

INDONESIAN TEACHERS KNOWLEDGE AND EXPERIENCE TEACHING STUDENTS WITH DYSLEXIA

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Abstract

The study aimed to examine how Indonesian teachers' knowledge of dyslexia and the experiences teaching students with dyslexia in the Indonesian context. 137 teachers working with students with dyslexia in regular schools participated in this study. Mixed-methods research designs combining closed and open-ended research questionnaires were employed. Data was analyzed using statistical descriptive, differences, and correlation analysis for closed-ended questions and thematic analysis was used for open-ended questions. The results revealed that the average scores of teachers' knowledge on dyslexia was 32.99 from 50.00. The difference analysis showed that teaching experiences and ages had significant differences on teachers' knowledge of dyslexia. The correlation analysis showed that teachers' misconceptions about dyslexia were significantly interrelated, particularly the belief that dyslexia is associated with memory deficits and below-average intelligence, which was positively correlated, while more accurate understandings of dyslexia as a language processing difficulty were negatively associated with these misconceptions. Thematic analysis to describe teachers' experiences including students with dyslexia in their classroom revealed two main themes (misunderstanding dyslexia and teaching dyslexia) and six sub themes (1) illiterate children, (2) teachers' concerns, (3) good teachers, (4) fun methods, (5) collaboration, and (6) environment. The study suggested the importance of providing proper information, teachers' training and seminars on understanding dyslexia as well as knowledge and practices teaching students with learning difficulties, especially students with dyslexia.

Keywords: inclusive schools; Indonesian teachers; knowledge of dyslexia; teaching experiences.

Abstrak

Penelitian ini bertujuan untuk mengkaji pengetahuan guru Indonesia tentang disleksia serta pengalaman mengajar siswa dengan disleksia dalam konteks Indonesia. Sebanyak 137 guru yang bekerja dengan siswa disleksia di sekolah reguler berpartisipasi dalam penelitian ini. Desain penelitian metode campuran yang menggabungkan kuesioner tertutup dan terbuka digunakan. Data dianalisis menggunakan analisis statistik deskriptif, perbedaan, dan korelasi untuk pertanyaan tertutup, dan analisis tematik digunakan untuk pertanyaan terbuka. Hasil penelitian menunjukkan bahwa skor rata-rata pengetahuan guru tentang disleksia adalah 32,99 dari 50,00. Analisis perbedaan menunjukkan bahwa pengalaman mengajar dan usia memiliki perbedaan yang signifikan terhadap pengetahuan guru tentang disleksia. Analisis korelasi menunjukkan bahwa kesalahpahaman guru tentang disleksia saling terkait secara signifikan, khususnya keyakinan bahwa disleksia dikaitkan dengan defisit memori dan kecerdasan di bawah rata-rata, yang berkorelasi positif, sedangkan pemahaman yang lebih akurat tentang disleksia sebagai kesulitan pemrosesan bahasa berkorelasi negatif dengan kesalahpahaman tersebut. Analisis tematik untuk menggambarkan pengalaman guru dalam menangani siswa disleksia di kelas mereka mengungkapkan dua tema utama (kesalahpahaman disleksia dan pengajaran disleksia) serta enam subtema: (1) anak-anak buta huruf, (2) kekhawatiran guru, (3) guru yang baik, (4) metode yang menyenangkan, (5) kolaborasi, dan (6) lingkungan. Studi ini menunjukkan pentingnya memberikan informasi yang tepat, pelatihan bagi guru, serta seminar tentang pemahaman disleksia, serta pengetahuan dan praktik mengajar siswa dengan kesulitan belajar, khususnya siswa disleksia.

Kata kunci: guru Indonesia; pengalaman mengajar; pengetahuan tentang disleksia; sekolah inklusif.

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INTRODUCTION

Dyslexia is a type of learning difficulty that is often encountered in educational settings. As a teacher, understanding dyslexia and the learning characteristics of students with dyslexia is very important to be able to provide appropriate support and assistance (Karimupfumbi & Dwarika, 2022). Dyslexia is a widespread learning difficulty with prevalence rates ranging from 4% to 20%, depending on its definition (Butterworth & Kovas, 2013; Lyon et al., 2003; Snowling, 2019). One of the most prominent definitions of dyslexia is that of (Lyon et al., 2003), p. 2), according to which: "Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction". Although it is not a teacher's job to diagnose dyslexia, it is important that they have an accurate understanding of the underlying behavioural and cognitive difficulties associated with dyslexia to identify those that could be at risk and to intervene appropriately (Knight, 2018).

As children advance through the education system, reading becomes the primary means of accessing and understanding content, underscoring the critical importance of promptly identifying and intervening for children with dyslexia (Colenbrander et al., 2018; Schatschneider & Torgesen, 2004). Research indicates that when early intervention in reading is provided to beginning readers at risk, a significant majority, ranging from 56% to 92%, can attain average reading skills (Torgesen et al., 2001). Routine child assessments should include dyslexia screening through comprehensive speech and language history, early naming challenges, and familiarity with nursery rhymes. Observing free writing and spelling errors is also important.

