

# Ratio of Dyslexic Students and Special Assistance Teachers in Primary Schools

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**Abstract.** Dyslexia is a specific learning disorder that can impede normal learning processes. As the birth rate increases, the number of school-aged children with dyslexia is also expected to rise. This trend may be linked to the neurological connections in individuals with dyslexia, suggesting that the condition could be genetically inherited. This research aims to provide concrete evidence regarding the average number of dyslexic students and the availability of Special Assistance Teachers in inclusive primary schools in 2024. It focuses on accurate analysis and thoughtful adaptation for future research design. A quantitative approach was employed using a survey-based research method, where questionnaires were distributed to 158 principals and teachers from both inclusive and non-inclusive primary schools across Indonesia. Data collection occurred from August 9 to September 13, 2024. The analysis revealed that the average number of dyslexic students per primary school was approximately two. Among the 40 primary schools surveyed, only 11 had special assistant teachers. These existing disparities create an environment that is less conducive to the interventions aimed at supporting dyslexic students. It is crucial for all stakeholders to recognize this issue and take action to implement preventive measures.

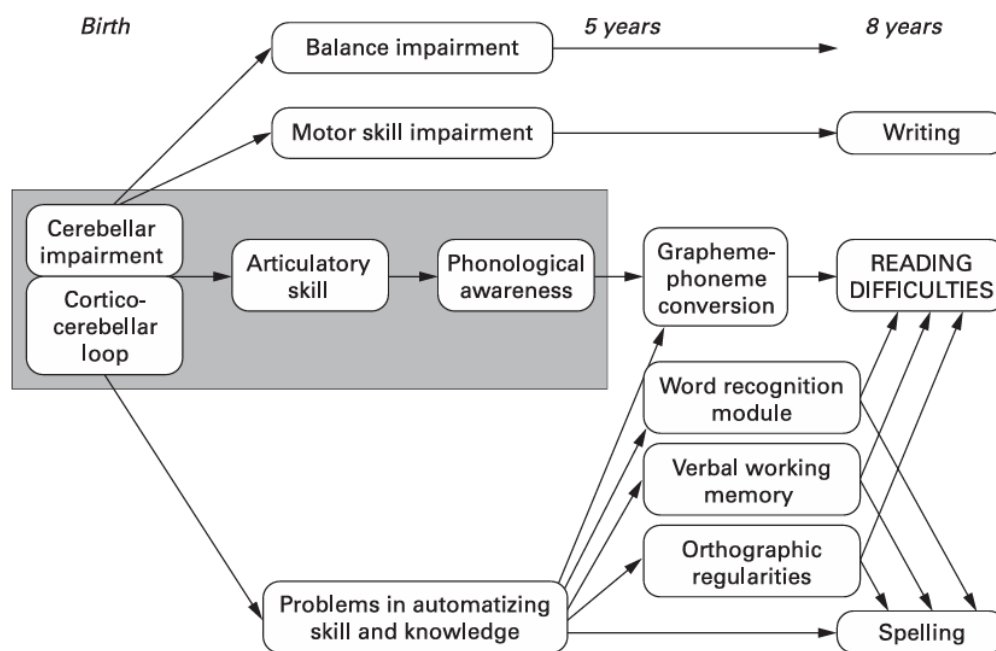
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## INTRODUCTION

Extensive research has identified dyslexia as a specific learning disorder that can disrupt the normal flow of learning. Dyslexia is considered a neurological condition that affects the brain's ability to process language and recognize symbols, leading to difficulties in reading, writing, and spelling. According to (Widyorini & Maria, 2019), this disorder results from anomalies in the left hemisphere of the brain that governs language and word order. These anomalies cause individuals with dyslexia to struggle with recognizing printed words, pronouncing unfamiliar words, and reading fluently (Hulme & Snowling, 2016). Research on poor reading and spelling skills indicates that approximately 94% of children with dyslexia at the primary school level experience challenges with phonological, visual, and auditory processing (Le Jan et al., 2011).

