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ANALYSIS OF THE IMPLEMENTATION OF DIAGNOSTIC ASSESSMENT IN SPECIAL EDUCATION SCHOOLS

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Abstract

This study examined the implementation of diagnostic assessment in Special Education Schools. It employed a qualitative descriptive approach to explore how diagnostic assessment was conducted, utilized, and interpreted in instructional practice. Data were collected through document analysis, classroom observations, and interviews with relevant participants. The findings showed that diagnostic assessment was implemented through observation, individual records, and student portfolios. Observation emerged as the dominant method because it allowed teachers to identify students' behavioral, academic, and socio-emotional conditions in authentic learning contexts. However, the assessment results were not systematically used as the basis for instructional planning or the development of Individualized Education Programs (IEPs). Instead, the data were often treated as administrative records rather than as evidence for pedagogical decision-making. The study also identified several challenges, including limited teacher assessment literacy, unstandardized documentation practices, and insufficient collaboration with parents. These findings indicated the presence of an assessment–instruction gap, in which assessment data were collected but not optimally translated into adaptive and individualized teaching strategies. Therefore, diagnostic assessment needed to be strengthened as an integrated pedagogical tool to support evidence-based instruction in special education.

Keywords: diagnostic assessment; individualized learning; individualized education program (IEP); special education; assessment literacy.

Abstrak

Penelitian ini mengkaji pelaksanaan asesmen diagnostik di Sekolah Luar Biasa (SLB). Penelitian ini menggunakan pendekatan deskriptif kualitatif untuk mengeksplorasi bagaimana asesmen diagnostik dilaksanakan, dimanfaatkan, dan diinterpretasikan dalam praktik pembelajaran. Data dikumpulkan melalui analisis dokumen, observasi kelas, dan wawancara dengan partisipan yang relevan. Hasil penelitian menunjukkan bahwa asesmen diagnostik dilaksanakan melalui observasi, catatan individual, dan portofolio siswa. Observasi menjadi metode yang paling dominan karena memungkinkan guru mengidentifikasi kondisi perilaku, akademik, dan sosial-emosional siswa dalam konteks pembelajaran yang autentik. Namun, hasil asesmen belum dimanfaatkan secara sistematis sebagai dasar perencanaan pembelajaran maupun penyusunan Program Pembelajaran Individual (PPI). Data asesmen lebih sering diperlakukan sebagai dokumen administratif daripada sebagai dasar pengambilan keputusan pedagogis. Penelitian ini juga mengidentifikasi beberapa tantangan, yaitu terbatasnya literasi asesmen guru, belum terstandarnya praktik dokumentasi, dan kurangnya kolaborasi dengan orang tua. Temuan ini menunjukkan adanya kesenjangan antara asesmen dan pembelajaran. Oleh karena itu, asesmen diagnostik perlu diperkuat sebagai alat pedagogis yang terintegrasi untuk mendukung pembelajaran berbasis bukti di pendidikan khusus.

Kata kunci: asesmen diagnostic; assessment literacy; pendidikan khusus; pembelajaran individual; Program Pembelajaran Individual (PPI).

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INTRODUCTION

Diagnostic assessment constitutes a fundamental component of modern educational systems, particularly within special education, which requires individualized approaches tailored to students' diverse needs. Conceptually, diagnostic assessment identifies students' learning readiness, cognitive profiles, and socio-emotional needs, thereby providing a foundation for the design of adaptive and differentiated instruction (Black & Wiliam, 2018; Tomlinson, 2017). In the context of special education, it also underpins the development of Individualized Education Programs (IEPs), ensuring that educational services are appropriately aligned with each learner's characteristics (Florian & Black-Hawkins, 2019).

Ideally, diagnostic assessment should be conducted in a comprehensive, continuous, and integrative manner within the teaching and learning process. Its results are expected to inform instructional planning, guide the selection of appropriate interventions, and support the systematic monitoring of student progress (Hattie, 2017). Moreover, effective assessment practices require collaboration among multiple stakeholders, including teachers, parents, and other professionals, to ensure that instructional decisions are grounded in valid, reliable, and holistic data (DeLuca et al., 2019).

