Research Report

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An Investigation into the Awareness and Understanding of Dyslexia Amongst Teachers and Teacher Trainers in Kenya.

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Advantage Africa — *pathways out of poverty*

Dyslexia Organisation Kenya

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Contents

Abstract

This research explores the levels of awareness and understanding of dyslexia among primary school teachers and teacher trainers in Kenya.

Dyslexia is a neurological condition that affects reading, writing, comprehension and other cognitive abilities, impacting 7-10% of the global population (International Dyslexia Association, 2022). Despite its widespread recognition internationally, awareness of dyslexia remains very low in Kenya, where it is rarely identified or adequately assessed (Masalakulangwa Petro Mabula, 2023). Although dyslexia does not affect intelligence, individuals with the condition are often unfairly labeled as unintelligent or 'slow learners' (Nixon, 2022).

The research methodology utilised structured questionnaires administered through face-to-face interviews to collect data. Participants included 39 teachers from nine primary schools in both rural and urban settings across four counties of Kenya. Twelve teacher trainers participated from five teacher-training colleges.

The research findings reveal a fundamental lack of dyslexia awareness, knowledge, and training among teachers and teacher trainers. 85% of teachers showed no meaningful understanding of dyslexia, including 67% who had never heard of the term or could not explain its meaning. Teacher training regarding dyslexia is also severely lacking, with 92% of teachers reporting they had received no meaningful training on the topic. Moreover, 80% of teachers reported that they did not know where to access dyslexia assessments, reflecting a serious gap in diagnostic knowledge and support. Teacher training institutions also lack specialised modules on dyslexia and special educational needs in general, leaving new teachers underprepared to address literacy challenges in the classroom (Lacy, E., Krueger, Beth, & Comfort, 2019). 50% of teacher trainers demonstrated 'little' or 'no' knowledge of the condition and showed very limited awareness of the strategies that can be used to successfully educate dyslexic learners.

This lack of awareness and knowledge exists in a context where teachers reported very widespread literacy difficulties among Kenyan primary school learners, with

between 10% and 50% of learners in classrooms struggling with reading, writing, and comprehension. *(Note: not all of those struggling will be dyslexic.)*

The consequences for children with dyslexia and their families, as exposed by this research, are considerable. They include almost no identification or assessment of children with dyslexia in schools, mislabeling, educational disengagement, low self-esteem, increased dropout rates, and strain on families. The long-term implications are therefore significant for individuals and for the equity of the education system throughout Kenya.

To address these issues, this study recommends implementing dyslexia-focused in-service training for teachers as well as mainstreaming the subject in all teacher training curricula. Clear and accurate information products should also be widely disseminated, including digital media-based solutions to improve teachers' knowledge and capacity (Masalakulangwa Petro Mabula, 2023) and wider public awareness. Additionally, provision of assistive educational resources should be strengthened and class sizes reduced or additional staffing provided.

Enhanced dyslexia awareness and knowledge together with practical teaching strategies are critical to ensuring Kenyan educators can identify, understand, and support learners with dyslexia and facilitate them to achieve their full potential. Without these interventions, dyslexic learners will continue to face profoundly negative outcomes, ultimately contributing to broader social challenges within Kenyan society.

Acknowledgements

Introduction

Dyslexia is a specific learning difficulty that affects the way information is learned and processed, impacting literacy acquisition, education, and learning. It is a neurological condition, often inherited, that occurs independently of intelligence. Dyslexia is recognised globally and affects approximately 7% to 10% of the world's population (Jepkoech, Mathai, & Kumar, 2015), 2015; (British Dyslexia Association, 2022). While it commonly presents as difficulties with reading and writing, dyslexia can also impair coordination, organisation and memory. With appropriate accommodations, individuals with dyslexia can achieve normal or even high levels of academic and personal success.

In Kenya, however, dyslexia remains largely unrecognised and under-researched. Organisations in the country report that awareness of the condition is almost non-existent (Dyslexia Organisation, Kenya, 2023). As a result, it is often overlooked by educators and policymakers, leading to significant challenges for students with dyslexia. Children with this condition are rarely identified or assessed, and many grow into adulthood unaware that their learning differences stem from dyslexia. This lack of recognition leads to widespread misconceptions, with many children being unfairly judged as "slow learners" or "unintelligent" when, in reality, they require alternative teaching methods (Makgato, Leseyane-Kgari, & Madod, 2023). This misunderstanding limits the potential of a significant portion of the population resulting in missed opportunities for both individuals and society.

Though studies in Kenya are limited, existing research suggests that dyslexia prevalence rates are similar to global norms (Jepkoech, Mathai, & Kumar, 2015). Further anecdotal evidence suggests that there is a serious lack of awareness among teachers, parents, and the general public which intensifies the challenges faced by children with dyslexia. In many Kenyan schools, educators find it difficult to comprehend why some otherwise intelligent students struggle with tasks like reading and spelling, resulting in these students being frequently mislabelled as lazy or disobedient. These children often face punitive measures, which can include physical punishment, further damaging their self-esteem and motivation. The long-

term consequences can be severe, with many dropping out of school, falling into addiction, or engaging in delinquent behaviour in adulthood.

This research seeks to investigate and establish the level of dyslexia awareness among primary school teachers in Kenya, providing an evidence-based foundation for further discussions. By clearly identifying the current gaps in knowledge and practice, the study aims to inform the development of effective interventions to better support teachers and students with dyslexia. Addressing these gaps will enable Kenyan educators and policymakers to consider strategies that better accommodate learners with dyslexia and ensure they are not left behind in the country's education system.

