RESEARCH PAPER
published: 30-05-2025
doi: 10.21070/sej.v%vi%i.1695

Analysis of Diagnostic Assessment in the Science Subject for 4th Grade Elementary School

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Diagnostic assessment plays a crucial role in the learning process, particularly in identifying students' prior knowledge and learning needs before instruction begins. This study aims to analyze the implementation of diagnostic assessment in the Science (Natural Science and Social Studies) subject for fourth-grade elementary school students. A qualitative descriptive approach was used to examine how diagnostic assessments are conducted and their impact on student learning outcomes. Data were collected through classroom observations and student performance analysis. The results indicate that diagnostic assessments help teachers design more effective learning strategies tailored to students' abilities. However, some teachers do not fully implement diagnostic assessments, leading to disparities in students' understanding of the material. The findings emphasize the need for proper training and structured implementation of diagnostic assessments to enhance students' critical thinking skills and improve overall learning outcomes.

Keywords: Diagnostic Assessment; Elementary Education; Science; Learning Outcomes; Curriculum Implementation

OPEN ACCESS
ISSN 2540 9859 (online)
Edited by:
Septi Budi Sartika
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dwipangestu120582@gmail.com
Received: 20-05-2025
Accepted: 23-05-2025
Published: 30-05-2025
Citation:
Pangestuningtyas Dwi et al (2025) Analysis of Diagnostic Assessment in the Science Subject for 4th Grade Elementary School. Science Education Journal (SEJ). 9:1. doi: 10.21070/sej.v%vi%i.1695

INTRODUCTION

Diagnostic assessment plays an important role in the learning process, especially in identifying students' initial abilities and learning needs before starting the instruction. Diagnostic assessment aims to diagnose students' basic abilities by understanding their initial conditions (Krisma & Septiani, 2024). Diagnostic assessment is a specific assessment conducted to identify students' competencies, strengths, and weaknesses, so that learning can be designed according to the diverse competencies and conditions of the students (Kepmendikbud No.719/P/2020). This assessment plays a very important role in identifying students' initial abilities, both from cognitive and non-cognitive aspects. Through the implementation of diagnostic assessments, teachers can design appropriate learning strategies, thereby enhancing students' critical thinking skills. Therefore, teachers need to prepare diagnostic and formative assessments at the beginning of the learning process.

Based on the research, diagnostic assessments are conducted to understand student diversity (Oktaviana Putri, 2021). According to (Wahyuningsih & Maryani, 2023) shows that the implementation of diagnostic assessments can improve student learning outcomes in social studies education. In addition, a study by (Ali & Mulasi, 2023a) emphasizes the importance of developing local content in the curriculum to enhance students' cultural identity. The implementation of diagnostic assessments is also in line with educational policies that emphasize the importance of a deep understanding of students. Thus, diagnostic assessments not only help in understanding students' initial needs and abilities but also play a role in planning effective learning in accordance with national education policies.

Valid and practical diagnostic assessments can help teachers understand students' learning readiness, allowing instruction to be tailored to individual needs. According to (Anggrayni & Agustina, 2023) Effective diagnostic assessment in identifying students' initial abilities in cultural diversity material, which is then used as a basis for designing effective learning strategies. With well-planned and directed strategies, teachers can create a more effective and responsive learning environment that meets students' needs (Ningsih & Zalisman, 2024). Diagnostic assessment allows teachers to adjust the learning model to students' needs, as shown in this study, which demonstrates that Problem-Based Learning (PBL) is effective in enhancing critical thinking skills (Mas et al., 2023).

Based on the results of the observations conducted by the researcher in the fourth grade at SDN Watesari, Balongbendo District, Sidoarjo Regency, problems were found for fourth-grade students in the implementation of the Science learning process. The teacher immediately starts the lesson by explaining the material according to the schedule, then the students are asked to work on practice questions related to the material that has been taught. So the teacher does not conduct an initial assessment to determine the students' initial abilities. According to (Maut, 2022) states that initial assessment or diagnostic assessment is an evaluation in the independent curriculum specifically conducted to understand the characteristics, competency conditions, strengths, and weaknesses of students' learning models, so that teachers can design methods, models, and learning media according to students' characteristics to deliver learning achievement materials. The term diagnostic is defined as the teacher's effort to identify symptoms after conducting observation (Nur et al., 2024). In the context of the natural and Social Sciences subject for 4th grade elementary school, particularly on the topic of Indonesia's cultural diversity, the teacher plays a role by innovating and trying to explore the concepts possessed by the students and integrating them with the students' prior knowledge (Vidianto et al., 2018). The learning process in the subject is effective in addressing problems faced in social life, as it enhances students' potential to become sensitive to social issues in the community (Hasnih & Jacky, 2022). According to diagnostic assessment, in the subject of Science and Social Studies for fourth-grade elementary school students, it is important to identify students' initial understanding so that ecoliteracy-based learning can be more effective in enhancing environmental awareness and critical thinking skills (Ma'wa & Gunansyah, 2024).