However, empirical evidence indicates that the implementation of diagnostic assessment in Special Education Schools remains constrained by several limitations. Based on visitation reports, diagnostic assessment practices have been carried out through observations, individual records, and student portfolios. In some cases, schools have established documentation systems, such as academic and behavioral progress records, to monitor student development. Nevertheless, these assessment results are not optimally utilized in the development of IEPs or in instructional planning, suggesting that assessment has yet to fully support evidence-based instructional decision-making (Florian & Black-Hawkins, 2019).

Furthermore, existing assessment data tend to be descriptive and general in nature, lacking the depth required to comprehensively capture students' individual needs. The communication of assessment outcomes to parents is often informal and insufficiently documented. Consequently, diagnostic assessment has not yet functioned as a strategic pedagogical tool, but rather remains largely administrative in practice (DeLuca et al., 2019; Wiliam, 2018).

Within the broader landscape of educational research, diagnostic assessment has been increasingly recognized as a critical component of differentiated instruction and inclusive education. Empirical studies demonstrate that effective diagnostic assessment enhances instructional quality by enabling teachers to tailor teaching strategies to individual student needs (Wiliam, 2018). In addition, data-informed assessment practices have been shown to improve student learning outcomes and engagement (Hattie, 2017).

Recent scholarship further highlights that teachers' assessment competence, commonly referred to as assessment literacy, plays a pivotal role in the effective implementation of diagnostic assessment.

Teachers who possess strong assessment literacy are better equipped to interpret assessment data and translate it into responsive and adaptive instructional practices (DeLuca et al., 2019).

Despite these theoretical advancements, a significant gap persists between the ideal conceptualization of diagnostic assessment and its practical implementation. While diagnostic assessment is theoretically positioned as the foundation for individualized and differentiated instruction, empirical findings suggest that it is often reduced to a documentation exercise, with limited integration into instructional planning (Florian & Black-Hawkins, 2019).

This gap is further exacerbated by limited teacher capacity in data analysis and the absence of structured documentation systems. As a result, diagnostic assessment has yet to generate a meaningful impact on improving instructional quality. This finding aligns with prior research indicating that insufficient assessment literacy constitutes a major barrier to the implementation of data-driven assessment practices (DeLuca et al., 2019).

In light of these challenges, this study is warranted to provide an empirical examination of diagnostic assessment practices in Special Education Schools. Specifically, it aims to analyze the implementation of diagnostic assessment, the extent to which assessment results are utilized in instructional processes, and the challenges encountered in practice. By doing so, this study seeks to advance more effective, data-informed, and student-centered assessment practices (Hattie, 2017; Wiliam, 2018).

METHOD

Research Design

This study employed a qualitative descriptive approach to examine the implementation of diagnostic assessment in Special Education Schools. This approach was appropriate given the complex, context-dependent nature of special education, which is closely tied to individual learner characteristics and cannot be fully captured by quantitative methods alone. It enabled a holistic exploration of how teachers design, implement, and interpret diagnostic assessment, along with the contextual factors that influence its practice. Accordingly, the study focused not only on what occurs, but also on how and why diagnostic assessment is implemented in special education contexts.

Research Setting and Participants

This study was conducted in eight Special Education Schools (Sekolah Luar Biasa/SLB) in West Sumatra, Indonesia, selected through purposive sampling to capture variations in diagnostic assessment practices across different institutional contexts (Patton, 2015). The schools included SLB Hazirah Ranah Pesisir, SLB Nazra Hiliran Gumanti, SLB Berkah Arsy, SLB Al Aziz Munawarah, SLB Mutiara Agam Mandiri, SLB Fan Redha Bidar Alam, SLB Miftahul Khoir, and SLB Wacana Asih. A total of 32 participants were involved in this study, comprising 16 classroom teachers, 8

