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EXPLORING THE IMPLEMENTATION OF MULTISENSORY STRATEGY TO SUPPORT READING COMPREHENSION OF STUDENTS WITH DYSLLEXIA: A STUDY IN AN INCLUSIVE SCHOOL

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ABSTRACT

This study aimed to explore the implementation of multisensory strategy in supporting the reading comprehension of students with dyslexia in an inclusive school. The research employed a qualitative descriptive case study design and was conducted in an inclusive elementary school. The participants consisted of an English teacher and students with dyslexia. Data were collected through classroom observations, interviews, and documentation. The collected data were analyzed using data reduction, data display, and conclusion drawing techniques. The findings revealed that the multisensory strategy was implemented through the integration of visual, auditory, kinesthetic, and tactile activities in reading instruction. Teachers utilized various learning media and instructional techniques, such as flashcards, picture cards, alphabet cards, oral repetition, writing exercises, and interactive learning activities. The implementation of the strategy contributed positively to students' reading comprehension by improving letter recognition, reading fluency, pronunciation, vocabulary understanding, and comprehension of written texts. In addition, the strategy increased students' motivation, participation, and self-confidence during classroom activities. However, several challenges were identified, including limited parental involvement, differences in students' learning abilities, difficulties in maintaining attention and motivation, and limited instructional time. Overall, the study concluded that multisensory strategy was an effective approach for supporting the reading comprehension of students with dyslexia in an inclusive school setting, provided that continuous collaboration among teachers, schools, and parents was maintained.

Keywords: Dyslexia, Inclusive School, Multisensory Strategy, Reading Comprehension,

INTRODUCTION

Reading is a fundamental skill that underpins students' academic achievement and overall cognitive development. It enables learners to acquire information, develop critical thinking, and participate actively in classroom activities (Snowling & Hulme, 2023). In inclusive educational settings, reading instruction becomes particularly crucial because classrooms consist of students with diverse learning profiles, including those with specific learning difficulties such as dyslexia. Consequently, instructional strategy must be flexible, responsive, and grounded in research-based practices to accommodate varied learner needs.

Reading comprehension, as a higher-level reading skill, involves the ability to understand, interpret, and construct meaning from written texts (Peterson & Pennington, 2015). For students with dyslexia, reading comprehension can be especially challenging due to persistent difficulties in phonological processing, word recognition, and decoding (Shaywitz & Shaywitz, 2021). These neurological characteristics may interfere with fluency and automaticity, which are essential for comprehending texts efficiently. As a result, students with dyslexia often experience frustration, reduced academic confidence, and limited participation in reading-based classroom activities.

Dyslexia is widely recognized as a neurodevelopmental condition characterized by difficulties in accurate and fluent word recognition, spelling, and decoding, despite adequate intelligence and educational opportunities (IDA, 2023). International reports indicate that dyslexia affects a considerable proportion of school-aged children worldwide. In inclusive school contexts, these learners are expected to engage with the same curriculum as their peers, making appropriate instructional support essential. Without suitable teaching strategy, inclusive practices may not fully address the specific challenges faced by students with dyslexia.

Among various instructional approaches, multisensory strategy has been widely discussed as a supportive method for learners with reading difficulties. Multisensory instruction integrates visual, auditory, tactile, and kinesthetic modalities to reinforce language learning and reading development. Approaches such as the Orton–Gillingham method emphasize structured, explicit, and systematic instruction that engages multiple senses simultaneously (Ritchey et al., 2021). Previous studies have reported positive outcomes of multisensory interventions, particularly in improving decoding skills and early reading development (Snowling et al., 2023; Ritchey et al., 2021). However, much of the existing research has been conducted in controlled or specialized educational settings rather than in naturally occurring inclusive classrooms.

Although evidence supports the use of multisensory strategy for improving decoding skills, fewer studies have examined how such strategy are implemented in inclusive school environments where students with and without dyslexia learn together. In these contexts, teachers must balance curriculum demands, diverse learner needs, and limited instructional resources. Moreover, there is limited research exploring how multisensory strategy are practically adapted and applied in Indonesian inclusive schools. Understanding the real-life implementation process is important to identify both supporting factors and challenges faced by teachers in facilitating reading comprehension for students with dyslexia.