In Indonesian context, dyslexia is uncommon and new term of disability types. Previous research by Soegondo et al. (2022) reported that Indonesian people thought that dyslexia was caused by a poor diet, whereas another implicated hypotonia and problems with spine. Attributions included poor parenting, poor teaching and disinclination to learn in the child themselves. As an increasingly prevalent learning disability, dyslexia have garnered significant attention in the education sector, given its profound impact on students' academic performance and the critical role teachers play in identifying and supporting these individuals (Kadir & Binti Jabbar, 2023). Furthermore, the ability of educators to recognize and understand dyslexia can greatly influence the effectiveness of early intervention strategies, which have been shown to mitigate the negative consequences associated with the disorder when implemented promptly.

Research indicates that a solid understanding of dyslexia among teachers not only enhances their instructional practices but also fosters a supportive learning environment that promotes student engagement and motivation, ultimately leading to improved outcomes for children at risk of reading failure (Snowling, 2013). Moreover, equipping teachers with knowledge about dyslexia enables them

to implement evidence-based strategies, which are essential for addressing the unique challenges faced by affected students, thereby facilitating their learning and development from an early age (Hudson et al., 2007; Snowling, 2013). Considering the importance of teachers' knowledge in addressing the needs of students with dyslexia, it is essential that ongoing professional development and training programs be made available to educators, as these would empower them to better recognize the signs of dyslexia and provide appropriate support to their students (Williams & Lynch, 2010). One of the main reasons why it is so important for teachers to understand the specific conditions and characteristics of students with dyslexia is that this allows them to adapt their teaching methods and create a more inclusive learning environment (Stuart & Yates, 2018). In addition to adapting their teaching methods, teachers who understand the characteristics of dyslexia will be better equipped to advocate for their students and ensure that they receive the necessary accommodations and support (Karimupfumbi & Dwarika, 2022). This could include allowing more time for tests, allowing the use of assistive technology, or modifying assignment requirements.

Perspectives of teachers and parents toward dyslexia in Indonesia are often shaped by persistent misconceptions. Lidwina (2012) argued that parents frequently regard reading and writing proficiency as primary indicators of children's intelligence. Consequently, school-aged children who demonstrate delays in reading fluency are often perceived as having low cognitive ability or are negatively labelled. Such misconceptions may hinder early identification and appropriate intervention for students with dyslexia. Effective instruction for students with dyslexia is strongly influenced by teachers' knowledge and professional experience. Previous research has consistently shown that while teachers generally hold positive attitudes toward inclusive education, their knowledge of dyslexia, particularly regarding its neurological basis, characteristics, and evidence-based instructional strategies, remains insufficient (Soriano-Ferrer & Echegaray-Bengoa, 2014; Washburn et al., 2017). This gap in knowledge may limit the effectiveness of instructional practices and the ability to provide appropriate support for students with dyslexia.

Teaching experience appears to play a significant role in shaping teachers' perceived preparedness. Studies indicate that teachers with more classroom experience report greater confidence in supporting students with learning difficulties, including dyslexia (Gwernan-Jones & Burden, 2010). However, reliance on experience alone is insufficient. The lack of systematic and formal training in dyslexia suggests an urgent need for reform in teacher education curricula, alongside the provision of ongoing, targeted professional development programs (Monahan et al., 2025). Such initiatives are essential to enhance teachers' pedagogical competence and ensure effective, evidence-based instruction for students with dyslexia. Students with dyslexia need explicit instruction and additional help to develop their reading skills and overcome their learning difficulties. By advocating for their students, teachers can help create a level playing field and empower them to reach their full potential.

METHOD

Participants

The study gathered data through a designed survey to collect diverse and significant information from research participants. Out of 200 surveys distributed 137 Indonesian teachers from inclusive schools agreed to return the surveys. The data collection took place using Google Forms between March and June 2023. Closed-ended questions were used to collect data on teachers' perceptions of dyslexia. These questions aimed to assess participants' skills, viewpoints, and experiences in these areas. For aspect three, open-ended questions were utilized to delve deeper into understanding, complementing the quantitative data. Secondary data included research on the topic sourced from academic outlets like ResearchGate, Google Scholar, university libraries, journal websites and reputable policy organizations. The survey encompassed a range of individuals with varying backgrounds, gender identities, ages, study years, and geographical locations across the country.

Table 1. The descriptive analysis of participants (N=137)

No	Variable	Category	N	Percentage
1	Gender	Male	25	18.2%
		Female	112	81.8%
2	Area	Urban	84	61.3%
		Rural	53	38.7%
3	Age	<30	40	29.2%
		31-40	59	43.1%
		41-50	17	12.4%
		>51	19	13.9%
		Missing	2	1.5%
4	Teaching Experiences	1-5 years	39	28.5%
		6-10 years	32	23.4%
		11-15 years	25	18.2%
		16-20 years	16	11.7%
		> 21 years	23	16.8%
		Missing	2	1.5%
5	Grade	Lower Primary	71	51.8%
		Upper Primary	50	36.5%
		Mix	11	8.0%
		Missing	5	3.6%
6	Knowledge	Yes	126	92.0%
		No	11	8.0%

The study included a total of 137 participants, whose demographics and professional characteristics were analyzed across several variables. The gender distribution showed a higher proportion of female participants (n = 112, 81.8%) compared to male participants (n = 25, 18.2%). Regarding the area of residence, a majority of participants resided in urban areas (n = 84, 61.3%), while the remainder were from rural areas (n = 53, 38.7%). The age distribution among participants was as

follows: individuals under 30 years ($n = 40, 29.2\%$), those aged 31-40 years ($n = 59, 43.1\%$), participants aged 41-50 years ($n = 17, 12.4\%$), and those over 51 years ($n = 19, 13.9\%$). There were 2 participants (1.5%) with missing age data.