Based on the problem, the researcher plans to conduct a study on the implementation of diagnostic assessment, which is expected to address the existing issues. One way to address this issue is by implementing diagnostic assessments. It is hoped that with the implementation of diagnostic assessments, students' cognitive learning outcomes can improve. The purpose of implementing this assessment is to analyze whether the diagnostic assessment can meet the achievement of learning objectives, as well as to describe appropriate follow-up actions for students who have not yet achieved the learning objectives, and to serve as a consideration for analyzing the results of the diagnostic assessment in the subject in the fourth grade.

The current Merdeka Curriculum combines two subjects, namely Natural Science and Social Sciences, into a single unit called Natural and Social Sciences at the elementary school level. This integration is based on the understanding that elementary school students are in a phase of thinking that is holistic, complete, and concrete. According to (Marwa et al., 2023) The role of elementary school teachers provides a positive response to the subject, showing that they have understood the essence of the existence of this subject. Teachers also assess that Science can facilitate both teaching

and learning for students, as the material taught consists of essential elements that are intersections of the two subjects. This can reduce the burden in the scope of material and learning outcomes, allowing teachers to have more time to facilitate students in exploring through various interesting learning models and methods (Supriyadi et al., 2022). Study (Marwa et al., 2023) stating that the teachers believe that the existence of Science is very important for students, because it is necessary for them to get used to balancing efforts to preserve and conserve nature, as well as developing attitudes of sympathy and empathy towards fellow humans. In addition, the teachers also show readiness to implement Science learning in elementary schools, by starting to create well-prepared planning, implementation, and assessment (Anggrayni & Agustina, 2023).

Thus, the integration of diagnostic assessments in Science learning on the topic of Indonesia's cultural diversity is expected to enhance the quality of education and students' critical thinking skills. This approach provides teachers with the opportunity to adjust learning strategies according to students' needs, as well as to utilize engaging media to deepen their understanding of Indonesia's cultural diversity. Study by (Ali & Mulasi, 2023) emphasizing the importance of curriculum transformation that integrates local content to enhance students' cultural identity. In addition, research by (Barus, 2024) shows that the development of culturally-based assessment instruments can help measure students' critical thinking skills and global diversity. Whereas according to (Elsabrina et al., 2022) also emphasizes the importance of group counseling services with creative problem-solving techniques in enhancing students' critical thinking skills. Diagnostic assessment helps determine effective learning strategies, as shown in this study, which demonstrates that Problem-Based Learning and Discovery Learning enhance students' critical and creative thinking skills (Subagtio et al., 2021). Diagnostic assessment in Science learning helps identify students' initial understanding, allowing STEAM-based strategies and educational games to be implemented to improve their numeracy literacy and critical thinking skills (Wiryanto et al., 2024).

Based on the background, the researcher is interested in conducting a study titled "Analysis of Diagnostic Assessment in the Science Subject for 4th Grade Elementary School." With this research, it is hoped that it can provide benefits to teachers in understanding the initial abilities of students before the learning process, so that the material to be taught can meet learning achievements. Additionally, it can benefit schools by enabling the implementation of diagnostic assessments in the Merdeka Curriculum to accommodate the diverse needs of students.

METHOD

The type of research used by the researcher is a qualitative descriptive approach. The qualitative descriptive approach is used to understand the reality of phenomena experienced directly by the subjects in the study, which are then described narratively based on direct observations during the learning process conducted by the teacher. According to (Auliya et al., 2020) This approach starts from a theoretical framework, ideas from experts, and the researcher's understanding based on experience, which are then developed into problems along with their solutions proposed to obtain truth (verification) in the form of reported empirical data.

In this study, conducted at SDN Watesari Sidoarjo in the fourth grade. The participants selected for this study were 17 students to determine their initial abilities before the learning process began, who experienced difficulties in focusing on learning when asked to solve problems due to detected difficulties in understanding the material.