Based on these considerations, this study focuses on exploring the implementation of multisensory strategy to support reading comprehension of students with dyslexia in an inclusive school setting. Rather than measuring statistical effectiveness, this research seeks to describe and analyze how the strategy is applied in classroom practices, how teachers adapt instructional techniques, and how students respond during reading activities. By employing a qualitative case study approach, this research aims to provide an in-depth understanding of multisensory instruction within its real educational context. The findings are expected to contribute to the development of more contextually relevant inclusive teaching practices, particularly in Indonesian elementary school settings.

RESEARCH METHOD

This study employed a qualitative case study design. A case study approach was chosen because the research focuses on exploring in depth the implementation of multisensory strategy to support reading comprehension of students with dyslexia within a specific inclusive school setting.

According to qualitative research principles, a case study allows the researcher to investigate a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident. In this study, the phenomenon is the implementation of multisensory strategy, and the context is an inclusive classroom.

The case study design enables the researcher to obtain rich and detailed descriptions of teaching practices, teacher experiences, and student responses. Therefore, this design is appropriate to answer the research objective, which is to explore how multisensory strategy

are implemented and how they support students with dyslexia in reading comprehension activities. The study focuses on three main variables:

Table 1 Operational Definition of Research Variables

Variable	Definition / Description	Indicators	Measurement / Data Source
1. Multisensory Strategy	Teaching methods and activities that incorporate multiple senses (visual, auditory, tactile, and kinesthetic) to support reading comprehension.	- Use of visual aids (letters, charts, flashcards) - Use of auditory tools (songs, pronunciation drills, verbal instructions) - Kinesthetic/tactile activities (tracing letters, manipulating objects, gestures) - Integration of multiple senses in reading lessons	Observation of classroom activities, teacher interviews, lesson plans / documentation
2. Reading Comprehension	The ability of students with dyslexia to understand, interpret, and derive meaning from reading materials.	- Correct identification of words - Understanding of sentence meaning - Ability to answer questions based on reading texts - Summarizing or retelling stories	Observation of student performance during reading activities, interviews with teachers, learning activity records
3. Dyslexia	A neurodevelopmental condition characterized by difficulties in accurate and fluent word recognition, spelling, and decoding, despite normal intelligence.	- Difficulty decoding words - Slow or inaccurate reading - Problems with phonological awareness - Difficulty integrating visual-auditory information	Teacher assessment reports, student records, observation of reading difficulties in classroom

Data were collected using three main techniques:

1. Observation

Classroom activities were observed to examine how teachers applied multisensory strategy and how students with dyslexia responded during reading lessons. The observations were non-participatory to maintain objectivity and to ensure that the natural classroom environment was not disrupted.

2. Interview

Semi-structured interviews were conducted with two teachers: one English teacher and one assistant teacher responsible for supporting students with dyslexia. The interviews aimed to explore their experiences, understanding, and challenges in implementing multisensory strategy in reading instruction. No interviews were conducted with students due to school policy considerations.

3. Documentation

Lesson plans, teaching materials, and classroom activity records were collected to support and validate the data obtained from observations and interviews. These

documents were used to strengthen data triangulation and enhance the credibility of the findings.

To ensure the accuracy and credibility of the findings, triangulation was employed:

1. Technique Triangulation – Cross-checking data obtained from observations, interviews, and documents to evaluate consistency.
2. Source Triangulation – Comparing perspectives from English teachers, assistant teachers, and observational data to verify information accuracy.

To establish the overall quality and rigor of this qualitative study, the researcher adhered to the criteria of trustworthiness. This ensures that the findings are worth paying attention to and represent the reality of the inclusive classroom setting. The following four aspects were addressed:

1. Credibility: Achieved through prolonged engagement in the field and the triangulation of data sources and techniques mentioned above.
2. Transferability: Provided by descriptive "thick descriptions" of the research context, allowing other researchers to determine if the findings are applicable to similar inclusive settings.
3. Dependability: Ensured by maintaining a clear audit trail of the research process, from data collection to the final interpretation.
4. Confirmability: Established by ensuring that the conclusions are clearly derived from the data and not from researcher bias, supported by the documentation and interview transcripts.