Participants' teaching experience varied, with the majority having 1-5 years of experience ($n = 39, 28.5\%$). Those with 6-10 years of experience numbered 32 (23.4%), followed by 25 participants (18.2%) with 11-15 years, 16 participants (11.7%) with 16-20 years, and 23 participants (16.8%) with over 21 years of experience. Two participants (1.5%) did not report their teaching experience. In terms of the educational grade taught, a significant proportion of participants were involved in lower primary education ($n = 71, 51.8\%$), while others taught upper primary ($n = 50, 36.5\%$) or a mix of grades ($n = 11, 8.0\%$). Data on the grade taught was missing for 5 participants (3.6%). Finally, the assessment of participants' knowledge indicated that a substantial majority had the requisite knowledge ($n = 126, 92.0\%$), whereas a minority did not have ($n = 11, 8.0\%$).

Research Design

We used a comprehensive mixed-methods approach, including both quantitative and qualitative data, to comprehensively investigate the Indonesian teachers' knowledge and perspective on dyslexia. The rationale for combining quantitative and qualitative data was that quantitative findings provide a broad overview of teachers' level of knowledge, awareness, and perceptions across a large and geographically diverse sample, while qualitative responses offer deeper insight into the reasons, experiences, and contextual factors underlying these patterns. The integration of both forms of data enabled a more complete interpretation of the phenomenon than either method could provide independently.

The research used a cross-sectional methodology, using an online survey to gather data at a particular point in time. This technique facilitated the efficient consolidation of data from a diverse array of participants throughout Indonesia, therefore producing important insights into their viewpoints and experiences. The research procedures followed ethical protocol by the commission on research ethics of Heimerer College with number 001/23. The participants were informed about the study's purpose and gave their consent before taking part. The survey promised confidentiality and privacy with participants being assured that their responses would only be utilised for research purposes.

Instruments

Self-developed scales were used in this study which contained demographic questions, ten items scale about teachers' knowledge in dyslexia (D1-D10), and three open ended questions about teachers' perception of dyslexia and how the best way to teach them. Before doing analysis data, normality checks using Shapiro-Wilk test and histogram were used. Based on the Shapiro-Wilk test, the total score of teachers' knowledge on dyslexia was 0.972 ($p < 0.05$).

Data analysis

The quantitative data analysis included using the 27.0 edition of IBM SPSS software to identify and comprehend patterns, trends, and correlations. The qualitative responses were subjected to thematic analysis (Braun & Clarke, 2006) to identify the dominant themes/subthemes, perspectives, and opinions expressed by the participants.

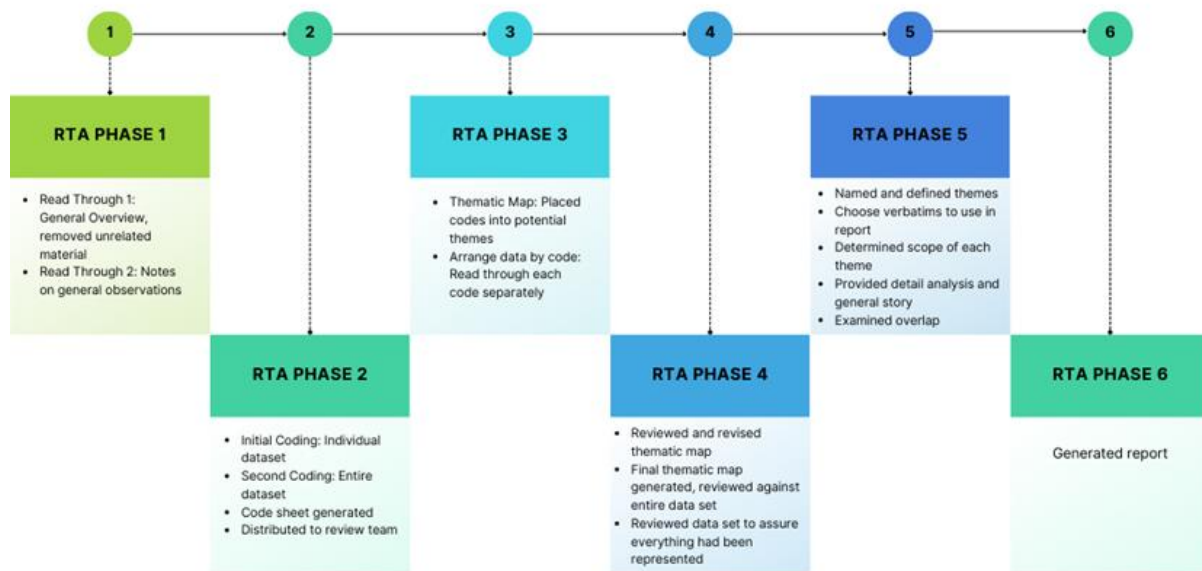


Figure 1. Six phases of thematic data analysis (Braun & Clarke, 2006)

RESULTS AND DISCUSSION

Quantitative result

Descriptive analysis variable

The descriptive analysis was performed to provide a comprehensive summary of the Indonesian teachers' knowledge of dyslexia (Table 2) highlighting a relative normal distribution with slight positive skewness and moderate variability.

