



Diagnostic Assessment in Differentiated Learning: Supporting Learners' Needs for Improved Learning Achievement

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ABSTRACT

Differentiated learning have become major focuses in efforts to create a more equitable and inclusive educational system. Diagnostic assessment plays a key role in understanding the individual learning needs of students and designing appropriate interventions. However, the implementation of diagnostic assessment in supporting differentiated instruction still faces challenges. This study aims to explore effective strategies in diagnostic assessment and their impact on the learning process and student outcomes. Findings indicate that implementing differentiated instruction using data from diagnostic assessments positively impacts learning and student outcomes. By understanding students' conditions through diagnostic assessment, teachers can determine appropriate follow-up actions in the form of content, process, or product differentiation. The scholarly contribution of this research lies in a deeper understanding of the role of diagnostic assessment in supporting differentiated instruction. However, further studies are needed to broaden the scope of research and analyze the impact of diagnostic assessment implementation in more depth.

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A. Introduction

Inclusive education as a paradigm committed to providing access and learning opportunities for all individuals, regardless of their background, abilities, or needs, has become a key focus in efforts to create a more equitable and inclusive education system (Kurniawan, 2020). Along with that, diagnostic assessments play a key role in understanding the individual needs of learners and designing appropriate interventions (Salend, 2019). In education,

diagnostic assessment has profound significance. Through diagnostic assessments, teachers and education professionals can identify learners' specific needs, understand their learning styles, and accommodate the various learning challenges and needs they may face (Purnawanto, 2023). The role of diagnostic assessment in supporting differentiated learning is not only related to the identification of individual needs of learners, but also in designing an inclusive learning environment and providing the necessary support to enhance learners' learning potential (Mansur, 2019).

Diagnostic assessments allow teachers to identify obstacles faced by students, as well as provide a solid foundation for developing learning activities that meet the needs of students (Firmanzah & Sudiby, 2021). Although awareness of the diversity of students in the classroom has existed in a pedagogical context for a long time, attention to these conditions in the learning process in accordance with previous teaching achievements has not been optimal (Purnawanto, 2023). Based on the results of research conducted (Yani et al., 2023) The implementation of diagnostic assessments has not been maximized, resulting in differentiated learning that is not optimal. Meanwhile, the implementation of diagnostic assessments by (Death, 2022) There needs to be honesty because the results obtained are not in accordance with reality.

This study is to describe the roles and strategies that have been used in the implementation of diagnostic assessment in learning activities. Through in-depth literature analysis, this study aims to comprehensively understand how diagnostic assessments have been applied and contribute to supporting student learning, as well as identify and analyze potential changes that can occur in learning as a result of the implementation of more effective diagnostic assessments. In other words, this study aims to explore the use of diagnostic assessment and encourage changes in education and learning practices that are more inclusive and sustainable in supporting student learning success.

B. Theoretical Studies

Diagnostic assessment is the process of collecting systematic and holistic information about students' abilities, needs, and learning characteristics (Salend, 2019). This involves using a variety of techniques and instruments to identify the unique learning needs of each learner, so that teachers can design appropriate interventions to support learners' learning success (Aslihah et al., 2023). Diagnostic assessment is not only about assessing learners' knowledge, but also about understanding their learning styles, learning preferences, as well as other factors that can affect the learning process (Death, 2022). Diagnostic assessment is an assessment that is carried out specifically to identify the competencies, strengths, and weaknesses of students. (Firmanzah & Sudiby, 2021). This allows learning to be designed to suit the competencies and conditions of individual students

Differentiated learning is a method used in an inclusive approach to ensure that all learners, including learners with special needs, have access, participate, and succeed in the learning process (Purnawanto, 2023). This concept emphasizes the use of learning strategies that are tailored to the student's learning style, interests, readiness level, and individual needs (Herwina, 2021). In general, the purpose of differentiated learning according to is to coordinate

learning that focuses on aspects of students' learning interests, students' readiness in learning, and students' learning preferences (Marlina, 2020). Through differentiated learning, educators strive to create an inclusive and responsive learning environment to the different learning needs of each student (Tomlinson, 2014).

Diagnostic assessments play an important role in supporting differentiated learning by providing the information needed to design a learning experience tailored to the learning needs of each learner (Tomlinson, C. A., & Strickland, 2005). By understanding the individual learning profiles of students, teachers can identify the most effective and relevant learning strategies for each student. In addition, diagnostic assessments also help educators adjust the curriculum, determine the difficulty level of assignments, and provide additional support needed by students (Salend, 2019). Thus, the role of diagnostic assessment not only allows educators to design learning experiences that suit students' individual learning needs, but also helps to improve the quality of learning and create an inclusive learning environment for all students in the classroom (Yani et al., 2023).