Methodology

Research objective

The objective of the research project was to establish the level of existing awareness and understanding of dyslexia among primary school teachers and teacher trainers in Kenya. The purpose of achieving this objective is to provide a clear picture of the existing situation and provide insights and guidance into whether and how improvements in identifying, teaching and supporting children with dyslexia can be made.

Tools and approach

To achieve the stated objective, the research team employed carefully designed questionnaires (see Appendices) which were used to conduct face-to-face interviews with practicing teachers and teacher-trainers. For teachers the questionnaires used simple introductory questions to enhance rapport with the respondents, followed by questions concerning teachers' own classroom experiences of learners with challenges in reading, writing and comprehension. Teachers were asked about the number of such learners in their classes, the characteristics they exhibit and techniques and approaches for teaching these learners. Questions then became progressively more specific to dyslexia, allowing the analysis of responses to pinpoint teachers' particular knowledge and awareness of dyslexia, as opposed to other factors such as learning difficulties, disabilities or other conditions. Questions about where and how to seek support and advice concerning dyslexia were also included. The questionnaires for teacher trainers took a similar format and drew upon their practical experience and observations of tutoring trainee language teachers in teacher training colleges. Researchers enquired about their knowledge of special educational needs and dyslexia specifically and the extent to which the teacher training curriculum incorporates these elements. The questionnaires concluded with an opportunity for respondents to offer recommendations for improving the current situation and make any other comments they wished. The questionnaires were piloted by the research team before being applied.

The sample size consisted of 39 teachers from nine schools and 12 teacher trainers from five teacher training colleges. To ensure a representative and relevant sample, we selected teachers from standard government-run primary schools. The nine schools were drawn from four counties, namely Machakos, Nakuru, Kajiado and Bungoma. The sample included schools from both rural and urban areas and populations from various cultural backgrounds. The teacher trainers were from Thogoto, Kilimambogo, Mandera, Kitui and Shanzu teacher training colleges.

Research approvals and ethical consent

Formal approval for the research was granted by the National Commission for Science and Technology and Innovation (NASCOTI) in Kenya before the start of research activities. Although the research did not engage vulnerable respondents or cover highly sensitive topics, best practices regarding safeguarding and informed consent were strictly followed. Before participating in any research activities, respondents were fully informed about the purpose of the research, the nature of their involvement, and how the findings would be used and disseminated. Participants were also made aware of the confidentiality measures in place, the voluntary nature of their participation, their anonymity and their right to withdraw at any point.

It should also be <u>noted</u> here that the research was in no way an attempt to determine the prevalence of learners with dyslexia or to assess individual learners for dyslexia.

Findings

Findings from Primary School Teacher Responses

We conducted structured interviews with 39 primary school teachers from nine primary schools, all of which were standard government-run institutions with teachers employed by the Teacher Services Commission. Each teacher interviewed taught English and Kiswahili among other subjects. Although the teachers worked across various grade levels, they were asked to focus their responses specifically on grades 1 and 2, which primarily involve learners aged 6 to 9 years.

The teachers' years of experience ranged from 1 to 40 years, distributed as follows:

- 9 teachers with 1–10 years of service
- 16 teachers with 11–20 years of service
- 7 teachers with 21–30 years of service
- 7 teachers with 31–40 years of service

Class sizes and gender split

Teachers were asked how many learners they had in the class(es) that they taught. Responses showed that class sizes vary significantly from school-to-school. The average (mean) class size was 36 learners, with the largest class having 80 and the smallest having 10 learners. Over 1/3 of classes (37%) had between 31 and 40 learners. Teachers with larger classes expressed their concerns that they could not give sufficient individual attention to learners that required extra help.

The proportion of boys and girls in the classes varied slightly but was broadly equal, meaning there was no significant gender imbalance.

Figure 1: Chart of class sizes
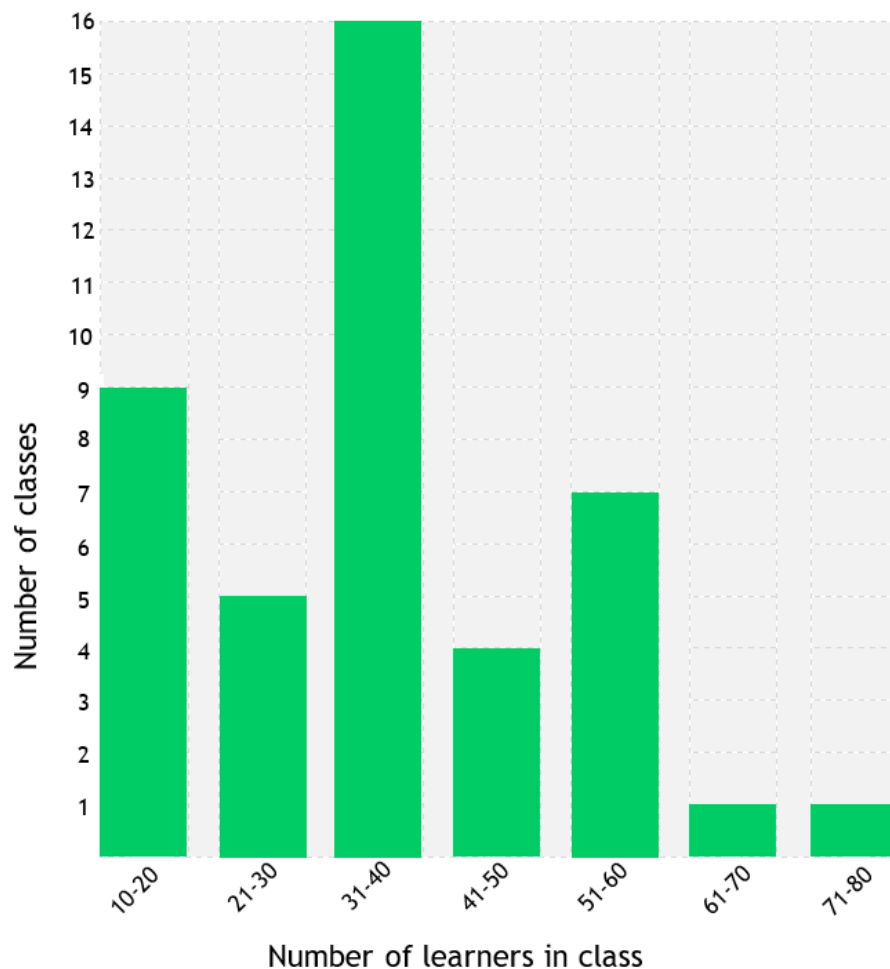
Learners with difficulties in reading, writing and comprehension