Table 2. The descriptive analysis of variable: Teaches knowledge of dyslexia

N (Valid)	Mean	Median	SD	Skewness	Kurtosis	Min	Max
137	32.99	33.0	3.579	0.41	0.313	25	44

Based on descriptive statistics of variable, the average score of Indonesian teachers (N=137) on their knowledge of dyslexic were 32,99 with median 33.00, suggesting that the distribution of their knowledge of dyslexic was approximately symmetric. The standard deviation of 3.579 indicates a moderate level of variability in the teacher's knowledge of dyslexic. The slight positive skewness

(0.410) indicates that while most teachers' knowledge of dyslexia scores around the mean, there were some teachers with higher scores that extend the tail to the right. The kurtosis value (0.313) suggested that the distribution was slightly more peaked than the normal distribution, but this deviation was minimal. The scores range (25 to 44) showed that while there is some variability, the scores were relatively concentrated within the interval.

The differences across teaching experiences and ages

One of item scale in current research to find the differences between teachers belief that students with dyslexic have IQ score below the average across teaching experiences (D3) (N=137): 1-5 years, 6-10 years, 11-15 years, 16-20 years and >21 years were analysed using the one-way ANOVA (F=6.902, $p<0.001$). The differences were also found across teacher's age: <30, 31-40, 41-50 and >51 years old on their beliefs about students with dyslexic have IQ score below the average (D3) (ANOVA, F=3.619, $p<0.05$). In addition, the result found the difference across teachers' ages (N=137) on their beliefs that doctors can prescribe medication to help dyslexic students (D6) (ANOVA, F=3.156, $p<0.05$).

Correlation

Based on Pearson correlation result, Indonesian teachers who believed that students with dyslexia have problem with memory (D1) is significantly correlated positively with believed that dyslexic students have IQ below average (D3) ($\rho= 0.355$, $p<0.001$) but negatively correlated with belief that dyslexia can affect language processing (D4) ($\rho= -0.200$, $p<0.05$) and and also significantly negative correlated with belief that dyslexic students have more sensitive emotional state (D9) ($\rho= -0.207$, $p<0.05$). Teachers who believe that students with dyslexia have the right level of attention can successfully perform multitasking (D2) is significantly negatively correlated with belief that doctors can prescribe medication to help dyslexic students (D6) ($\rho= -0.198$, $p<0.05$).

Teachers who belief that students with dyslexia have below average intelligence (D3) is significantly correlates positively with belief doctors can prescribe medication to help dyslexic students (D6) ($\rho= 0.417$, $p<0.001$) and correlates negatively with belief that dyslexia is caused by poor home environment and lack of ability to read instructions (D8) ($\rho= -0.417$, $p<0.001$) and significantly negative correlated with belief that students with dyslexia do not have problems with side orientation (D10) ($\rho= -0.208$, $p<0.05$). Indonesian teachers who think that dyslexia is learning disability which can affect language processing (D4) is significantly negative correlated with belief that dyslexia is hereditary (D5) ($\rho= -0.201$, $p<0.05$) but significantly positive correlated with belief that students with dyslexia have a more sensitive emotional state (D9) ($\rho= 0.215$, $p<0.05$).

Teachers who believe that dyslexia is hereditary (D5) are significantly negative correlated with belief that students with dyslexia have a more sensitive emotional state (D9) ($\rho= -0.222$, $p<0.05$).

Indonesian teachers who believe that doctors can prescribe medication to help students with dyslexia (D6) is significantly negative correlated with belief that dyslexia is caused by poor home environment and lack of ability to read instructions (D8) ($\rho = -0.340, p < 0.001$) and also significantly negative correlated with belief that students with dyslexia do not have problems with side orientation (D10) ($\rho = -0.195, p < 0.05$).

Teachers who believe that dyslexia caused by poor home environment and lack of ability to read instructions (D8) is significantly positive correlated with belief that students with dyslexia do not have problems with side orientation (D10) ($\rho = 0.207, p < 0.05$).