school principals, and 8 parents/guardians of students with special needs. Teachers were selected as the primary participants because of their central role in designing and implementing diagnostic assessments in the classroom. Their firsthand experience with daily assessment practices provided the most relevant and detailed data for understanding how diagnostic assessment was operationalized at the instructional level. School principals were included to provide institutional and policy perspectives, particularly regarding school-level support structures, documentation systems, and the implementation of Individualized Education Programs (IEPs). Parents were selected to offer an external, complementary perspective on the extent to which assessment results were communicated and used beyond the school setting. This purposive selection of participants across multiple roles and schools aimed to ensure diverse perspectives and a comprehensive, multi-layered understanding of the phenomenon (Creswell & Poth, 2018).

Data Sources

The data sources consisted of primary and secondary data. Primary data were obtained through in-depth interviews and direct classroom observations, providing factual insights into how teachers implemented diagnostic assessment. Secondary data were collected from school documents, including Individualized Education Programs (IEPs), lesson plans, assessment records, and student portfolios, which served to verify findings from observations and interviews. The use of multiple data sources enabled data triangulation, enhancing the validity and credibility of the study (Flick, 2018).

Data Collection Techniques

Data were collected through three complementary methods: document analysis, observation, and interviews, each aligned with specific aspects and sub-aspects of the research focus. The research focused on three main aspects: (1) implementation of diagnostic assessment, covering techniques used (observation, individual records, portfolios), assessment instruments and tools, assessment procedures and timing, and documentation practices; (2) utilization of assessment results, covering the use of data for IEP development, lesson planning, individualized interventions, and communication of results to stakeholders; and (3) challenges in implementation, covering internal factors (teacher assessment literacy), school-level systemic factors (documentation systems and institutional support), and external factors (home–school collaboration). Document analysis was conducted to examine instructional and assessment-related documents—including IEPs, lesson plans, assessment records, and student portfolios—to gather data primarily on documentation practices, the formal design of IEPs, and the recorded use of assessment results. Non-participant observation was employed to capture the actual implementation of diagnostic assessment in classroom settings, focusing on the techniques teachers used, the procedures followed, and the observable alignment between assessment activities and instructional decisions, without researcher intervention. Semi-

structured interviews were conducted with teachers, principals, and parents to elicit in-depth insights into all three aspects, particularly regarding assessment literacy, institutional challenges, and the quality of home–school collaboration in assessment-related processes. The integration of these methods facilitated triangulation across data sources, ensuring that each sub-aspect of the research focus was examined from multiple perspectives (Merriam & Tisdell, 2016). The integration of these methods facilitated a comprehensive and nuanced understanding of the research phenomenon (Yin, 2018).

Data Analysis Techniques

Data were analyzed using the interactive model proposed by Miles et al. (2018), which consists of three interconnected stages: data reduction, data display, and conclusion drawing/verification. These stages were carried out continuously and cyclically throughout the research process, allowing the researchers to move back and forth between the data and the emerging interpretations. This interactive process enabled the researchers to refine findings gradually and ensure that the analysis remained grounded in the empirical data.

In the first stage, data reduction, all data obtained from interviews, observations, and document analysis were carefully reviewed, selected, and simplified according to the focus of the study. Irrelevant or repetitive information was set aside, while significant data were coded and categorized into key themes related to the implementation of diagnostic assessment in Special Education Schools. This process helped the researchers to sharpen the analysis and focus on patterns that were most relevant to the research objectives.

In the second stage, data display, the reduced data were organized systematically into descriptive narratives and thematic categories. The purpose of this stage was to present the data in a clear and meaningful way so that relationships, trends, and recurring patterns could be more easily identified. By arranging the data into an organized format, the researchers were able to compare findings across participants and data sources, which supported a deeper interpretation of the phenomenon under investigation.

The final stage involved conclusion drawing and verification. At this stage, the researchers interpreted the displayed data and developed conclusions based on the patterns and themes that emerged. These conclusions were not drawn only at the end of the study, but were developed progressively throughout the analysis process. To ensure the trustworthiness of the findings, the conclusions were continuously verified through cross-source comparison and repeated examination of the data. This iterative, reflective analytical process enabled the development of a comprehensive, credible understanding of the research phenomenon.