According to (Prihatni et al., 2016), Diagnostic tests have characteristics that differ from other test items. In a diagnostic test, the answers or responses given by students must provide sufficient information to infer the problems or difficulties they are experiencing (having a diagnostic function). Data will be collected by researchers through student observation techniques and observations related to child development. The results will be processed using qualitative descriptive methods so that the data can be used to provide an overview of the findings in the form of conclusions, which will then be compiled into a research report.

RESULT AND DISCUSSION

Results

From the data obtained from observations and the cognitive diagnostic assessment research sheet, data was obtained through analysis activities by considering the results of each item answered by the students. The questions that have been created by the researcher are categorized as easy and moderate. From these indicators, the researcher also categorized each question with the following descriptions:

[Table 1 about here.]

The category is based on the scores obtained by students after completing the diagnostic assessment questions. After data calculation and processing, the results of the diagnostic assessment completed by the students can be applied by considering the indicators and the difficulty level of the questions.

One of the essential aspects of the Merdeka Curriculum in order to improve the basic education system in Indonesia is the merging of Natural Sciences and Social Sciences into Natural and Social Sciences (Science) (Andreani & Gunansyah, 2023). The Science subject in the Merdeka Curriculum has a positive impact on students, namely changes in the implementation process of student learning. In the Merdeka curriculum, students are given the opportunity to explore and express their learning interests, aiming to shape positive student character from diagnostic assessments to determine learning readiness (Sasomo & Rahmawati, 2023a). With the presence of diagnostic assessments at the beginning of learning, it will directly improve students' learning outcomes. That statement is reinforced by the opinion (Wahyuningsih & Maryani, 2023) shows that the implementation of diagnostic assessments can improve student learning outcomes in social studies education.

From the results of the cognitive diagnostic assessment test, it is known that there are still some students who have not fully understood the SCIENCE material on the diversity of Indonesian culture, as reflected in the percentage. This can be seen from the assessment results as follows:

[Table 2 about here]

From the table, it can be represented in a bar chart as follows:

[Figure 1 about here]

[Table 3 about here]

From the table, it can be represented in a bar chart as follows:

[Figure 2 about here]

Based on the calculation results above, after being analyzed by the researcher, it can be understood that the fourth-grade students of SDN Watesari Sidoarjo have different initial abilities for learning readiness; some are already proficient while others are still developing. The differences were identified by conducting a cognitive diagnostic assessment analysis on the data results through the questions given by the teacher at the beginning of the lesson.

Discussion

The assessment activities consist of three activities, namely diagnostic assessment, formative assessment, and summative assessment (Hamzah & Rodiyana, 2025). At the diagnostic assessment stage as an initial understanding phase by classifying the types of superior products in Indonesia. Students are asked to mention flagship products based on the classification of flagship product types in Indonesia. Diagnostic assessment is an important element in student-centered learning. According to (Kurniawan et al., 2021), This assessment aims to diagnose students' initial abilities in order to determine the appropriate learning strategies. Research results by (Wahyuningsih & Maryani, 2023) shows that diagnostic assessments contribute to the improvement of student learning outcomes in social studies education. Similar findings were also reported by (Mustaqim et al., 2024) which emphasizes that this assessment helps understand the diversity of student characteristics. The implementation of diagnostic assessments not only enhances teachers' understanding of students' learning readiness but also facilitates the application of more effective teaching methods. Therefore, this assessment must become an integral part of the learning process at various levels of education.

In the context of the Science subject, diagnostic assessments serve to identify students' difficulties in understanding the concept of cultural diversity. Research by (Anggrayni & Agustina, 2023) shows that diagnostic assessments can reveal various obstacles students face in understanding the material on cultural diversity. Teachers who use the results of diagnostic assessments are able to develop learning strategies that are more aligned with the needs of the students. Study by (Hasnih & Jacky, 2022) also emphasizes that this assessment plays a role in enhancing students' social sensitivity to cultural and societal issues. Therefore, it is important for teachers to adapt their teaching methods based on the results of diagnostic assessments. This is in line with the Merdeka Curriculum, which emphasizes an individualized learning approach.

The results of the observation at SDN Watesari indicate that many teachers have not yet implemented diagnostic assessments optimally. Teachers tend to explain the material directly without identifying students' learning readiness. However, according to (Maut, 2022), Diagnostic assessments in the Merdeka Curriculum are very important for understanding the characteristics and initial abilities of students. (Vidianto et al., 2018) also emphasizes that this assessment allows teachers to explore students' initial concepts before teaching new material. Without initial assessment, many students struggle to understand the concepts being taught, especially in the subject of Science. Therefore, a change in the learning strategy is necessary by integrating diagnostic assessments at the beginning of the learning process.