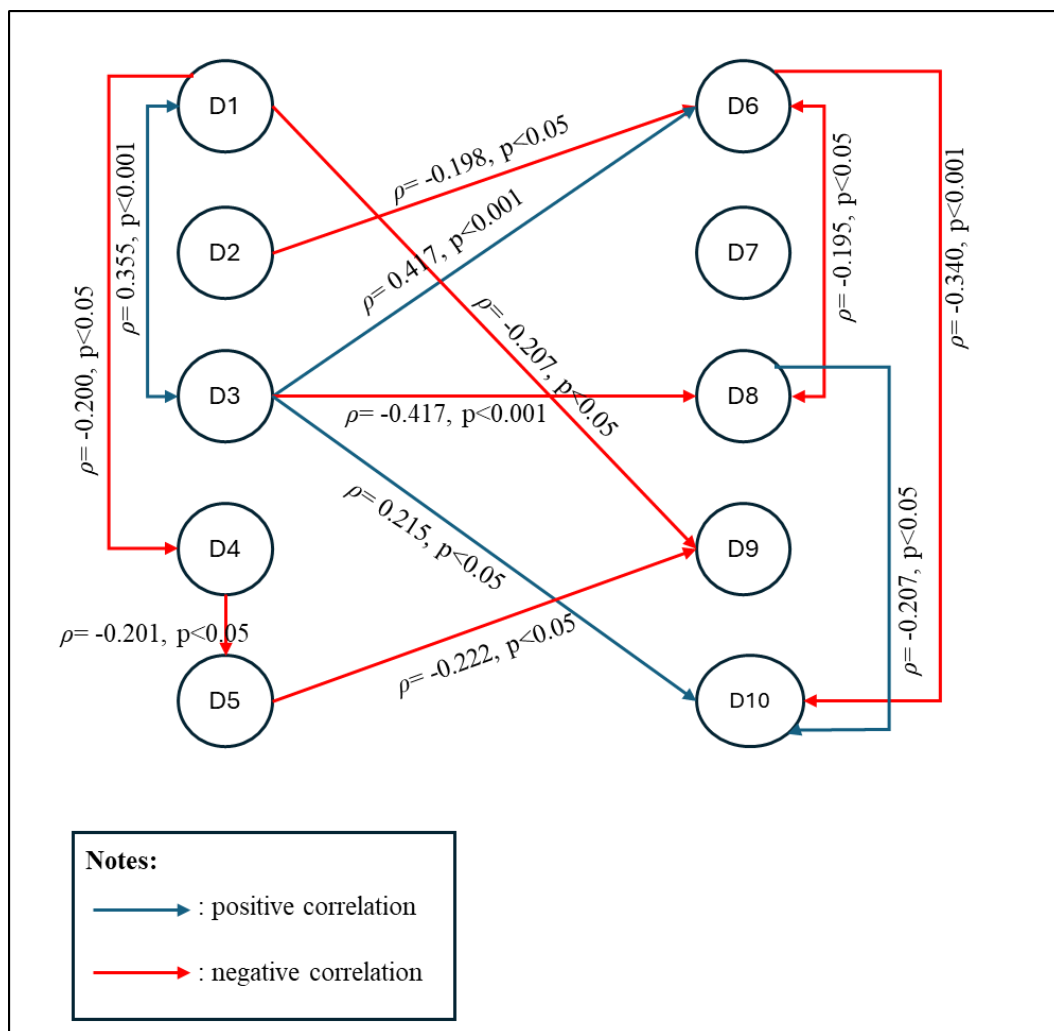


Figure 2. The correlation between item (D1- D10) on Indonesian teachers' knowledge of dyslexia (source: own study)

Qualitative result

This research includes two ended questions to complement the survey findings. The first question seeks the teacher's knowledge about the definition of dyslexia, while the second question explores the

required effective efforts for teaching students with dyslexia. The responses to these questions were analysed qualitatively using Braun and Clarke's six thematic stages of analysis. The initial stage involved becoming familiar with the data by reviewing the datasets from both ended questions. During the phase of code generation emphasis was placed on identifying and categorising characteristics or patterns in the data and assigning codes to specific sections. Codes typically consist of sentences or words that capture the essence of the information. Searching for themes involves recognizing patterns or themes by grouping codes together. Themes are overarching ideas that connect codes and offer an understanding of the data. The final phase, known as stage 4 involves an examination and refinement of the identified themes. Once the themes are confirmed they are labelled.

The final step involves putting the report, where the findings are presented by referencing details or examples, from the data to support each point. After evaluating the interviews two main themes emerged with five subthemes (Figure 3). These can be observed. Extracts of data are selected based on the responses gathered during the ended survey questions.