This concept aligns with three key aspects that can help identify dyslexia at an early age: 1) deterioration in phonological processing, 2) weaknesses in magnocellular function, and 3) impairments in left-brain function (Fawcett & Nicolson, 2007). To reinforce this idea (Nicolson & Fawcett, 2008) conducted further research that provides a structured overview of the mechanisms behind the occurrence of dyslexia in an ontogenetic causal chain as follows:



**Figure 1.** An Ontogenetic Causal Chain of Dyslexia

Based on Figure 1.1 above, it can be concluded that cerebellar abnormalities present at birth lead to mild motor and articulation issues. Deficits in articulation fluency result in a poor representation of the phonological characteristics of speech, which is linked to phonological disorders. This difficulty affects the automation of skills and knowledge, impacting phoneme conversion, word identification, verbal working memory, and orthographic alignment. Phonological deficits significantly hinder phonological abilities, particularly in recognizing the initial segments of phonemes and comprehending reading material. Moreover, deficits in automation take a toll on both motor and cognitive skills, resulting in broader challenges, such as: (1) impaired working memory, (2) a heightened susceptibility to distractions, and (3) a tendency to lose interest quickly. Addressing these issues is crucial for improving overall learning and engagement. These disorders become more apparent as children reach school age, causing dyslexic students to struggle with reading, spelling, and comprehending the content of their readings. Generally, dyslexic students exhibit seven faulty mechanisms in reading: insertion, reversal, estimation, writing, coding, patterns, and spelling. Among these, the most common issue faced by dyslexic students is reversal (Subramaniam & Nasir, 2020).

Reversal can be categorized into two types: letter reversal and word reversal. Letter reversals often occur when dyslexic students have difficulty distinguishing between letters that have similar shapes, such as /b/, /d/, /p/, /q/, /m/, /w/, /n/, and /u/. Word reversal happens when students read syllables in reverse; for instance, the word /nasi/ may be read as /sina/, or /batu/ as /tuba/. As a result, dyslexic students often encounter significant barriers to learning, which

can result in lower comprehension and learning speeds compared to their peers (Olson et al., 2014). These challenges can lead to them being labeled as lazy, unmotivated, slow learners, or late bloomers, which may cause them to question their intellectual abilities. However, it is important to note that dyslexic students have normal intellectual capacity (Serrano & Defior, 2008) indicating that there is no direct correlation between dyslexia and intellectual level. Although dyslexia is not classified as a disease, it can be addressed through personalized learning plans, appropriate interventions, skilled educators, and support from family, professionals, and peers (Hulme & Snowling, 2016)

Efforts to overcome the disorder and reduce feelings of inferiority should focus on creating an optimal intervention environment and providing skilled educators. This aligns with the government program pertaining to inclusive schools, as outlined in Regulation of the Minister of National Education of the Republic of Indonesia No. 70 of 2009, Article 10, Paragraphs (1) and (2), states the following: (1) District and city governments are required to provide at least one special mentor teacher in educational units designated to implement inclusive education. (2) Educational units that offer inclusive education but are not designated by district or city governments must provide at least one special assistant teacher. This ensures a supportive and equitable learning environment for all students. Inclusive schools are formal educational institutions that offer extensive opportunities for all students to receive quality education, tailored to their individual needs and abilities. This perspective is supported by scholars such as (Peters & Oliver, 2009; Wah, 2010; Sumiyati, 2011; Friend, 2021), who argue that inclusive schools serve as a model for educational services that welcome all students and accommodate diverse needs. These include guidance, services, and learning processes, regardless of factors such as socio-economic status, ethnicity, culture, gender, or physical, mental, intellectual, and emotional conditions.

The existence of Special Assistance Teachers is crucial and must be ensured by the relevant agencies. Generally, the responsibilities of Special Assistance Teachers include several key duties. Alongside providing interventions to students, they serve as professional coordinators for identification, assessment, prevention, and the provision of compensatory services. They also offer direction and guidance to other educators to help implement inclusive education effectively (Marshak et al., 2010). According to the Regulation of the Minister of Education of the Republic of Indonesia Number 70 of 2009, every inclusive school must have at least one Special Assistance Teacher. Additionally, beyond the presence of Special Assistance Teachers and inclusive school programs, fostering a social environment that is friendly and supportive of children with special needs is also a crucial priority.