Analysis of the diagnostic assessment results conducted on the fourth-grade students of SDN Watesari shows that there are differences in students' levels of understanding. Based on the data obtained, 59% of the students are classified as

proficient in understanding the material on cultural diversity, while 41% are still in the developing stage. This result is in line with the research (Barus, 2024) which shows that culture-based assessments can help measure students' critical thinking skills and global diversity. These findings indicate that diagnostic assessments not only function as evaluation tools but also serve as a foundation for designing more inclusive learning strategies. Thus, diagnostic assessments can be used as a tool to design learning interventions that meet students' needs. Therefore, the implementation of this assessment is very necessary in the teaching of Science at the elementary school level.

In addition to identifying student difficulties, diagnostic assessments can also enhance the effectiveness of the teaching strategies used by teachers. Study by (Ningsih & Zalisman, 2024) shows that learning strategies based on diagnostic assessment are more responsive to students' needs. This allows teachers to adjust teaching methods, such as the use of visual media or project-based learning, to enhance student understanding. In addition, the researchers (Elsabrina et al., 2022) emphasizing that group guidance services with creative problem-solving techniques can enhance students' critical thinking skills. In other words, diagnostic assessments serve as a foundation in developing innovative learning methods. Therefore, teachers must integrate the results of diagnostic assessments into their lesson planning.

The Merdeka Curriculum emphasizes the importance of integrating natural and social sciences into a single subject, Science, to foster a holistic mindset in students. According to (Marwah et al., 2018), The teacher gave a positive response to the Science subject because it helps students understand the relationship between nature and society. Research results (Supriyadi et al., 2022) shows that the integration of these two disciplines can reduce students' cognitive load and enhance learning effectiveness. With the presence of diagnostic assessments, teachers can identify the extent to which students understand the integration of social science and natural science concepts. In addition, a study by (Ali & Mulasi, 2023a) also emphasizes the importance of integrating local content into the curriculum to enhance students' cultural identity. Therefore, diagnostic assessments become an important tool in helping to implement a more relevant learning approach that meets the needs of students.

The implementation of diagnostic assessments in Science learning also provides an opportunity for teachers to apply differentiated learning methods. According to (Wahono et al., 2022), differentiated learning allows students to learn according to their individual styles and paces. Thus, students who have a slower understanding will not fall behind their peers. Study by (Sasomo & Rahmawati, 2023b) asserts that diagnostic assessments in the Merdeka Curriculum allow students to explore and express their learning interests. This has a positive impact on students' motivation and participation in the learning process. Therefore, diagnostic assessments need to be made a primary strategy in supporting differentiated learning in the classroom.

In addition to its benefits in enhancing student understanding, diagnostic assessments also contribute to improving the effectiveness of teachers' roles in the learning process. Research by (Anggrayni & Agustina, 2023) shows that teachers who implement diagnostic assessments are more capable of adapting teaching methods to meet students' needs. In addition, research by (Prihatni et al., 2016) asserts that diagnostic tests provide more accurate information regarding students' learning difficulties compared to traditional assessments. Thus, diagnostic assessments can help teachers in developing lesson plans that are more data-driven and tailored to students' needs. Therefore, training for teachers in designing and implementing diagnostic assessments needs to be improved. This will have a positive impact on the quality of learning in elementary schools.

The success of diagnostic assessments in Science learning is also supported by the availability of valid and reliable assessment instruments. According to (Barus, 2024), the development of culture-based assessment instruments can help measure students' critical thinking skills more accurately. In addition, a study by (Nur et al., 2023) shows that assessments based on observation and interviews are also effective in identifying students' needs. With this assessment, teachers can design learning strategies that align with the individual needs of students, making the learning process more effective and optimizing learning outcomes (Aisyah et al., 2024). Therefore, it is important for teachers to choose assessment instruments that are appropriate for the characteristics of the students and the material being taught. Thus, diagnostic assessments can generate more comprehensive and useful information for the design of learning strategies. The implementation of good assessments will have a positive impact on the effectiveness of the learning process.