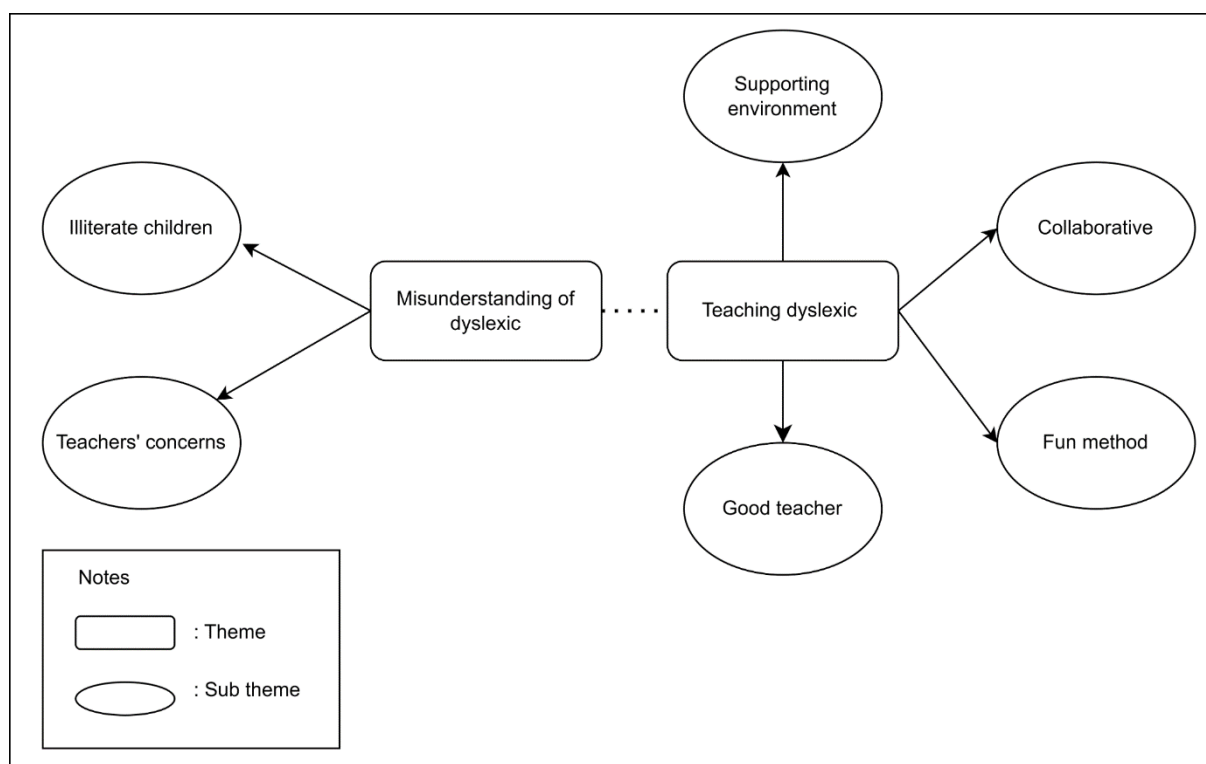


Figure 3. Themes and subthemes on Indonesian teachers experience and knowledge teaching students with dyslexia (source: own study)

Theme 1: Misunderstanding of dyslexic

Based on open-ended statements provided by teachers, the sub theme emerged for the first theme: misunderstanding of dyslexic was *illiterate children*. Many Indonesian teachers working with dyslexic

have this misunderstanding of learning disability especially in this case on how they understand dyslexic.

Subtheme 1: Illiterate children

Indonesian teachers reported confusion when defining who dyslexic children are. Indeed, many teachers connected dyslexia as inability to read and understand written language.

..is learning disabilities due to inability to read.

..is difficult to digest [processing] text and understanding words [written].

..is inability in reading such as upside down [students with dyslexia often see letters upside down for instance /p/ with /b/ or /d/ with /b/].

..is children's difficulty in distinguishing shapes [letters].

However, some teachers also radically labelled dyslexia as stupid, illiterate, lazy, and brats. They believed that students with dyslexia should have counselling sessions with the school counsellor.

They [students with dyslexia] are stupid and illiterate children.

Dyslexic children are often labelled as "lazy" or even "brats", hence the need for counselling from competent parties in clearing up this misconception, as well as counselling in handling it.

Subtheme 2: Teachers concerns

Despite the teacher's misunderstanding of dyslexia's definition, they also expressed their concerns about teaching students with dyslexia in Indonesia inclusive education. According to the teachers with no special education background, they believed that teaching students with dyslexia should be a special teachers job.

Specialised teachers are needed to deal with these dyslexic students.

Dyslexia is nowadays somehow mushrooming in every school [regular schools]. Specialised guidance on dyslexia is needed.

However, some Indonesian teachers demanded training and seminars about dyslexia and how to teach them.

There is a need for seminars or the like to provide insight to teachers, especially primary school teachers, about what types or things are included in learning disorders and how to overcome [teach] them.

Theme 2: Teaching dyslexia

Subtheme 1: Good teachers

Based on open-ended statements provided by Indonesian teachers, the sub theme emerged was *good teachers* which what Indonesian teachers believed is one of the key aspects to help students with dyslexia. A good teacher is characterised by unwavering dedication to guiding students, regardless of their condition. It is crucial for teachers to recognize that students' shortcomings are opportunities to strengthen their own teaching skills.

As a teacher [teaching children with dyslexic], we do not feel bored to continue to guide students under any circumstances [with dyslexic], because the shortcomings of students are our strengths to continue to guide them. With the existence of students with special needs, it leads us as teachers to continue learning to deal with them.

Teachers also reported that good teachers for students with dyslexic should be patient and continuously help them for reading practices.

Guide him [students with dyslexic] patiently and continue to train him continuously and gradually.

Provide repeated motivation and correct directions so that the child [with dyslexic] knows exactly how to see and read.

Giving them [students with dyslexic] understanding by reading, we [teachers] become a person who understands everything.

The motivations that teachers gave should and proper understanding for teaching students with dyslexic is important.

Motivating students [with dyslexic] that they have the same ability as other students. Because most students with dyslexia feel insecure, especially when the teacher asks the student to come to the front of the class to read short sentences.

Subtheme 2: Fun method

The second sub theme emerged based on this research is *fun method*. These include fun learning material, enjoyable activities, and fun teaching methods. Teachers reported that this is the way to teach students with dyslexic.

Showing pictures that have writing on them, so that students [with dyslexic] will be motivated to read because they like to see pictures.

By making reading a more enjoyable activity by choosing light and fun reading topics, it can certainly motivate children to learn to read.

Looking for methods that make it fun for children to learn to read.

Create fun reading activities, such as letter arranging games.

Indonesian teachers believed that fun teaching can avoid students getting burdened and make children with dyslexic more comfortable and enthusiastic to learn.

..teaching children to read in a unique and fun way, while playing, discussing what the child likes so that the child does not feel burdened by the shortcomings he learns. But children are much more comfortable and enthusiastic because they feel they have found an easy and fun way to learn.

