cultivated a more dynamic and lively classroom atmosphere where learning was a shared and interactive process.

Students' Cognitive Abilities After Using the Teaching Modules

To measure the impact of the modules on students' cognitive skills, an evaluation test was administered following the completion of the thematic unit (Santoso D, 2022). The test comprised ten questions: seven multiple-choice and three essay questions, designed according to Bloom's taxonomy to assess a range of cognitive levels from remembering and understanding (C1 and C2) to applying and analyzing (C3 and C4). The results were promising, with an average score of 81.00 out of 100. The highest score recorded was 88,

and the lowest was 75, placing the majority of students firmly in the "Very Good" performance category. This outcome suggests that the modules effectively supported students' cognitive development across multiple dimensions. The teacher observed a marked increase in student participation and confidence when responding to questions and engaging in discussions. Students were not only able to recall factual information but also demonstrated the ability to explain the importance of environmental conservation, analyze the negative effects of over-exploiting natural resources, and propose practical solutions to real-world environmental challenges. This depth of understanding indicates a successful internalization of the subject matter facilitated by the contextualized approach.

Further observations and documentation reinforced these conclusions. Students were frequently able to connect classroom lessons with their personal experiences, often citing examples from their local community during group discussions or written assignments (Sari P, 2020). This ability to relate theory to practice is a critical indicator of meaningful learning and higher-order cognitive functioning. By encouraging students to draw on their own observations and insights, the module helped foster critical thinking and problem-solving skills that extend beyond rote memorization (Setiawan T, 2021). Overall, this study provides strong evidence that context-based teaching modules significantly enhance the quality of learning in the fourth-grade IPAS curriculum at SDN Unsongi. The modules increase student motivation and engagement by presenting material that is relevant and accessible, thereby facilitating a more active and participatory learning process. The practical application of these modules in lessons on natural resource use and conservation encourages collaboration, critical thinking, and real-world problem solving, which are essential skills for 21st-century learners.

DISCUSSION

The positive cognitive outcomes demonstrated through assessment results underscore the educational value of contextual learning. Students not only performed well academically but also showed deeper comprehension and an ability to apply knowledge meaningfully. These findings highlight the importance of designing learning experiences that connect with students' daily realities and encourage active knowledge construction. For educators and policymakers, the implications of this study are clear integrating context-based modules into primary school curricula can substantially improve student learning outcomes. To maximize these benefits, ongoing support for teachers in developing and implementing contextual materials is crucial. Professional development programs focused on contextual teaching methods, collaboration among educators to share best practices, and involvement of local communities in learning activities can all contribute to sustaining and expanding this effective approach. The research at SDN Unsongi illustrates that when teaching is grounded in the realities of students' lives, learning becomes more meaningful, enjoyable, and impactful. By embracing context-based learning, schools can nurture cognitive growth, critical thinking, and a lifelong love of learning, laying a solid foundation for students' future academic success and responsible citizenship.

The results of this study confirm that the use of context-based teaching modules is effective in improving the cognitive abilities of fourth-grade students. This success is reflected in three main aspects such as the affective aspect, where students show high enthusiasm because the material is related to their everyday lives. This is supported by Widiastuti (2020), who states that learning becomes more meaningful when connected to the students' real environment. The participatory aspect also increased as students actively engaged in discussions and hands-on practices, aligning with Prastowo's (2022) view that contextual modules position students as active subjects through exploration and problem-solving. From a cognitive perspective, the improvement in students' abilities corresponds with Piaget's theory (as cited in Marinda, 2020), which emphasizes that children aged 9–11 learn effectively through direct, observable experiences. Khairunnisak et al. (2023) and Hyun et al. (2020) also assert that contextual learning enhances student engagement and conceptual understanding due to their direct involvement in relevant activities. Prandini (2023) adds that systematic, experience-based teaching modules facilitate easier comprehension of material and make learning more enjoyable and applicable.

CONCLUSION

Based on the results of the study conducted in the fourth grade at SDN Unsongi, it can be concluded that the effectiveness of utilizing context-based teaching modules falls into the very good category. This is evidenced by the positive responses from students in the questionnaire, which showed that the modules helped them understand the material in an engaging, clear, and relevant manner connected to their daily lives. The teacher's statement, affirming that the modules greatly aided the learning process, further strengthens this finding. The implementation of the context-based teaching modules in the IPAS lessons was also effective and efficient. The modules successfully created an active, enjoyable, and collaborative learning environment. Students demonstrated high enthusiasm, actively participated in discussions, and were able to relate the lesson content to their real-life experiences. Moreover, the students' cognitive abilities showed a significant improvement, with an average test score of 81.00 out of 100, which is categorized as Very Good. This indicates that students were able to better understand, apply, and analyze IPAS concepts after using the modules.

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