Interview respondents were asked if they had learners in their class(es) that had specific difficulty with reading, writing or comprehension, compared to their classmates. All teachers, without exception, answered 'yes' to this question. They were additionally asked how many of their learners had these difficulties. The numbers stated, when compared to class sizes, showed that all classes have at least 10% of their learners experiencing these specific difficulties. Nearly half (45%) of classes had between 21-30% and a further 17% of classes had between 31-50% of their learners exhibiting difficulty with reading, writing or comprehension.

Figure 2: Percentage of learners with specific difficulty in reading, writing or comprehension.
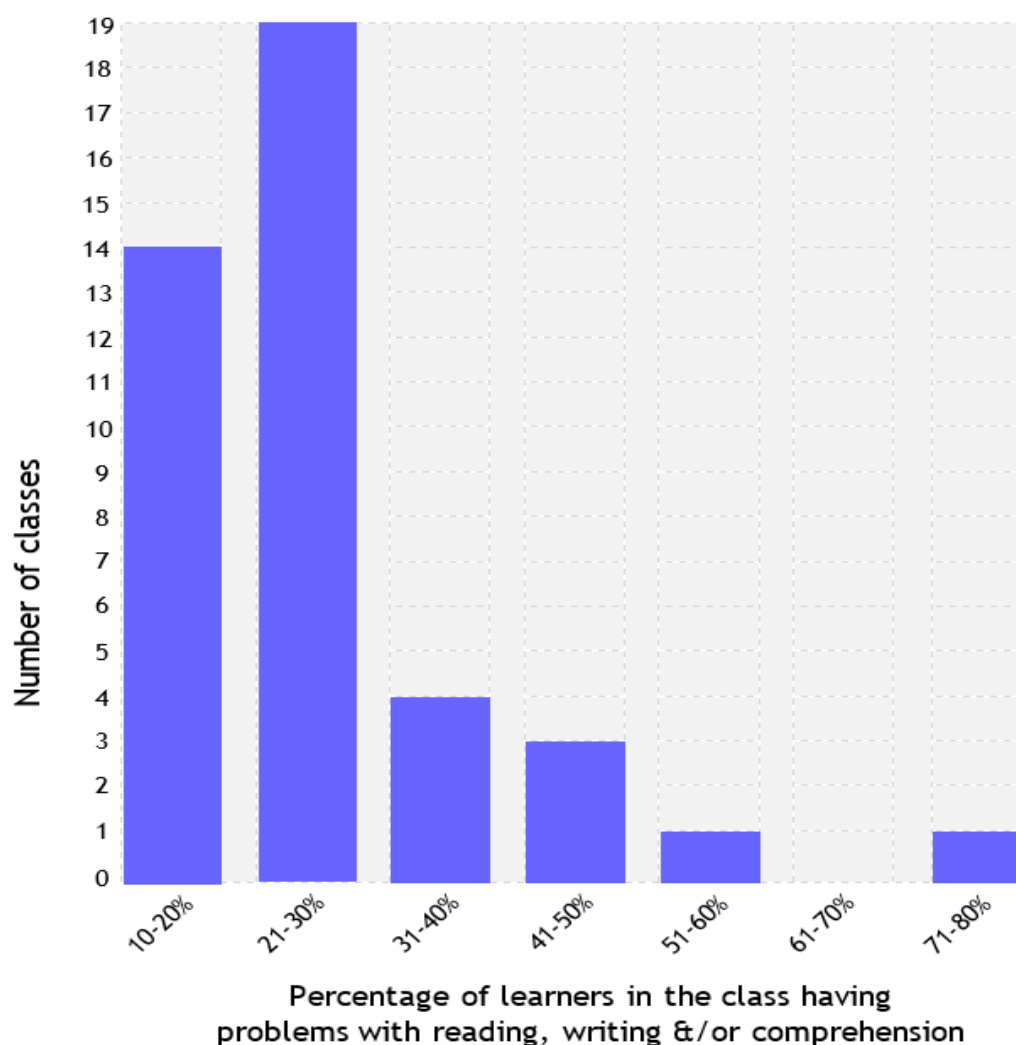
Specifics of learners' difficulties

Respondents were asked to explain in more detail the specific difficulties they had observed in their learners regarding reading, writing and comprehension.