If you have a student with dyslexia, you can discuss with them how to learn in a way that makes them happy and comfortable.

Subtheme 3: Collaboration

The third sub theme occurs is *collaboration*. Indonesian teachers working with students with dyslexic reported that collaborative working with stakeholders such as parents, family, and other experts will help children with dyslexic more effectively.

To overcome dyslexic children, it is necessary for parents and teachers to work together to care for these children.

Supporting dyslexic children requires cooperation and connected efforts with parents and families.

Teachers highlighted the importance of interdisciplinary professionals to work with dyslexic students. For example, the diagnosed program, the psychologists, doctors and other experts should work together for the baseline profile to make appropriate programs for students with dyslexic such as therapy program

For indications of students who have learning disabilities in reading, observations [for diagnostic purposes] should be made with tests conducted by psychologists. With the results from the psychologist and the recommended therapy, parents and teachers at school can help with the problem.

If there is a child who is known to be dyslexic, immediately consult a growth and development doctor or child psychologist so that the child can overcome the problem immediately.

Cooperation with experts in the field is also very necessary to help these children, so that they can develop properly.

Subtheme 4: Supportive environment

Indonesian teachers highlighted that supportive environment such as providing reading facilities, for instance the library and reading corner in the classroom. This environment, they believed, will help students with and without dyslexia learn reading effectively.

Providing the right books encourages students to frequent the library/reading corner.

Create a reading corner or small library in the classroom by providing interesting reading books with assistance for students who cannot read fluently.

..need reading facilities that can increase children's interest in reading.

Furthermore, Indonesian teachers reported the importance of providing specific time to encourage students to develop reading skills as a habit inside or outside the class schedule during the day.

Organising the habit of reading before teaching and learning activities begins.

Provide their own time to provide learning and stimulus outside of our teaching hours.

Integrated findings

To enhance the interpretation of the findings and address the research objectives comprehensively, the quantitative and qualitative datasets were integrated using joint display approach. This integration enables the comparison and synthesis of statistical trends identified in the survey with teachers’ narrative responses regarding their understanding of dyslexia and approaches to supporting students with dyslexia (see Table 3). The join display provided a more comprehensive understanding of Indonesian teachers’ knowledge, beliefs, and educational practices related to dyslexia as this research objectives.

Table 3. The integration findings

Quantitative Findings	Qualitative Findings	Integrated Interpretation
Teachers demonstrated a moderate level of knowledge about dyslexia (M = 32.99, SD = 3.58), although several misconceptions remained.	Teachers frequently defined dyslexia as an inability to read, illiteracy, or confusion of letters. Some even described students with dyslexia as “lazy,” “stupid,” or “brats.”	Although teachers possessed a general awareness of dyslexia, qualitative responses revealed substantial misconceptions about its nature, indicating gaps between perceived and evidence-based knowledge.
Significant differences were found across teaching experience and age regarding the belief that students with dyslexia have below-average IQ (D3).	Teachers expressed uncertainty regarding dyslexia and often associated reading difficulties with low intelligence or poor academic ability.	Variations across age and teaching experience suggest that professional exposure and training may influence teachers’ understanding of the relationship between dyslexia and intelligence.
Teachers who believed that students with dyslexia have memory problems (D1) were more likely to believe that they also have below-average IQ (D3) ($\rho = .355, p < .001$).	Some teachers described students with dyslexia as intellectually limited and incapable of learning effectively.	The quantitative association between memory deficits and intelligence misconceptions is reflected in qualitative narratives that equate reading difficulties with cognitive deficits.

Quantitative Findings	Qualitative Findings	Integrated Interpretation
Teachers who believed dyslexia affects language processing (D4) were more likely to recognize students' emotional sensitivity (D9) ($\rho = .215, p < .05$).	Teachers emphasized the importance of motivation, patience, and emotional support when teaching students with dyslexia.	Greater understanding of dyslexia as a language-based learning difficulty appears to be associated with greater awareness of students' emotional and psychosocial needs.
Teachers differed in their beliefs regarding medical treatment for dyslexia (D6), particularly across age groups.	Teachers frequently recommend consultation with psychologists, doctors, and other specialists.	Teachers recognize the need for professional support; however, some uncertainty remains regarding the respective roles of educational and medical interventions for dyslexia.
Several misconceptions regarding the causes and characteristics of dyslexia were identified through correlation analyses.	Teachers requested training, seminars, and guidance on identifying and supporting students with dyslexia.	The coexistence of misconceptions and requests for professional development highlights a strong need for systematic teacher training on dyslexia in Indonesia.
Quantitative findings indicated variability in teachers' understanding of dyslexia-related characteristics.	Teachers proposed practical strategies including fun learning methods, collaboration with parents and specialists, and supportive literacy environments.	Despite knowledge gaps, teachers demonstrated positive attitudes toward supporting students with dyslexia and identified several inclusive practices that could facilitate learning.