Data Validity

The validity of the data in this study is ensured through a trustworthiness approach comprising credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Credibility is achieved through triangulation of sources and techniques, as well as by re-checking the data with participants (member checking). Transferability is ensured by providing a detailed description of the research context, so that the findings can be understood and applied to other similar contexts. Dependability is maintained through systematic documentation of the research process, allowing the study to be replicated. Confirmability is ensured by making sure that the research findings are based on empirical data rather than the researcher's subjectivity. This approach is important to ensure that the research findings have strong scientific validity (Flick, 2018).

RESULTS AND DISCUSSION

Results

Implementation of Diagnostic Assessment in Special Education Schools

The findings indicate that diagnostic assessment in Special Education Schools was implemented through several methods, namely classroom observation, individual student records, and student portfolios. Among these, observation emerged as the most frequently used technique because it enabled teachers to directly identify students' behavioral responses, learning readiness, and socio-emotional conditions within authentic classroom contexts. This suggests that teachers relied heavily on immediate and practical forms of assessment that could capture students' needs in real time. In addition, the use of individual records and portfolios demonstrates that some efforts had been made to document students' developmental progress more systematically.

However, the implementation of diagnostic assessment was still not fully structured. Although assessment activities were conducted continuously during instruction, indicating a formative orientation, the procedures and documentation practices varied considerably across schools and teachers. In some cases, schools maintained academic and behavioral records, yet these records were often incomplete, inconsistent, and not standardized across contexts. As a result, diagnostic assessment was present in practice, but its implementation remained partial and lacked a unified framework to ensure its systematic use. This finding implies that, while teachers recognize the importance of diagnostic assessment, its practice has not yet been institutionalized as an integral part of instructional planning and individualized support (Florian & Black-Hawkins, 2019).

Utilization of Diagnostic Assessment Results

The findings further reveal that the utilization of diagnostic assessment results in instructional practice remained limited. Although teachers collected a range of assessment data, these data were generally not used as the primary basis for designing Individualized Education Programs (IEPs) or for

developing instructional plans. Instead, assessment information tended to function more as administrative documentation than as a source of pedagogical decision-making. Consequently, the instructional strategies implemented in the classroom often did not fully reflect students' actual learning needs, developmental profiles, or specific barriers.

This limited use of diagnostic assessment data indicates a weak connection between assessment and instruction. Ideally, diagnostic assessment should serve as a foundation for adapting teaching strategies, selecting appropriate interventions, and determining individualized learning targets. In this study, however, assessment results were not sufficiently translated into responsive teaching practices. The weak alignment between assessment findings and instructional interventions suggests that diagnostic assessment has not yet functioned as a strategic instructional tool. Rather than guiding educational action, it remained largely descriptive and procedural, which reduced its potential contribution to individualized learning and evidence-based teaching (DeLuca et al., 2019).

Challenges in the Implementation of Diagnostic Assessment

Several significant challenges were identified in relation to the implementation of diagnostic assessment in Special Schools. One major challenge was teachers' limited competence in analyzing and interpreting assessment data. While teachers were generally able to gather information about students through observation and documentation, many encountered difficulties when attempting to turn this information into meaningful instructional decisions. This reflects a gap not only in technical assessment skills but also in assessment literacy, particularly in relation to data interpretation, instructional adaptation, and individualized educational planning.

Another challenge concerned the absence of standardized documentation systems. The findings showed that although some schools maintained records of student progress, these documents varied in format, depth, and consistency. Such inconsistency hindered the accumulation of reliable longitudinal data and made it more difficult for teachers to monitor progress systematically or to use evidence for planning. In addition, collaboration with parents remained insufficient. Communication between schools and parents was often informal, general, and poorly documented, limiting opportunities for joint reflection on student needs and for shared decision-making. Taken together, these challenges indicate that weaknesses in teacher capacity, documentation practices, and home–school collaboration significantly constrained the effective implementation of diagnostic assessment (Xu & Brown, 2016).