Overall, diagnostic assessments play an important role in improving the quality of Science learning in elementary schools. Various studies show that this assessment not only helps in understanding students' learning readiness but also enhances the effectiveness of the teaching strategies used by teachers. By implementing diagnostic assessments, teachers can develop lesson plans that are more tailored to students' needs and differentiation. In addition, this assessment also plays a role in enhancing students' motivation and critical thinking skills. Therefore, it is important for schools and policymakers to continue promoting the implementation of diagnostic assessments in the Merdeka Curriculum. Thus, Science learning can become more inclusive and effective for

all students.

Endometrial cancer is the most common gynecologic malignancy in high-income countries, with a rising global incidence. Early and accurate diagnosis is critical for effective treatment and improved outcomes. The endometrial cytology test (ECT) offers a less invasive and more acceptable screening alternative compared to traditional methods such as dilatation and curettage (D&C). This systematic review and meta-analysis included 26 studies evaluating the diagnostic accuracy of ECT for detecting endometrial cancer. The pooled sensitivity and specificity of ECT were 84% and 98%, respectively, though sensitivity varied considerably depending on the cytological sampling method and reference standard used. Among sampling tools, the Li brush demonstrated the highest sensitivity (96%), whereas the Uterobrush showed the lowest (57%). Despite its high specificity, ECT's sensitivity is insufficient to reliably exclude endometrial cancer, indicating that negative ECT results should be followed by further diagnostic work-up when clinical suspicion persists. The study highlights the potential of ECT as a simple, non-invasive screening tool while emphasizing the need for continued research to optimize sampling techniques and incorporate advanced technologies like immunocytochemistry and artificial intelligence to enhance diagnostic accuracy. Limitations include heterogeneity among studies and limited sample sizes, underscoring the need for larger prospective cohort studies to validate these findings and improve cost-effectiveness (Wang, 2023).

CONCLUSION

The application of diagnostic assessments in Science learning plays an important role in identifying students' initial abilities and learning needs. This research shows that diagnostic assessments not only help teachers understand students' cognitive readiness but also serve as a foundation for designing effective and targeted learning strategies. These findings affirm that students have varying levels of understanding, making it important for teachers to implement differentiated learning. Additionally, the integration of diagnostic assessments into the curriculum aligns with the principles of the Merdeka Curriculum, which emphasizes a student-centered and adaptive learning approach. Practically, teachers need to receive adequate training and resources to develop and implement diagnostic assessments effectively. Further research can explore the long-term impact of diagnostic assessments on student learning outcomes and engagement in various educational contexts.

ACKNOWLEDGMENTS

The authors express their deepest gratitude to SDN Watesari Sidoarjo for the permission and support provided during the research process. Special appreciation is extended to the teachers and students who participated in this research and provided valuable insights and data. We also thank our colleagues and supervisors for their constructive feedback and encouragement throughout this research. Finally, we acknowledge the support from our respective institutions that facilitated the completion of this research.

REFERENCES

Aisyah, H., Nasution, N., & Dewi, U. (2024). Pendekatan Berdeferensiasi Proses dalam Pembelajaran IPS Sekolah Dasar. *Ideguru: Jurnal Karya Ilmiah Guru*, *9*(1), 439–443.

Ali, R., & Mulasi, S. (2023a). Transformasi Kurikulum Merdeka: Pengembangan Muatan Lokal untuk Meningkatkan Identitas Budaya. *ISTIFHAM: Journal Of Islamic Studies*, 219–231.

Ali, R., & Mulasi, S. (2023b). Transformasi Kurikulum Merdeka: Pengembangan Muatan Lokal untuk Meningkatkan Identitas Budaya. *ISTIFHAM: Journal Of Islamic Studies*, 219–231.

Andreani, D., & Gunansyah, G. (2023). Persepsi Guru Sekolah Dasar Tentang Mata Pelajaran SCIENCE Pada Kurikulum Merdeka. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, *11*(9).

Anggrayni, M., & Agustina, V. (2023). Pengembangan asesmen diagnostik Science dalam kurikulum merdeka kelas Iv Sdn 01 Sitiung. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, *9*(2), 5812–5820.

Auliya, N. H., Andriani, H., Fardani, R. A., Ustiawaty, J., Utami, E. F., Sukmana, D. J., & Istiqomah, R. R. (2020). *Metode penelitian kualitatif & kuantitatif*. CV. Pustaka Ilmu.

Barus, R. A. (2024). Analisis Kebutuhan Pengembangan Instrumen Tes Diagnostik Materi Pecahan Siswa Sekolah Dasar Berbasis Android. *Jurnal Multidisiplin Ilmu Akademik*, *1*(2), 9–15.