RESULT AND DISCUSSION

This study explored the implementation of a multisensory strategy to support the reading comprehension of students with dyslexia in an inclusive school. The findings were obtained through classroom observations, semi-structured interviews with an English teacher and a Guidance and Counseling teacher, and documentation of teaching materials. Data triangulation from these sources demonstrated that a multisensory strategy was implemented by integrating visual, auditory, kinesthetic, and tactile learning activities during reading instruction. The strategy was designed to accommodate the diverse learning characteristics of students with dyslexia while maintaining the principles of inclusive education.

The implementation of the multisensory strategy emphasized the simultaneous use of multiple sensory modalities. Teachers employed flashcards, alphabet cards, picture cards, environmental print, dialogue reading, pronunciation practice, repeated reading, writing exercises, and outdoor learning activities. Students were encouraged to observe pictures, listen to pronunciation models, repeat words, trace letters, write vocabulary, and interact directly with learning objects. Rather than relying on a single instructional technique, teachers adapted their teaching practices according to students' individual learning needs. This finding indicates that multisensory instruction provides flexibility in addressing reading difficulties experienced by students with dyslexia.

The integration of visual learning media played an important role in helping students recognize letters and words. During classroom observations, students were introduced to letters through colorful flashcards and picture cards before progressing to complete words and simple sentences. Environmental print displayed around the school was also used to familiarize students with authentic written language. These activities enabled students to associate written symbols with concrete objects, making the learning process more meaningful. This finding is consistent with Shaywitz and Shaywitz (2021), who argued that visual support strengthens letter recognition and compensates for phonological processing difficulties commonly experienced by students with dyslexia.

Auditory activities were implemented through repeated reading, listening practice, dialogue reading, and pronunciation exercises. Teachers consistently modeled correct pronunciation before asking students to repeat unfamiliar words several times. The repeated exposure to spoken language helped students improve pronunciation accuracy and reading fluency. These findings support Wagner et al. (2021), who emphasized that strengthening phonological awareness through auditory experiences is fundamental for improving reading performance among students with dyslexia. Repeated reading also allowed students to become more familiar with vocabulary and sentence patterns, thereby reducing decoding difficulties during reading activities.

Kinesthetic and tactile learning activities further enriched the instructional process. Teachers encouraged students to participate in movement-based learning by exploring the school environment, identifying written signs, discussing their meanings, and connecting reading materials with real-life contexts. Such activities increased students' engagement and motivation because learning extended beyond traditional classroom instruction. The findings support Ritchey et al. (2021), who suggested that activating multiple sensory pathways simultaneously enhances memory retention and reading development. Moreover, these activities reflected constructivist learning principles, where students actively constructed understanding through direct interaction with their surroundings.

The study also identified several positive impacts of multisensory strategy on students' reading development. Students demonstrated improvements in letter recognition, reading fluency, pronunciation, vocabulary acquisition, and reading comprehension. Teachers reported that students gradually became more capable of understanding words and texts after learning through pictures, contextual materials, and repeated practice. One student, identified as Halimah, showed remarkable improvement in reading ability and classroom participation after receiving continuous multisensory instruction and parental support. This evidence indicates that multisensory strategy contributes not only to academic achievement but also to students' emotional development and self-confidence.

The improvement in reading comprehension observed in this study supports the Simple View of Reading, which proposes that successful comprehension depends on both decoding ability and language comprehension. As students became more proficient in recognizing letters and decoding words, they were able to allocate greater cognitive resources to understanding text meaning. Furthermore, contextual learning activities enabled students to connect written language with their prior knowledge and everyday experiences. This finding is consistent with Peterson and Pennington (2015), who argued that comprehension develops through meaningful interactions between textual information and existing knowledge structures.