Emerging Patterns

Across the data, an important pattern emerged: diagnostic assessment in Special Education Schools appears to remain at an early stage of development. On the one hand, assessment practices have already been introduced and are routinely carried out in everyday instructional contexts. On the other hand, these practices are not yet systematically organized, consistently documented, or effectively

integrated into instructional planning. This suggests that diagnostic assessment has been recognized in principle, but its implementation has not yet reached the level of a coherent and data-driven pedagogical practice.

The findings also reveal a broader pattern of underutilization. Assessment data are available, but they are not fully mobilized to guide teaching, support IEP development, or strengthen individualized learning interventions. Teacher competence and documentation systems emerged as the main barriers to strategic assessment. This pattern reflects a gap between current school practices and the ideal model of data-informed assessment, in which assessment is expected to support adaptive, responsive, and individualized instruction. Therefore, the study highlights the need for stronger integration among data collection, data analysis, and instructional use, so that diagnostic assessment can move beyond administrative compliance and become a meaningful component of educational practice in Special Education Schools (Hattie, 2017).

Discussion

The findings of this study demonstrate that diagnostic assessment in Special Education Schools has been implemented through observation, individual records, and student portfolios; however, its pedagogical contribution remains limited. In practice, teachers have shown awareness of the importance of understanding students' learning conditions, behavioral characteristics, and socio-emotional needs before and during instruction. Nevertheless, the evidence also indicates that these assessment practices have not yet been consistently transformed into a systematic basis for instructional planning. This suggests that diagnostic assessment in Special Education Schools is still positioned more as a procedural and administrative activity than as a strategic mechanism for supporting individualized learning. Such a condition is significant because, in principle, diagnostic assessment is expected to function as the foundation for adaptive teaching and differentiated educational support, particularly in contexts where learner diversity is highly pronounced (Black & Wiliam, 2018; Florian & Black-Hawkins, 2019).

A central finding of this study is the persistence of an assessment–instruction gap. Although teachers gathered diagnostic information through ongoing classroom interaction and documentation, these data were not optimally used as the basis for designing Individualized Education Programs (IEPs) or adapting instructional strategies. Instead, the assessment results were often retained as records of student condition and progress without being fully translated into specific pedagogical decisions. This indicates that the instructional process was not yet strongly informed by evidence derived from assessment. In theoretical terms, this gap reflects a misalignment between the intended function of diagnostic assessment and its actual implementation in practice. Ideally, assessment should not stop at identifying student needs; it should also guide the selection of instructional goals, methods, materials, and interventions that are responsive to those needs. When such a connection is weak, the potential of

diagnostic assessment to support individualized education becomes substantially reduced (DeLuca et al., 2019; Wiliam, 2018).

The findings further suggest that limited teacher assessment literacy is a key factor explaining why diagnostic assessment has not yet functioned optimally. Teachers in this study were generally able to observe students, maintain some documentation, and identify visible learning difficulties or developmental issues. However, they appeared to face challenges in interpreting assessment evidence analytically and in using such evidence to formulate instructional responses. This indicates that the issue lies not merely in conducting an assessment, but in understanding how assessment data can be analyzed, interpreted, and applied in a pedagogically meaningful way. In the literature, assessment literacy is not restricted to technical knowledge of assessment tools; it also includes the ability to make sound judgments from evidence and connect those judgments to decisions about learning and teaching. Therefore, limited assessment literacy may lead to a situation in which assessment is routinely conducted but remains underutilized as a source of instructional improvement (DeLuca et al., 2019; Xu & Brown, 2016).