Elsabrina, U. R., Hanggara, G. S., & Sancaya, S. A. (2022). Peningkatan kemampuan berfikir kritis siswa melalui layanan bimbingan kelompok dengan teknik Creative Problem Solving. *Prosiding Konseling Kearifan Nusantara (KKN)*, *2*, 502–514.

Hamzah, A., & Rodiyana, R. (2025). Implementation Of Local Wisdom Project Based Learning In Elementary Schools. *Jurnal Cakrawala Pendas*, *11*(1). https://doi.org/10.31949/jcp.v11i1.11867

Hasnih, N., & Jacky, M. (2022). Penerapan Model Pembelajaran Value Clarification Technique (VCT) Pada Pembelajaran Ips Siswa Sekolah Dasar: Literatur Review. *Jurnal Ilmiah Mandala Education (JIME)*, *8*(2).

Krisma, D. A., & Septiani, H. W. (2024). Analisis Hasil Asesmen Kemampuan Awal Matematika Siswa Kelas IV Sekolah Dasar: Bagaimana Pemahamannya? *Jurnal Basicedu*, *8*(3), 2466–2478. https://doi.org/10.31004/basicedu.v8i3.8061

Kurniawan, B. R., Kusairi, S., Puspita, D. A., & Kusumaningrum, R. W. (2021). Development of Computer Based Diagnostic Assessment Completed with Simple Harmonic Movement Material Remedial Program. *Jurnal Pendidikan Fisika Indonesia*, *17*(1), 1–12.

Marwa, N. W. S., Usman, H., & Qodriani, B. (2023). Persepsi Guru Sekolah Dasar Terhadap Mata Pelajaran Science Pada Kurukulum Merdeka. *Metodik Didaktik: Jurnal Pendidikan Ke-SD-An*, *18*(2), 54–65.

Marwah, M., Rahamma, T., & Nadjib, M. (2018). Pendekatan Saintifik Dalam Pengembangan Bahasa Anak Di Taman Kanak-Kanak Asoka Kota Makassar. *KAREBA : Jurnal Ilmu Komunikasi*, *6*(2), 249. https://doi.org/10.31947/kjik.v6i2.5322

Mas, R. B., Nasution, N., & Familawati, Z. S. (2023). Upaya Meningkatkan Kemampuan Berpikir Kritis Peserta Didik Kelas X SMAN 1 Rengel Kabupaten Tuban pada Materi Proses Masuknya Hindu-Buddha ke Nusantara melalui Model Pembelajaran Problem Based Learning (PBL). *Jurnal Pendidikan Dan Kewirausahaan*, *11*(3), 912–931.

Maut, W. O. A. (2022). Asesmen Diagnostik dalam Implementasi Kurikulum Merdeka (IKM) di SD Negeri 1 Tongkuno Kecamatan Tongkuno Kabupaten Muna Sulawesi Tenggara. *Dikmas: Jurnal Pendidikan Masyarakat Dan Pengabdian*, *2*(4), 1305–1312.

Ma'wa, M. K., & Gunansyah, G. (2024). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Ekoliterasi pada Materi Permasalahan Lingkungan Kelas V Sekolah Dasar. *Jurnal Pendidikan Guru Sekolah Dasar*, *12*(4), 588.

Mustaqim, E. H., Suliyanto, J., Sukamto, S., & Windyati, W. (2024). Analisis karakteristik peserta didik melalui asesmen diagnostik di SD Islam Al Madina Semarang. *Jurnal Pendidikan Surya Edukasi (JPSE)*, *10*(1), 29–41.

Ningsih, W., & Zalisman, Z. (2024). *Pembelajaran pendidikan agama Islam (PAI) dalam konteks global*. PT. Sonpedia Publishing Indonesia.

Nur, A. Z., Syuhendri, S., & Siahaan, S. M. (2023). Kajian Literatur: Penggunaan Asesmen Diagnostik Berformat Four-Tier untuk Mengidentifikasi Pemahaman Konsep dan Miskonsepsi. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, *6*(5), 3666–3671.

Nur, Z., Sulaiman, U., & Rahman, U. (2024). Metodologi Penelitian: Analisis Konseptual untuk Memahami Hakikat, Tujuan, Prosedur, dan Klasifikasi Penelitian. *PEDAGOGIC: Indonesian Journal of Science Education and Technology*, *4*(1), 34–45.

Oktaviana Putri, A. (2021). Pengembangan Tes Diagnostik Berbentuk Uraian Berdasarkan Ranah Kognitif untuk Mengetahui Letak Kesulitan Belajar Siswa SMP pada Materi Bangun Ruang. *JURNAL PUSAKA*, *10*(1), 40–54. https://doi.org/10.35897/ps.v10i1.597.