Another important finding concerns students' motivation and classroom engagement. Both participants reported that students were more enthusiastic when learning activities involved movement, exploration, and interaction with authentic learning materials. Outdoor learning activities encouraged students to participate more actively compared to conventional classroom instruction. Increased engagement is particularly important for learners with dyslexia because repeated experiences of academic failure frequently reduce confidence and learning motivation. The present findings therefore reinforce previous studies suggesting that multisensory instruction creates a more enjoyable and supportive learning environment for struggling readers.

Despite these positive outcomes, several challenges were identified during the implementation of multisensory strategy. The most frequently reported challenge was limited parental involvement. Teachers explained that students who received reading practice at home generally demonstrated greater progress than those who practiced only during school hours. This finding emphasizes that effective intervention for students with dyslexia requires collaboration between schools and families. Consistent support across

different learning environments enables students to reinforce literacy skills beyond the classroom.

Another challenge involved the diversity of students' reading abilities in inclusive classrooms. Teachers needed to continuously modify instructional approaches because students demonstrated different levels of reading competence and learning readiness. Some students mastered reading activities quickly, whereas others required repeated explanations and individualized assistance. This finding supports Florian (2017), who argued that inclusive education demands differentiated instruction to accommodate diverse learner characteristics. Consequently, teachers require considerable pedagogical flexibility to ensure that all students receive appropriate learning opportunities.

Additional challenges included limited student attention, emotional differences, and time constraints. Some students experienced difficulty maintaining concentration during reading activities, while others required additional emotional encouragement before actively participating in classroom learning. Furthermore, teachers reported that administrative responsibilities and limited instructional time reduced opportunities to provide intensive individualized assistance. These findings suggest that the effectiveness of multisensory strategy depends not only on instructional quality but also on contextual factors influencing classroom implementation.

Overall, the findings demonstrate that multisensory strategy is an effective instructional approach for supporting the reading comprehension of students with dyslexia in inclusive schools. The integration of visual, auditory, kinesthetic, and tactile activities contributed to improvements in reading performance, comprehension, motivation, participation, and self-confidence. At the same time, the study highlights that successful implementation requires collaboration among teachers, schools, and parents, as well as sufficient instructional time and differentiated teaching practices. Because this study involved only one inclusive school and two teacher participants, the findings cannot be generalized to all educational settings. Future studies are recommended to involve a larger number of schools and participants and to examine the long-term effectiveness of multisensory strategy using both qualitative and quantitative research designs.

CONCLUSION

Based on the findings and discussion of this study entitled "Exploring the Implementation of Multisensory Strategy to Support Reading Comprehension of Students with Dyslexia: A Study in an Inclusive School," it can be concluded that the implementation of multisensory strategy plays a significant role in supporting the reading comprehension development of students with dyslexia.

First, regarding the first research question on how multisensory strategy was implemented, the findings revealed that The strategy was implemented through the integration of visual, auditory, kinesthetic, and tactile activities, enabling students to engage multiple sensory modalities simultaneously during the learning process. Various instructional media and activities, such as flashcards, picture cards, alphabet cards, dialogue reading, oral repetition, writing exercises, and outdoor learning experiences, were effectively utilized to facilitate reading instruction. The findings revealed that the strategy contributed positively to students' reading abilities, including letter recognition, reading fluency, pronunciation, vocabulary acquisition, and comprehension of written texts. Furthermore, the use of contextual and interactive learning activities helped students connect written language with meaningful experiences, thereby enhancing their understanding of reading materials.

Second, regarding the second research question on the advantages and limitations of multisensory strategy, the findings showed that In addition to improving reading

comprehension, the implementation of multisensory strategy also fostered greater motivation, participation, and self-confidence among students with dyslexia. Students demonstrated higher levels of engagement and enthusiasm during learning activities, particularly when lessons involved movement, interaction, and hands-on experiences. Nevertheless, the study also identified several challenges affecting the implementation process, including limited parental involvement, variations in students' learning abilities, difficulties in maintaining attention and motivation, emotional and behavioral differences, and constraints related to instructional time. Despite these challenges, multisensory strategy was found to be an effective instructional approach in inclusive education settings because it accommodates diverse learning needs and promotes meaningful learning experiences. Therefore, the success of multisensory instruction requires continuous collaboration among teachers, schools, and parents to provide consistent support for students' academic, social, and emotional development.

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