Reading

All teachers reported having a significant number of learners in their classes who could not read at all. For example, one teacher explained, *'Some learners are not able to recognise individual letter sounds, let alone read whole words.'* In addition, many learners were found to have low reading abilities, facing serious difficulties that prevented them from reaching the expected levels for their age or grade. One Grade 1 teacher (6-7 yrs.) stated, *'Over half my class is struggling to reach Grade 1 reading*

level.' Similarly, a Grade 2 teacher (8-9 yrs.) reported, *'Half of my class cannot read at the Grade 2 level.'*

Teachers identified several specific reading challenges their learners faced which they expressed as:

- Difficulty recognising individual letters
- Problems with word recognition
- Struggles with phonic blending (joining sounds to form words)
- Issues with decoding (translating written words into speech)
- Misreading or skipping words
- Pronunciation difficulties
- Lack of fluency (struggling to form sentences by joining words).

Comprehension

Almost all teachers noted that, beyond core reading difficulties, comprehension was a major challenge for many learners. Some students could read but struggled to understand or summarise the text. One teacher explained, *'They read a passage but don't get the meaning.'* A few teachers observed that some children comprehend much better when the text is read aloud to them.

Writing

Most respondents identified writing as problematic for many learners. For example, one teacher said, *'There are seven children in my (grade 2) class that are struggling to write their names'.* Teachers said some cannot write legibly, or have poor handwriting. Spelling and being able to express themselves in writing were also highlighted as areas of difficulty. Some teachers pinpointed specific areas of difficulty, namely 'letter reversals', such as writing 'd' for 'b' or 'w' for 'm' and 'mirror rotation', meaning writing letters or words in reverse, as if reflected in a mirror.

Languages

Teachers observed that the many and various languages used in Kenya significantly adds to the challenges of learning and teaching in schools. Most teaching takes place in English and Kiswahili, but respondents said many children use only their local tribal languages (mother tongue) at home and thus learning English and Kiswahili is more challenging for them. In the study locations we found that the

Maasai children had the greatest difficulty in adjusting to other languages because of the strong culture of using the local tongue at home. Many children starting at school can converse in Maasai but are unfamiliar with English or Kiswahili.

Memory

Learners were reported by teachers as having memory difficulties. This was most often described in relation to an inability to copy from the blackboard. Teachers also said their learners may very quickly forget what they have read, and some could not retain what had been taught at all.

Other problems

In addition to the challenges they observed in their learners' reading, writing, and comprehension skills, the majority of respondents raised broader concerns. Many teachers reported that learners struggled with concentration and often required more time than expected to complete classroom tasks. As a result, much of their work remained unfinished, and many failed to complete homework assignments. These difficulties also contributed to poor performance in tests, with students falling significantly below the expected standards.

Additionally, some teachers noted that certain learners exhibited delayed speech development or speech impediments such as stammering.

Achievements in other areas

Some of the learners with reading, writing and comprehension problems were reported to be high achievers is other areas. Some were good at maths when the questions were read out for them, and others excelled at art or sport.

Names or terminology

Respondents were asked early in the interview if they had learners in their class(es) who seemed to have specific difficulties with reading, writing or comprehension when compared to their classmates. Then, later in the interview, they were asked if they knew any names or terminology used for the specific difficulties we were discussing. 10 respondents knew <u>no names of terms</u> or said they could not recall any.

Some teachers identified informal names or outdated terminology as follows:

- 7 used the name 'Slow learners'
- 3 used the name 'Time-takers'
- 1 used the name 'Non-readers'
- 1 used the term 'Retarded'
- 1 used the term 'Mentally ill'
- 1 used the term 'Stammering'.

Other respondents described the learners' difficulties in reading, writing and comprehension with more accurate and current terms as follows:

- 5 used the terms learning disabilities, learning difficulties or SEN (Special Educational Needs)
- 3 used a word which was an attempt at 'dyslexia' but was wrongly pronounced (e.g. one respondent said 'dyslensure, something like that')
- 1 correctly used the term dyslexia.