Prihatni, Y., Kumaidi, K., & Mundilarto, M. (2016). Pengembangan instrumen diagnostik kognitif pada mata pelajaran IPA di SMP. *Jurnal Penelitian Dan Evaluasi Pendidikan*, *20*(1), 111–125.

Sasomo, B., & Rahmawati, A. D. (2023a). Analisis asesmen diagnostik pada model pembelajaran project based learning di kurikulum merdeka SMPN 3 Sine. *Pedagogy: Jurnal Pendidikan Matematika*, *8*(1), 250–263.

Sasomo, B., & Rahmawati, A. D. (2023b). Analisis asesmen diagnostik pada model pembelajaran project based learning di kurikulum merdeka SMPN 3 Sine. *Pedagogy: Jurnal Pendidikan Matematika*, *8*(1), 250–263.

Subagtio, M. E., Nasution, N., & Jacky, M. (2021). The Effect of Problem-Based Learning and Discovery Learning on Students' Critical and Creative Thinking Skills on Material of Islamic Kingdom Development. *The Indonesian Journal of Social Studies*, *4*(1), 67–78.

Supriyadi, S., Lia, R. M., Rusilowati, A., Isnaeni, W., Susilaningsih, E., & Suraji, S. (2022). Penyusunan instrumen asesmen diagnostik untuk persiapan kurikulum merdeka. *Journal of Community Empowerment*, *2*(2), 67–73.

Vidianto, I. D., Riyanto, Y., & Nasution, N. (2018). Pengembangan Perangkat Pembelajaran Terpadu Model Sequenced Tema Berbagai Pekerjaan Untuk Meningkatkan Keterampilan Berpikir Kritis Siswa Kelas IV Sekolah Dasar. *JP (Jurnal Pendidikan): Teori Dan Praktik*, *3*(2), 92–96.

Wahono, B., Hariyadi, S., & Subiantoro, A. W. (2022). The development of an online STEM teacher professional development package with the DECODE model: An innovative teacher's quality maintenance. *Eurasia Journal of Mathematics, Science and Technology Education*, *18*(12), em2191.

Wahyuningsih, E., & Maryani, I. (2023). Implementasi Asesmen Diagnostik Dalam Meningkatkan Hasil Belajar Siswa SMP Negeri 1 Cikalongwetan. *Jurnal Manajemen Pendidikan Dasar, Menengah Dan Tinggi [JMP-DMT]*, *4*(4), 445–455.

Wiryanto, W., Rahmawati, I., Suprayitno, S., Gunansyah, G., & Primaniarta, M. G. (2024). Studentâ€TM s Perceptions of Numeracy Assessment in The Context of Children's Games for STEAM Education in Elementary Schools. *Al Ibtida: Jurnal Pendidikan Guru MI*, *11*(1), 18–29.

Wang, T., Jiang, R., Yao, Y., Wang, Y., Liu, W., Qian, L., ... & Huang, X. (2023). Endometrial cytology in diagnosis of endometrial cancer: a systematic review and meta-analysis of diagnostic accuracy. *Journal of Clinical Medicine*, *12*(6), 2358.

Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

LIST OF TABLES

TABLE 1 / Analysis of Item Difficulty

Question Number	Analysis Results	Category
1	0,96	Easy
2	0,46	Currently
3	0,89	Easy
4	0,42	Currently
5	0,89	Easy