Another important issue highlighted by this study concerns the lack of standardized documentation systems. Although some schools maintained academic and behavioral records, the format, depth, and continuity of documentation were inconsistent. This inconsistency reduced the usefulness of assessment data for tracking student development over time and for communicating progress across teachers, school leaders, and parents. In special education settings, documentation is especially important because student learning trajectories are often gradual, highly individualized, and dependent on careful longitudinal monitoring. When records are incomplete or unstandardized, teachers may find it difficult to identify patterns of progress, evaluate the effectiveness of interventions, or revise instructional plans appropriately. Thus, the weakness of documentation systems does not only represent an administrative limitation; it also reflects a structural barrier to data-informed educational practice (Florian & Black-Hawkins, 2019; Hattie, 2017).

The study also found that collaboration with parents remained limited and largely informal. Communication between teachers and parents was present, but it was not yet sufficiently systematic, documented, or integrated into instructional planning. This is a critical issue in special education because parents possess important knowledge about students' routines, behaviors, needs, and progress outside school. Effective collaboration between school and home can enrich assessment data and make educational interventions more coherent across settings. Conversely, when such collaboration is weak, assessment information tends to remain fragmented, and decisions about student learning may rely only on partial evidence from the classroom context. The present findings therefore indicate that diagnostic assessment in Special Education Schools has not yet fully incorporated the collaborative dimension that is widely considered essential for individualized and inclusive education. Stronger parent–school

partnerships would likely improve not only the quality of assessment data, but also the consistency of intervention and support provided to students (Hattie, 2017; Florian & Black-Hawkins, 2019).

Taken together, the results reveal that diagnostic assessment in Special Education Schools remains at an early stage of development. The schools involved in this study have already introduced diagnostic practices into routine teaching, which indicates a positive initial foundation. However, the overall pattern suggests partial implementation rather than full pedagogical integration. Assessment activities are present, but they are not yet supported by strong systems of interpretation, documentation, instructional utilization, and collaboration. In this sense, diagnostic assessment has not yet become a coherent cycle of collecting evidence, interpreting findings, planning intervention, implementing support, and monitoring outcomes. This broader pattern is important because it highlights that the challenge is not simply to encourage teachers to assess more frequently, but to strengthen the institutional and professional conditions that make assessment educationally meaningful. The findings thus reinforce the view that data-informed instruction requires not only assessment activity, but also the capacity and structures needed to convert assessment into action (Hattie, 2017; Wiliam, 2018).

From a practical perspective, the findings imply that improving diagnostic assessment in Special Education Schools requires intervention at both the teacher and school levels. At the teacher level, professional development is needed to strengthen assessment literacy, particularly in interpreting evidence, linking results to IEP development, and adapting instruction according to student profiles. At the school level, more standardized documentation procedures are needed so that assessment data can be systematically stored, reviewed, and used for planning. In addition, stronger mechanisms for parent involvement should be established to ensure that assessment becomes a collaborative and continuous process rather than a school-based activity only. If these improvements can be achieved, diagnostic assessment is more likely to evolve from an administrative routine into a strategic pedagogical tool that supports individualized, adaptive, and evidence-based learning services for students with special needs (DeLuca et al., 2019; Black & Wiliam, 2018).

Overall, this study confirms that diagnostic assessment in Special Education Schools has been implemented, but has not yet fully functioned as a strong foundation for individualized learning. The main contribution of this study lies in identifying three major weaknesses: limited teacher assessment literacy, weak documentation systems, and insufficient collaboration with parents. These three aspects form interconnected barriers and help explain why the assessment practices conducted to date have not yet achieved maximum impact on instructional quality. Therefore, strengthening diagnostic assessment in special education should not be understood merely as a technical issue of measurement, but also as a broader pedagogical.

CONCLUSION

This Diagnostic assessment in Special Education Schools has been implemented through various techniques; however, it remains largely procedural and is not yet effectively used to inform instructional decision-making. The limited use of assessment data in IEP development and instructional planning reflects an assessment–instruction gap. Key constraints include limited teacher assessment literacy, unstandardized documentation systems, and insufficient collaboration with parents, which hinder the strategic use of assessment data. Therefore, diagnostic assessment needs to be repositioned as an integrated pedagogical tool to support adaptive and individualized learning.

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