The Ministry of Education and Culture has laid the groundwork for Inclusive Schools, outlining a comprehensive framework that encompasses the curriculum, the role of Special Assistance Teachers, and various regulations. However, the reality on the ground reveals significant gaps in the effective implementation of inclusive education. As highlighted by (Garnida, 2015), numerous inclusive schools are struggling to provide the support necessary due to a critical shortage of skilled educators. Consequently, the vital roles of Special Assistance Teachers and the identification of dyslexic students are falling short of expectations. This issue is not merely a logistical challenge; it is a pressing societal concern as the number of dyslexic individuals continues to grow alongside rising birth rates. (Schulte-Körne, 2010) underscores the gravity of this situation by noting that dyslexia has a neurological basis that can be genetically passed down. If we fail to address this urgent issue now, we will inevitably face even greater challenges in the future, leaving dyslexic students without the necessary resources and support to thrive.

Moreover, the lack of robust research on dyslexia only compounds the problem, particularly in terms of understanding the ratio of dyslexic students to Special Assistance Teachers in elementary schools. We must take immediate action to rectify these shortcomings, ensuring that every child receives the education and support they deserve. The latest research on the average ratio of dyslexic students in elementary schools was conducted by (Shaywitz & Shaywitz, 2020) in collaboration with the International Dyslexia Association (IDA). They reported that, in 2020, the average percentage of dyslexic students in elementary schools ranged from 5% to 17%. Building on this finding, researchers are interested in conducting a broader study to determine the average ratio of dyslexic students and Special Assistance Teachers in Indonesia in 2024. The researcher hopes that this study will enhance awareness about dyslexia and highlight the importance of Special Assistance Teachers in the implementation of inclusive education. Additionally, I aim to inspire more structured innovations and changes to address the current challenges.

## **METHODOLOGY**

This research employs a quantitative approach using a survey method. Survey research involves collecting quantitative data by asking participants questions through questionnaires or interviews. This process focuses on various aspects such as behaviors, trends, opinions, beliefs, understanding, and perspectives, with the aim of testing hypotheses or addressing research questions related to specific topics (Gay et al., 2009; Fraenkel et al., 2012; Creswell, 2019). The type of survey design utilized in this study is a cross-sectional design, which is the most commonly used survey format in the field of education. Although data collection may span several days to weeks or longer, the data gathered represents a snapshot of the sample

at a single point in time (Gay et al., 2009; Fraenkel et al., 2012; Creswell, 2019). The research stages followed in this study are based on the framework proposed by (Fraenkel et al., 2012), which includes: (1) identifying the problem or phenomenon, (2) defining the target population, (3) determining the research sample, (4) selecting the data collection method, and (5) preparing the research instrument.

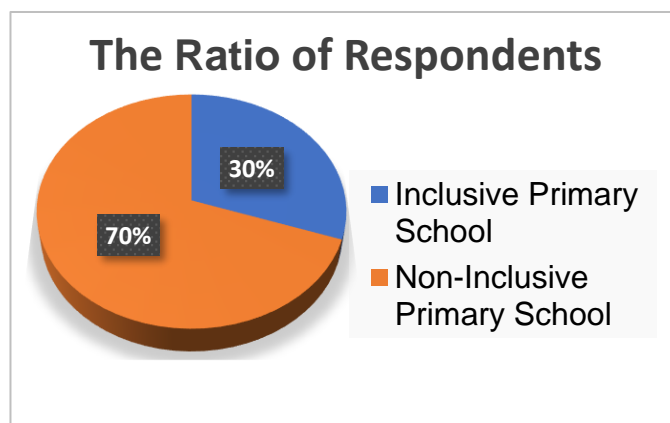
This study highlights a significant gap in research about dyslexic students and special assistant teachers in Indonesian elementary schools for 2024. Despite growing awareness of dyslexia, comprehensive data is lacking. My research focuses on principals and teachers from elementary schools across Indonesia, with a specific emphasis on schools located in the islands of Sumatra, Java, and Sulawesi. According to (Sue & Ritter, 2012; Fink, 2013; Krueger & Casey, 2015), various mechanisms for implementing surveys include postal mail, internet surveys, interviews, and web-based questionnaires. For this research, the selected method was a web-based questionnaire. The study was conducted from August 9 to September 13, 2024. A total of 158 respondents participated in the survey, which included principals and teachers from 132 inclusive and non-inclusive primary schools. A summary of the data related to the respondents can be found in the table below:

**Table 2. 1** Recap of Respondent Data

<b>Provinces</b>	<b>The Number of Institute</b>
Bangka Belitung	1
Bengkulu	1
DKI Jakarta	1
Jawa Barat	65
Riau	1
Sulawesi Barat	1
Sulawesi Selatan	8
Sumatera Barat	50
Sumatera Selatan	2
Sumatera Utara	2
<b>Total</b>	<b>132</b>

Based on the information in Table 2.1, it can be concluded that there were 158 respondents from 132 elementary schools located on the islands of Sumatra, Java, and Sulawesi. Among these, approximately 40 schools identified as inclusive primary schools, while around 92

schools were classified as non-inclusive primary schools. The distribution of respondent primary schools is illustrated in Chart 2.1 below:



**Chart 1.** The Rasio of Respondents

The insights illustrated in Chart 1 reveal a diverse group of respondents comprising both inclusive and non-inclusive elementary schools from the vibrant islands of Sumatra, Java, and Sulawesi. These schools represent invaluable primary data sources for my research. By meticulously analyzing the collected information, I aim to rigorously test hypotheses and provide comprehensive answers to the pressing research questions at hand. This study not only highlights the significance of precise analysis but also underscores the necessity for strategic adaptation, paving the way for impactful future research.

## RESULTS AND DISCUSSION

This study employed a web-based questionnaire to gather responses from participants across three major Indonesian islands: Sumatra, Java, and Sulawesi. The respondents included principals and teachers from primary schools. Data collection took place between August 9 and September 13, 2024. The gathered data was meticulously organized using Microsoft Excel and Microsoft Word and analyzed with precision, ensuring that the integrity of each respondent's answers was maintained. We conducted an in-depth examination of each response to unearth common themes and insights. In instances where answers were unclear, we proactively engaged in follow-up discussions with respondents, demonstrating our commitment to accuracy. From an extensive sample of 158 respondents representing 132 primary schools—both inclusive and non-inclusive—my findings revealed that, on average, each primary school will host approximately two dyslexic students in 2024. Notably, these students are found throughout both lower and upper-grade levels. The process for identifying dyslexic students, however, varies significantly from school to school, reflecting the need for tailored policies and programs. These findings underscore the importance of addressing dyslexia in primary education and the necessity for schools to adopt comprehensive

identification methodologies. By acknowledging this issue and implementing effective strategies, we can foster a more inclusive learning environment for every student.

Many principals and primary school teachers lack a proper understanding of dyslexia, often confusing dyslexic students with those who simply struggle to read. While both groups experience reading challenges, it is essential to recognize the significant differences between them. Dyslexia is a lifelong learning disorder that cannot be cured; it is not a disease, but rather a complex condition tied to the dysfunction of the left hemisphere of the brain. Despite receiving interventions, dyslexic students will continue to face these challenges throughout their lives. On the other hand, students who struggle with reading can often overcome their difficulties through effective instruction and tailored support from teachers or parents. This crucial distinction underscores the need for informed and skilled educators who can provide the right interventions for dyslexic students. It is imperative to equip these teachers with a deeper understanding of dyslexia to ensure that all students receive the assistance they require for success. With appropriate support, we can empower dyslexic students to thrive academically and reach their full potential.

Various types of interventions can be implemented for dyslexic students based on their individual needs, characteristics, and learning styles. This is highlighted in a literature review conducted by (Hayati et al., 2024), which outlines the diverse interventions utilized for dyslexic students worldwide. The systematic analysis and comprehensive descriptions provided in the article make it an invaluable resource for parents, teachers, and specialists seeking effective strategies for supporting dyslexic learners. Ensuring that dyslexic students have access to appropriate interventions is not just a matter of educational fairness; it is their right. By equipping these students with the necessary tools and support, enables them to thrive academically and socially. In this context, the Regulation of the Minister of National Education of the Republic of Indonesia Number 70 of 2009 on Inclusive Education for Students with Disabilities and Exceptional Intelligence serves as a significant step forward, underscoring our collective responsibility to create an inclusive learning environment where every student can succeed.