TABLE 2 / Achievement of the Material

No	Explanation	Amount
1	Proficient	10
2	Developing	7

TABLE 3 / Achievement of Material in Percentage Form

No	Explanation	Percentage
1	Proficient	59%
2	Developing	41%

LIST OF FIGURES

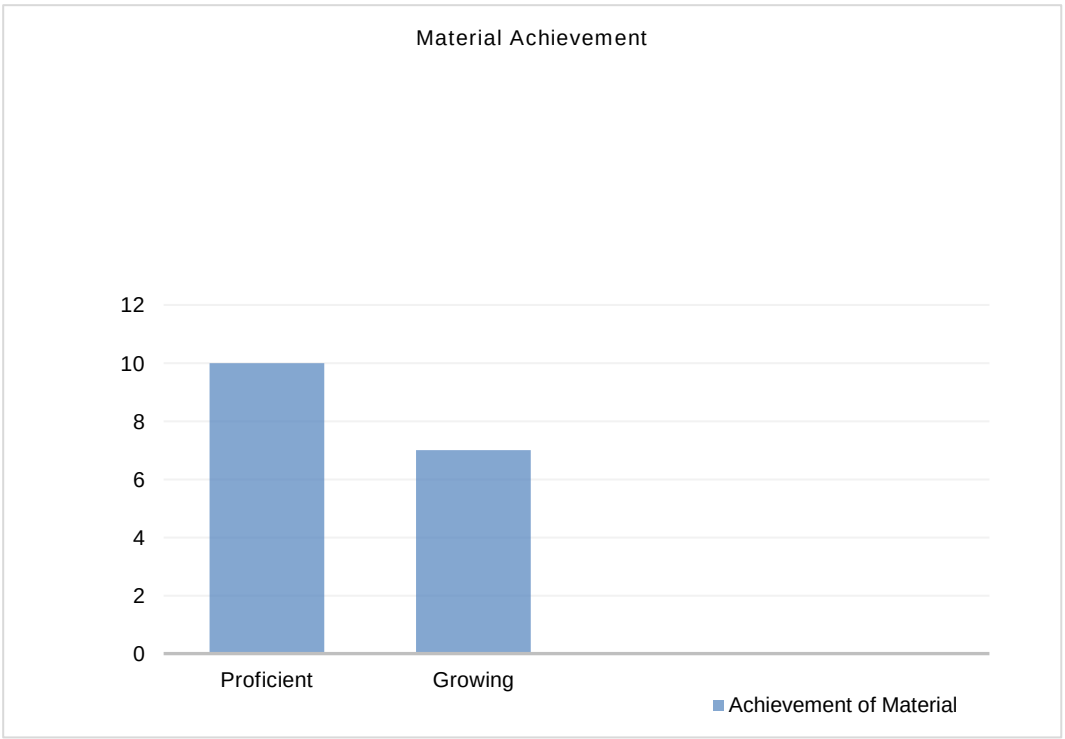

FIGURE 1 / Material Achievement Graph

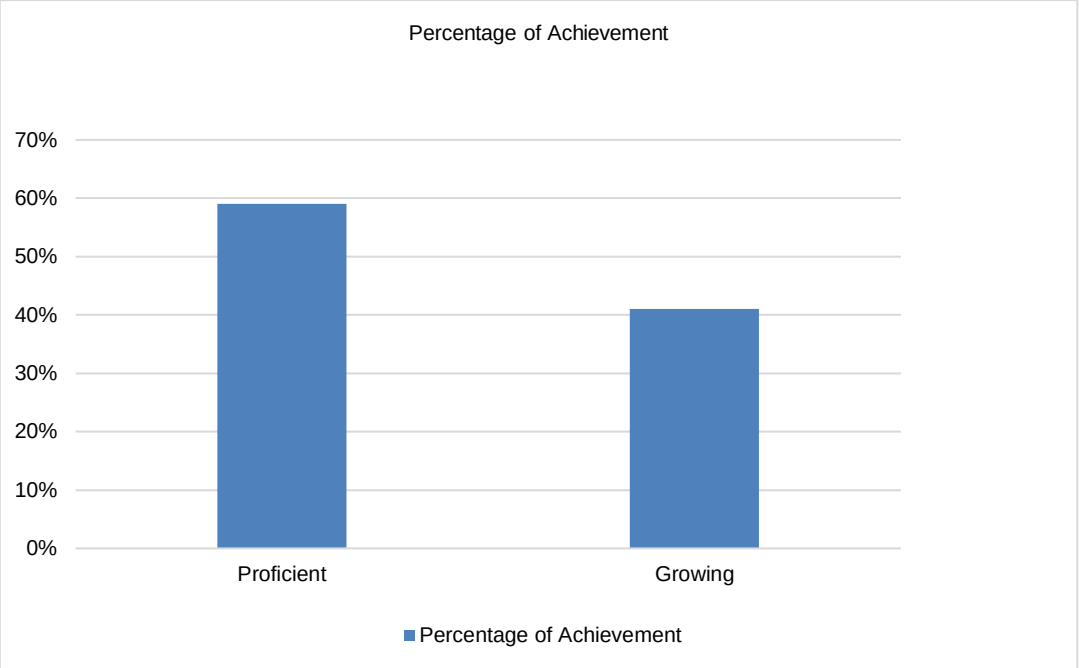

FIGURE 2 / Graph of Material Achievement Result in Percentage