Effective diagnostic assessments play a key role in supporting inclusive education and differentiated learning. Direct observation by teachers, conducting interviews with students and using student portfolios are effective strategies in observing student learning behavior and identifying students' learning needs (Nur Budiono & Hatip, 2023). By involving students in the creation and selection of materials for their portfolios, educators can gain deeper insights into students' learning progress as well as their interests and preferences in learning (Tomlinson, C. A., & Strickland, 2005). By leveraging these various effective diagnostic assessment strategies, educators can gain comprehensive insights into students' learning needs and design more appropriate and inclusive learning experiences.

C. Method

This study uses a literature review approach to investigate the role of diagnostic assessment in supporting differentiated learning. A literature review is conducted through a search of a variety of relevant sources, including scientific journals, textbooks, and recent research reports in the field of differentiated learning and diagnostic assessment. After the selected literature was collected, an analysis of key findings related to the role of diagnostic assessment in supporting differentiated learning was carried out. This includes the identification of effective strategies in the implementation of diagnostic assessments, as well as their impact on improving learning for students.

D. Results and Discussion

Diagnostic assessments play a crucial role in supporting inclusive education by providing a deep understanding of students' individual needs. Several studies show the role of diagnostic assessment in supporting differentiated learning. First, research by (Setiawan et al., 2023) shows that the implementation of differentiated learning can be carried out properly by utilizing the data from the results of the diagnostic assessment to understand the condition of students in terms of cognitive and non-cognitive. Thus, the right follow-up can be determined in the form

of content, process, or product differentiation. This provides an opportunity for all students to develop their skills, talents, and interests more optimally, as well as train them to innovate, adapt to change, and achieve predetermined learning goals.

Then, the second study was conducted by (Elviya & Sukartiningsih, 2023) implementing differentiated learning in Indonesian subjects. Teachers map the learning needs of students through diagnostic assessments and design differentiated learning based on the results of the mapping, which is recorded in the teaching module. This differentiated learning has a positive impact on students, increasing their enthusiasm and enthusiasm in learning according to their respective learning readiness. The learning outcomes of students after participating in this learning are also satisfactory, as evidenced by the acquisition of scores in the LKPD and formative assessments.

Third research by (Dhahana Aris Saputra et al., 2023) shows that differentiated learning provides benefits to students' learning activities and interests. Teachers use the results of mapping students' learning needs to design learning that is tailored to their level of learning readiness and learning style. This differentiated learning also has a positive impact on students' interest in learning, which is an important aspect of the learning process. (Rohmawati & Watini, 2022)

The fourth study was conducted by (Setyo Adji Wahyudi et al., 2023) describes three steps taken by teachers to apply a differentiated learning approach in science subjects in Class V SDN 008 Samarinda Seberang. First, content differentiation is carried out by modifying teaching materials according to students' interests. Second, process differentiation involves the provision of teaching materials and assessments with different content and objectives, tailored to students' interests. Third, product differentiation allows students to express their creativity according to the curriculum. With this approach, teachers and students alike benefit, where students feel satisfied with an education tailored to their interests, learning styles, and readiness level.

The four studies that have been presented show that the implementation of differentiated learning by utilizing data from diagnostic assessments has a positive impact on the learning process and student learning outcomes. Overall, the results of the study show that differentiated learning is an effective approach in improving the quality of learning and student learning outcomes by paying attention to their individual learning needs. By designing inclusive and responsive learning, teachers can create a learning environment that allows each student to reach their learning potential optimally.

E. Conclusion

Differentiated learning is the main focus in creating a more equitable and inclusive education system. In this context, diagnostic assessment plays a key role in understanding the individual

needs of learners and designing appropriate interventions. Through effective strategies in diagnostic assessment, such as direct observation, interviews with students, and the use of student portfolios, educators can gain a comprehensive understanding of students' learning needs and design more appropriate and inclusive learning experiences.

The most important finding of this study is that the implementation of differentiated learning by utilizing the data from the results of the diagnostic assessment has a positive impact on the learning process and student learning outcomes. By understanding the condition of students in terms of cognitive and non-cognitive through diagnostic assessment, teachers can determine the right follow-up in the form of differentiation of content, processes, or products. This provides an opportunity for all students to develop their potential more optimally. By paying attention to students' individual learning needs through diagnostic assessments, educators can design a more inclusive and responsive learning experience. In addition, this study also shows that the differentiated learning approach is an effective method in improving the quality of learning and student learning outcomes.

This research has limitations in the scope of field data and analysis. Therefore, further studies involving more participants and expanding the scope of research are needed to gain a deeper understanding of the implementation of diagnostic assessment in the context of differentiated learning. Thus, further studies are expected to make a greater contribution in supporting inclusive education and differentiated learning that is more effective and sustainable.

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