The regulation states that to prepare graduates who can compete on a global scale and to provide adequate facilities for students with special needs, the government has established inclusive schools. Inclusive schools are recognized as formal educational institutions that offer extensive opportunities for all students to receive quality education tailored to their individual needs and abilities, without discrimination. These schools are part of a government program that ensures equal access to education for all students, eliminating barriers between students without disabilities and those with special needs. The services and programs offered in

inclusive schools differ significantly from those in other public schools. One key difference is the presence of special assistant teachers. These teachers play a crucial role in the implementation of inclusive education. Their responsibilities are diverse; in addition to providing interventions for students, they also function as professional coordinators for identification, assessment, prevention, and the provision of compensatory services. Furthermore, one of their primary tasks is to guide and support other educators in effectively implementing inclusive education throughout the school system.

The role of special assistant teachers is crucial in fostering an inclusive educational environment where children with special needs can thrive. By partnering with class teachers, these professionals identify and implement targeted interventions that create a supportive and friendly social atmosphere essential for all students. The importance of special assistant teachers is particularly pronounced in inclusive primary schools, where their expertise can make a significant difference. According to the Regulation of the Minister of National Education of the Republic of Indonesia Number 70 of 2009, every inclusive school is mandated to have at least one special assistant teacher. The responsibility to ensure this is fulfilled rests with local governments and relevant educational agencies. Yet, the reality is disheartening: many inclusive primary schools lack these vital educators. This survey revealed that only 11 out of 40 inclusive primary schools have special assistant teachers on staff. This alarming gap undermines the effectiveness of learning programs and services, particularly for students with dyslexia. Without the necessary support, the ideals of personalized learning and meaningful intervention remain unfulfilled. It is imperative that we advocate for the appointment of special assistant teachers in every inclusive school, ensuring that all children receive the education and support they deserve.

It is crucial that we promptly address the increasing concern of dyslexia, as its prevalence is expected to rise alongside the growing birth rate. Research indicates a significant neurological correlation that suggests dyslexia can be inherited, underscoring the need for local governments and relevant organizations to enhance their efforts in this area. By doing so, we can ensure that inclusive education programs are effectively implemented and accessible to all students. The current shortage of special education teachers in primary schools poses serious challenges for the identification, assessment, prevention, and intervention processes for students with special needs, particularly those with dyslexia. To address this issue, it is essential for primary school teachers to develop a comprehensive understanding of these disorders and the appropriate interventions. Moreover, this knowledge should be included in the curriculum for prospective educators, so they are adequately prepared from the beginning of their careers. Researchers advocate for the prioritization of inclusive education within faculties of education and teacher training programs throughout Indonesia. By elevating this



subject, we can equip future educators with the necessary expertise to address inequality in the educational landscape. Additionally, we urge local governments and relevant agencies to provide strong support for the successful implementation of inclusive education initiatives. Together, we can foster a more equitable and supportive environment for all learners, ensuring that no child is left behind. By elevating this subject, we can equip future educators with the necessary expertise to address inequality in the educational landscape

## **CONCLUSION**

Dyslexia is a neurological learning disorder that affects the brain's ability to process language and recognize symbols or patterns. This results in difficulties with reading, writing, and spelling. While dyslexia is not classified as a disease, it can be managed through personalized education plans, targeted interventions, skilled educators, and support from family, professionals, and peers. The intervention process must be precise, structured, and continuous because the brain retains enough flexibility to reorganize and adapt. The role of special education teachers is crucial in supporting dyslexic students. They not only provide direct interventions but also coordinate efforts in identification, assessment, prevention, and the delivery of compensatory services. However, there is a concerning imbalance between the number of dyslexic students and the availability of special education teachers. This situation requires further evaluation and review by relevant agencies, especially as the number of dyslexic students is expected to increase alongside rising birth rates. We have a collective responsibility to ensure that every child with dyslexia has access to the support they need to thrive and reach their full potential. To address this issue, primary school teachers need to develop a comprehensive understanding of these disorders and the appropriate interventions. Moreover, this knowledge should be included in the curriculum for prospective educators so they are adequately prepared from the beginning of their careers. Researchers advocate for the prioritization of inclusive education within faculties of education and teacher training programs throughout Indonesia. By elevating this subject, we can equip future educators with the necessary expertise to address inequality in the educational landscape. Additionally, we urge local governments and relevant agencies to provide strong support for the successful implementation of inclusive education initiatives. Let us advocate for the necessary changes to create a more equitable and supportive educational environment for all learners.

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