Figure 3: Chart summarising the terms/names used by respondents to describe learners that have specific difficulty with reading, writing or comprehension.
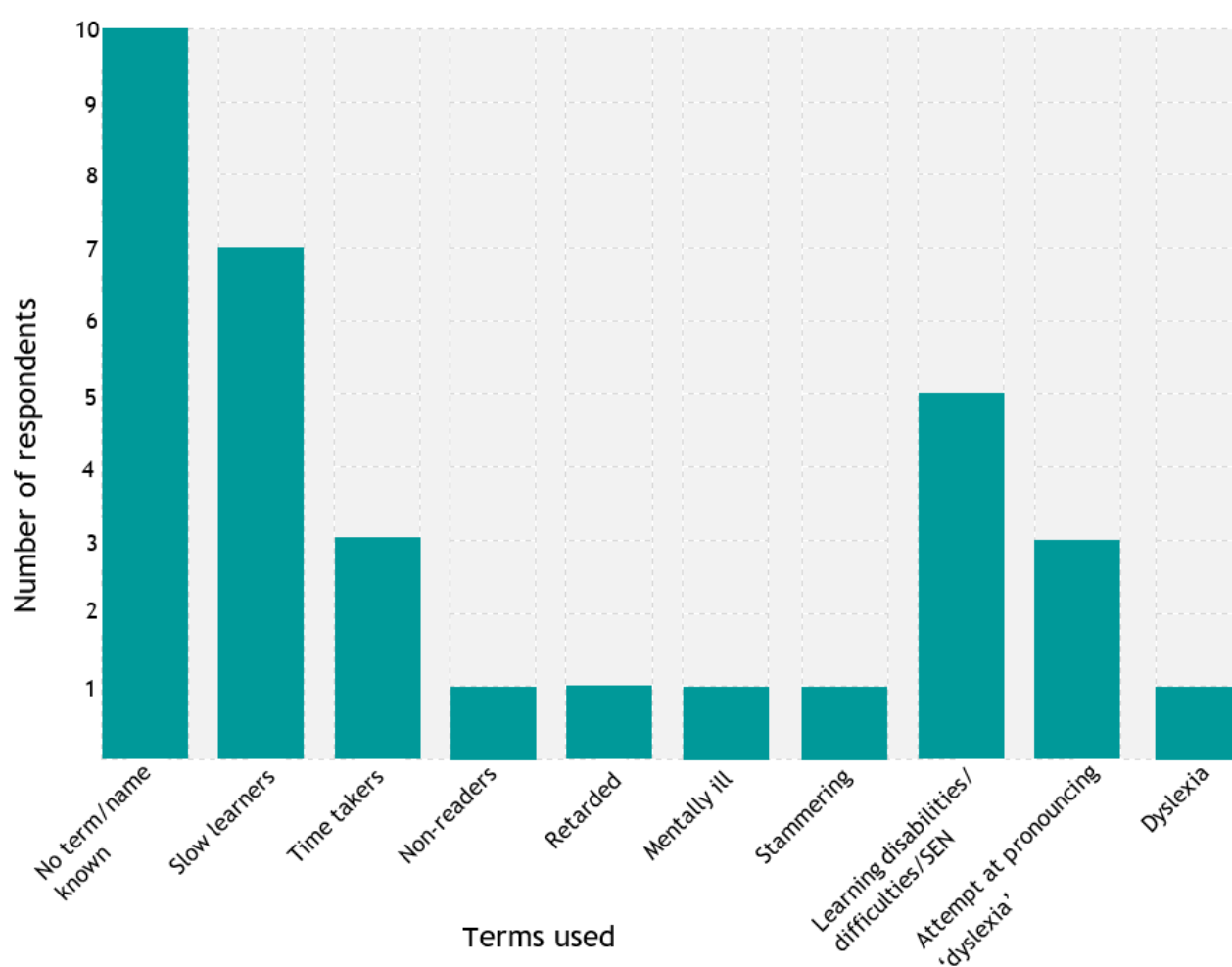
Recognition of the term Dyslexia

After asking respondents about the terms/names they already knew relating to learners' difficulties in literacy and comprehension, they were asked directly if they had heard of the term 'dyslexia'. 25 (64%) said they <u>had</u> heard of 'dyslexia' and 14 (36%) said 'no' or were 'not sure.' Of those that recognised the term, many mentioned mass media as the source.

Understanding of Dyslexia

Of the 25 teachers who said they had heard of the term 'dyslexia', an analysis of their level of understanding of the condition was made using the responses they gave to a follow-up question which asked them to explain the <u>meaning</u> of the term 'dyslexia'.

This revealed the following findings:

- 12 respondents had heard of dyslexia but were either unable to explain it or provided an incorrect explanation.
- 7 respondents had heard of dyslexia and demonstrated a very limited understanding
- 2 respondents had heard of dyslexia and showed a moderate understanding
- 4 respondents had heard of dyslexia and demonstrated a good understanding
- No respondents displayed a 'very good' understanding of dyslexia.

When teachers were explaining what they thought was meant by 'dyslexia' some expressed uncertainty in their answers with responses such as, *'I can't remember where I heard that word, but I heard it'. And 'I would have to look it up'*. Further interpretation of these findings shows that when we add the number of teachers who had not heard of dyslexia (36%), together with those that had heard of the word but could not explain or guess its meaning or had a very limited understanding (49%), we arrive at an overall proportion of **teachers with no, or almost no understanding of dyslexia of 85%** (33 out of 39). Only 15% (6 out of 39) showed , a moderate or good understanding.

Among those who demonstrated some understanding of dyslexia, they identified the following characteristics:

- Difficulty in writing
- Difficulty in reading, connecting sounds and blending
- Issues with language, pronunciation, and syllable formation
- Problems with comprehension
- Learning difficulties or disabilities
- Memory loss or forgetting quickly
- Brain-related problems
- Inability to grasp any concepts
- Poor speech abilities, including stammering.

Most respondents identified two or more of the listed characteristics.

Expertise in special educational needs in schools

Respondents were asked if their school had a SEN coordinator or similar. Responses showed:

- 27 (69%) had **'no'** SEN coordinator
- 12 (31%) stated **'yes'** they did have a SEN coordinator

It should however be noted that of the 12 affirmative responses, many highlighted that the coordination concerning special education primarily came from fellow teachers who gave advice based on their personal knowledge of special needs, rather than a formally designated coordinator. Typical comments from respondents included:

'The special needs trained teacher at our school coordinates the students with difficulties to some extent.' and *'The coordinator is me because I went for 1 week's training in special education.'* and *'One of our teachers from the special unit told us about inclusive education.'*

Training in special educational needs (SEN)

When asked about their own training in SEN, the majority of respondents indicated limited or no formal training.

Specifically:

- 25 (64%) had received **'no'** training in SEN
- 7 (18%) had received **'very little'** training in SEN
- 2 (5%) had received **'some'** training in SEN
- 5 (13%) had received **'a lot'** of training in SEN.