The integrated findings demonstrate that Indonesian teachers generally exhibited a moderate level of knowledge regarding dyslexia, still important misconceptions persisted, specifically concerning the relationship between dyslexia, intelligence, and reading ability. The qualitative findings explained these quantitative patterns by revealing that some teachers continue to conceptualize dyslexia as illiteracy, low intelligence, or behavioural difficulties. At the same time, the qualitative data complement the quantitative results by highlighting teachers' commitment to supporting students through patient instruction, motivating learning activities, collaboration with families and specialists, and the provision of supportive literacy environments. These findings suggested the need for targeted professional development initiatives which strengthen teachers' knowledge of dyslexia while equipping them with evidence-based strategies for inclusive educational practices.

Discussion

Based on the Pearson correlation analysis, it is shown that Indonesian teachers wrongly understand that dyslexia is someone who has a memory problem which also has an IQ below average but has not affected language processing and has no sensitive emotional state. It is true that Indonesian teachers often correlate students with dyslexia and those who have IQ below average (Monahan et al., 2025). One of the teachers in the open-ended answered survey expressed his/her understanding of dyslexia connected with IQ, "[dyslexia] ..is a difficulty in reading due to his IQ."

Indeed, the high-incidence disabilities such as dyslexia in Indonesia is relatively new as part of the type of disabilities. This impacted the lack of understanding and uncertainty about teachers' knowledge, skills and in the way they decided to teach them in educational practices. Although there has been an indisputable increase of the Indonesian government in attentions of students with special needs and inclusive education through rules and regulations, yet, teachers reported many challenges are faced in including students with dyslexia in mainstream education (J. Jap & Tiatri, 2024). Based on qualitative findings in this study, many teachers mentioned their needs in providing services for students with dyslexia in their schools such as the existence of special teachers who have educational backgrounds in special education. Notwithstanding the efforts made by the government written in Decree No.70 that every school implementing inclusive education in Indonesia should hire a minimum two special teachers, however, the lack of special teachers in every school has been reported as a challenge in implementing inclusive education.

Furthermore, participants also expressed concern about the needs of training and seminar on dyslexia topics. Based on the results in this study, teachers believed that they want to be a good teacher especially in teaching students with dyslexia. A good teacher was defined as dedicated, knowledgeable and passionate teachers to keep doing his/her best in teaching and guiding students regardless of any circumstances. This is part of cultural belief as Indonesian teachers (Daroin & Aprilya, 2022) have duties not only to teach their students but also as guidance (*among*) to make their students' future better. Teachers are willing to learn more about dyslexia and want to make sure that their teaching methods are correct.

Despite many concerns, Indonesian teachers believed that the best way to teach students with dyslexia was including *fun* in teaching and learning. There are previous research exploring fun and happiness in Indonesian education (Rofiah et al., 2023). Indonesian teachers believe that students can learn better when they are happy which somehow contradicts with other countries, for example western cultures (Zhang et al., 2024). Based on the findings, teachers agreed that enjoyable, fun, and unique teaching and learning methods will motivate students as well as giving them a good memory in learning. Students feel learning, reading for instance, in an enthusiastic and happy way.

Interdisciplinary also mentioned by teachers as the ideal way to serve students with dyslexia. Indonesian general teachers used to think that it is the role of special teachers who are supposed to have the main responsibility to handle students with dyslexia in inclusive settings. However, nowadays after the Indonesian government initiated a teachers leader program (*guru penggerak*), there is changing perceptions about teachers' responsibilities. Based on the findings, Indonesian teachers expressed the idea about collaborative works with all discipline professionals helping students with dyslexia. These works include diagnosis, profiling, individualised educational plan, teaching practices, and evaluations process. Teachers highlighted the importance of professionals, for instance, involvement of doctors, psychologists, and counsellors in students in the students' diagnosis process although in Indonesia it is

challenging related to the economical and geographical differences. This collaboration also engages parents and students' families to be a supportive environment for students learning development.

CONCLUSION

This study examined Indonesian teachers' knowledge of dyslexia and their experiences in teaching students with dyslexia within inclusive school settings. Overall, the findings indicate that teachers' knowledge of dyslexia is at a moderate level, as reflected in the average score ($M = 32.99$ out of 50), suggesting that while teachers possess some basic understanding, significant gaps and misconceptions remain. Misconceptions linking dyslexia with low intelligence and medical treatment highlight the need for more accurate conceptual knowledge. The study also found that teaching experience and age significantly influence teachers' knowledge, indicating that professional exposure contributes to better understanding. However, experience alone is insufficient to ensure comprehensive knowledge, as misunderstandings persist across groups. Correlation findings further revealed inconsistencies in teachers' beliefs, suggesting fragmented and sometimes contradictory understandings of dyslexia.

Qualitative findings reinforced these results, revealing two major themes: *misunderstanding of dyslexia* and *teaching dyslexia*. Teachers often conceptualized dyslexia as mere illiteracy and, in some cases, associated it with negative labels. At the same time, they expressed strong commitment and willingness to support students, emphasizing the importance of being patient, using engaging and enjoyable teaching methods, fostering collaboration with parents and professionals, and creating supportive learning environments.

Taken together, these findings highlight a critical gap between positive attitudes and limited knowledge. While Indonesian teachers demonstrate dedication and adaptive teaching practices, their lack of formal training in dyslexia may hinder effective instruction and early identification. Therefore, this study underscores the urgent need for systematic professional development, including targeted training, seminars, and curriculum reform in teacher education programs. Strengthening teachers' knowledge and skills is essential to improve inclusive practices and ensure that students with dyslexia receive appropriate, evidence-based support to reach their full potential.

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