Those stating that they had received 'some' training, explained that they meant just a few hours or days. For example, one respondent mentioned receiving three days of training from a colleague at the school's special unit, while another described attending a one-day session with Agency for Disability and Development in Africa (ADDA) which focused primarily on access for children with physical disabilities with only a brief mention of 'time takers.'

The 5 most trained respondents described formal educational paths they had followed, for example one studied a diploma and degree at Kenya Institute of Special Education (KISE) for 3 years on learning difficulties and another completed a 4-year degree at Kenyatta University.

Dyslexia training

When asked about training specifically related to dyslexia, almost all respondents indicated that they had had **'no'** or **'very little'** training in this area.

- 31 (79%) reported having **'no training'** in dyslexia
- 5 (13%) indicated they had **'very little training,'** with many citing that their knowledge primarily came from colleagues rather than formal instruction
- 1 (3%) reported having **'some training'** in SEN, though it was not focused on dyslexia specifically
- 2 (5%) respondents indicated they had received **'a lot'** of training, both teachers having been formally trained in SEN.

Additional comments reflected a general lack of emphasis on dyslexia in existing training programmes. For example, one said *'Yes, but very little as part of my degree – it was just mentioned, not even a unit.'*

Assessments for dyslexia

In answer to the question about whether learners had ever been assessed for dyslexia, the majority of respondents indicated that none of their learners had ever undergone such an assessment:

- 31 (79%) reported that **'none'** of their learners had been assessed for dyslexia.
- 8 (21%) were **'unsure'** whether dyslexia assessments had taken place.

A few teachers mentioned that special needs assessments were sometimes sought, but the teachers tended not to know the specific scope or content of the assessments. Most appeared to be general disability assessments rather than being with an expert dyslexia specialist. For example, in Naivasha town teachers said, *'Some are sent to the Disability Resource and Information Centre (DRIC) at the hospital but I don't know exactly what they assess there.'* Another respondent said; *'I referred a child for assessment at the Educational Assessment and Resource Centre (EARC), but I'm not sure if they test for dyslexia.'* EARC was mentioned by respondents three times as a referral centre concerning education and disability.

Sourcing dyslexia information

When asked where they would seek additional information about dyslexia, respondents mentioned a variety of sources, with online resources being cited most frequently. Many identified a number of different sources:

- 31 (57%) cited the **internet**, and broadcast media including platforms like Google and social media as their primary source of information
- 10 (18%) respondents mentioned seeking advice from **colleagues** with experience or knowledge in special education
- 9 (16%) referred to **institutions and experts** such as Kenya Institute of Special Education, Educational Assessment and Resource Centres (EARC) and Kenya National Examination Council (KNEC) as useful resources for dyslexia information
- 5 (9%) identified **printed materials** such as books or libraries for further reading.

Improving teaching for learners with dyslexia

Respondents were asked to suggest any ways that teachers might be better equipped to teach learners with dyslexia or other SEN? The most commonly cited suggestions included additional training and the provision of specialised resources:

- 29 (65%) recommended **in-service workshops, seminars and training**, particularly during school holidays. Some also suggested government-led training initiatives to ensure teachers receive adequate professional development
- 11 (24%) advocated for including **dyslexia training in all teacher training colleges** (TTCs), suggesting it should be a core part of the curriculum. As one respondent noted, *'I feel strongly it should be a core unit in TTC training. Mainstream it, just like English and Maths.'*
- 5 (11%) highlighted the need for **materials and teaching aids** such as flash cards and storybooks appropriate to the needs of learners with dyslexia.

Several additional recommendations were made to better equip teachers to support learners with dyslexia and other SENs:

- Early identification of learning differences, even at the pre-primary level, was highlighted as crucial for timely intervention
- Internet access through digital tools like tablets were proposed by 2 respondents to assist teachers to find information and resources
- One respondent suggested the integration of special education teachers into mainstream classrooms and another recommended the government establish special units in all public schools
- The need to sensitise parents to the needs of children with dyslexia was also highlighted.

Other comments from research respondents

After completing the questionnaire teachers were given the opportunity to share any further comments they had.

Teaching techniques

Respondents noted the importance of recognising and nurturing the unique talents of learners with dyslexia and also commented that more patience was needed to teach

children with dyslexia or other SEN. They noted that allowing them ample time to develop essential reading, writing, and arithmetic skills at their own pace was required. However, teachers identified large class sizes as a significant barrier to providing the necessary time and support to individual learners.

Training

The need for further training featured heavily in the questionnaire responses and was reiterated by teachers in their further comments. Training was seen as vital, both during teacher training and for those already practising in the classroom. Respondents repeated the recommendation that teacher training colleges include a dedicated unit on strategies for supporting learners with dyslexia and other learning difficulties. They also re-emphasised the need for in-service training and peer tutoring so that experienced colleagues can share their knowledge.

Teaching resources

Adequate resources, including attractive learning materials designed for dyslexic children, were highlighted as essential for supporting learners with special needs. Teachers recommended that schools be funded to invest in these resources to improve educational outcomes.

Government structural support

There was a strong call for each school to have at least one teacher trained in special needs education to better support learners with difficulties. Some respondents expressed a desire to learn more about special needs education themselves. The Ministry of Education was encouraged to establish specialised institutions for children with special needs, as they felt that inclusive education is not working effectively. Suggestions also included creating special units in schools to reduce stigma and prevent dropouts, offering what they called 'remedial' classes and ensuring that major education stakeholders are aware of the challenges faced by children with learning difficulties. Additionally, they suggested that the education department could visit schools to gather information and equip teachers with the necessary skills.

Role of Organisations

Respondents saw a potential role for non-governmental organisations (NGOs) and other organisations in supporting learners with special needs, particularly in training teachers. They did not know of any organisations already providing such services but speculated that NGOs might provide assistance in teaching methods for children with dyslexia and other learning difficulties.

Findings from Primary Teacher Trainer Responses

We completed structured interviews with 12 teacher trainers from five different teacher training colleges, namely Thogoto, Kilimambogo, Mandera, Kitui and Shanzu. They were all trainers of prospective language teachers (English and Kiswahili) but they also trained teachers in other subjects such as history, science and religion.

Length of service and class sizes

The trainers' length of service varied from new instructors to those with many years of teacher training experience:

- Three with 1-10 years' service
- Seven with 11-20 years' service
- Two with 21-30 years' service

Almost all respondents qualified to become teacher trainers at the following Universities: University of Nairobi, Kenyatta University, Moi University and Egerton University.

The number of trainee teachers in a class varied from 40-80 with the average (mean) size being 56:

- 4 taught class sizes 40-49
- 2 taught class sizes 50-59
- 4 taught class sizes 60-69
- 1 taught a class size of 76
- 1 taught a class size of 80

All teacher training courses taught were 3 years in duration.

Teaching topics

When asked specifically about training teachers in language subjects, the respondents identified a number of topics areas which they covered, namely:

- Teaching methodologies
- Lesson preparation and presentation
- Origins of language
- Reading, writing, listening and speaking
- Grammar and vocabulary.

The training of specific techniques to teach reading, writing and spelling were identified as:

- Recognising shapes and orientation of letters and words (visual discrimination)
- Phonics (matching letters with sounds) reading the alphabet and syllables
- Look-and-say method (recognising whole words)
- Reading sentences and passages, fluency and comprehension
- Reading individually and in groups
- Reading out loud including choral reading (reading out load in unison)
- Direct instruction (presenting information in a clear and systematic way).

Special educational needs

Teacher trainers were asked if they are expected to train teachers in the area of special needs or specific learning difficulties. Half of the respondents said 'no' they were not expected to include special needs as a part of their language training, whilst others mentioned that they should, 'at least generally' citing many children as not being able to read or write to their expected level. Two respondents alluded to a unit handled by another college department concerning inclusive education and SEN.

Respondents were further asked if there was anything in the training syllabus/curriculum which specifically covers the area of learners who struggle with reading, writing, spelling, or comprehension? Answers to this question were also split, with half responding with a straight 'no' and the others suggesting that there is some provision in the curriculum for learners with literacy issues. The unit in

inclusive education was again mentioned, although time constraints for training beyond the core topics was highlighted as a big obstacle.

Recall and recognition of the term dyslexia

The questionnaire was designed to determine the levels of understanding of teacher trainers regarding special needs in general and dyslexia specifically. Findings showed that most trainees where unable to recall appropriate terms to describe learners with literacy and comprehension problems. Six (50%) had no suggestions for terminology used in this context, four suggested labels such as 'time takers', 'weak students' and 'stammerers' whilst two were more conversant with current terms, citing 'dyslexia' in their answers.

Regarding recognition of the word 'dyslexia', 9 out of 12 said they had heard of the word, whilst 3 had not. Of those who recognised the word 'dyslexia' four could not explain the meaning at all. The remaining 5 had a grasp of what dyslexia means, using explanations such as:

- Difficulties in reading
- Learners seeing letters inverted
- Learners with a disability in reading and writing
- A learning disorder that emanates from difficulty in reading due to problems of speech, sounds and learning how they relate to letters and words.

Support and training concerning special educational needs and dyslexia

10 out of 12 respondents said their training college did not have a special education coordinator or similar while two stated that they did have this support. With regard to the amount of training respondents had received in SEN, the following findings were reported:

- 6 had received **'no'** training
- 4 had received **'very little'** training
- 1 had received **'some'** training
- 1 had received **'a lot'** of training.

Concerning training specific to dyslexia:

- 10 had received **'no'** training
- 1 had received **'very little'** training
- 1 had received **'some'** training.

Respondents rated their own knowledge of dyslexia in the following way:

- 7 said they had **'almost no knowledge'**
- 3 said they had a **'low level of knowledge'**
- 2 said they had a **'fair level of knowledge'.**

Sourcing information

When asked where they would look for information concerning dyslexia, teacher trainers were not specific about sources of reliable information, but mentioned the internet (google) in general. Two respondents suggested 'specialists' and 'trained special needs teachers' as additional reference points for knowledge on dyslexia.

Improving teacher trainer knowledge

Respondents made clear that they felt there was a gap in both trainers' knowledge in colleges and that of teachers going into schools. They reported a lack of knowledge specifically in dyslexia, and also in their wider understanding of learners with SEN. Ideas put forward for improving this situation were as follows:

- Training for both teacher tutors and student teachers
- Short courses/induction course in handling students with learning disabilities
- In-service training, sensitisation and workshops
- Professional development courses in dyslexia for SEN teachers
- Alterations to the curriculum in teacher training colleges and universities
- Every teacher training institution to have a course on SEN/dyslexia and other challenges.

Many teacher trainers expressed enthusiasm and a strong desire for opportunities to expand their knowledge, recognising that this would enable them to provide higher-quality training to their learners.

Discussion of Findings

High prevalence of literacy difficulties in primary-age children

The findings indicate a widespread presence of reading, writing, and comprehension difficulties among learners aged 6 to 9 years in primary schools in Kenya. All teachers interviewed reported having students with these challenges, emphasising that this is a common issue across schools. Teacher trainers were also aware that this is an important issue for trainee teachers. The data reveals that, at a minimum, 10% of students in each class struggle with these fundamental literacy skills. However, in nearly half of the classes (45%), between 21% and 30% of learners experience these difficulties, while in 17% of classes, this figure rises to between 31% and 50%.

This high prevalence suggests that reading, writing, and comprehension difficulties are pervasive issues requiring significant attention. The numbers indicate that these challenges may be more entrenched than expected, affecting a substantial portion of learners rather than a small group.

Dyslexia is likely to be causing or contributing to the difficulties experienced by some learners; however, it alone cannot explain the high prevalence of these challenges. A variety of additional factors including other types of learning difficulties must also be influencing these numbers. The scale of the problem means there is a potential need for differentiated teaching strategies, additional support resources, and targeted staffing interventions.

Consequences of large class sizes

Supporting learners with literacy problems in large class sizes was a major concern for many teachers. With an average class size of 36 students, and some classes as large as 80, teachers report being unable to provide the focused attention that students with additional needs require. As a result, learners with literacy difficulties do not receive the tailored guidance necessary for progress, making it impossible to accommodate diverse learning needs within such large groups. The situation also has a strong negative impact on teachers' morale because they are unable to teach

all learners equally and feel guilty that they are leaving some children behind because of the impossible situation they find themselves in. These results emphasise the critical need for either smaller classes or additional staff and strategies to help teachers offer adequate support in larger settings.

Details of reading, writing and comprehension difficulties
The findings reveal a complex range of challenges that students face in reading, writing, and comprehension, significantly impacting their overall academic performance. Many students are unable to recognise letters, blend sounds, or decode words, with over half in some classrooms struggling to meet grade-level reading expectations. Comprehension is also a substantial obstacle; although some learners can read, they often fail to grasp the meaning or are able to summarise the text, particularly when reading independently.

Writing difficulties are similarly widespread, with students facing issues such as illegible handwriting, letter reversals, poor spelling, and challenges with basic self-expression. These literacy struggles are compounded by the linguistic diversity in Kenya, as many students speak only their local language at home, which makes learning English and Kiswahili in school more difficult. Additionally, teachers reported memory and concentration issues affecting students' ability to complete tasks and retain information, leading to unfinished assignments and low test scores.

Despite this, some students with literacy challenges excel in other subjects such as maths (when aided with reading) and creative pursuits like art, drama and sports. These strengths may be built upon to support their learning and motivation in other areas.

The breadth and severity of these difficulties highlight a need for targeted literacy interventions, more individualised support, and resources to address the unique linguistic and cognitive barriers within these classrooms.

Teacher trainers identified a range of topics and techniques that trainees are taught for teaching language subjects in schools. Examples such as phonics, visual discrimination, 'look-and-say method' and choral reading etc. were identified.

However, the findings suggest that tutors were not well versed in specific teaching strategies that prevent struggling learners from falling behind, or specific techniques for learners with dyslexia or other learning difficulties.

Understanding and awareness of dyslexia

It was striking that teachers and teacher trainers completely recognised the large number of learners with literacy difficulties in schools and the serious constraints which prevent them from successfully addressing the problem. However, their understanding and awareness of dyslexia (and other learning difficulties) was generally very low or absent.

Findings revealed that about half of teachers and teacher trainers did not know any terminology for learners with difficulties in reading, writing and comprehension and of the others many suggestions were outdated or inaccurate, such as 'slow learners', 'time takers' or 'mentally ill'.

When prompted with the term 'dyslexia', an analysis of the data shows that 67% of teachers had no, or almost no understanding of dyslexia whilst only 15% demonstrated a 'moderate' or 'good' understanding. Amongst teacher trainers the picture was similar, with half the respondents showing 'no' or 'very little' understanding of the term dyslexia, whilst 2 out of 12 exhibited a good understanding as a result of previous training. Additionally 83% of teacher trainers self-assessed their knowledge of dyslexia as almost none, or low.

When asked about dyslexia assessments, almost 80% of teachers had never accessed assessments for their learners and the remaining 20% were unsure. This reflects a lack of knowledge not only about where to go for a proper dyslexia assessment but also a more fundamental deficit in knowledge about the characteristics which might point to possible dyslexia in a child and lead to an effort to seek an assessment. Furthermore, data analysis shows that teachers had little understanding of the distinction between specific types of assessments available for various learning difficulties, disabilities and conditions.

These findings are very concerning because, despite recognising the prevalence of literacy difficulties, many teachers lack a basic understanding of dyslexia and related learning issues. It suggests that children with dyslexia will remain unidentified and without proper assessment. Also, mislabelling students as "slow learners" or "mentally ill" not only reflects outdated views but also risks stigmatising these students, damaging their motivation and self-esteem and preventing them from receiving the correct support.

Training and capacity in dyslexia and SEN

Findings indicate that schools and teacher training colleges have limited or no in-house expertise regarding SEN in general and certainly not in dyslexia specifically. Nearly 70% of schools reported having no designated SEN coordinator and the remaining respondents typically relied on colleagues who had personal knowledge of special needs, rather than a formally designated coordinator. Teacher trainers also lacked capacity in SEN, with 83% having no special education coordinator. Teacher training colleges do have an inclusive education module but only two trainers mentioned this as a resource.

The findings further reveal a significant gap in training for teachers regarding SEN and, specifically dyslexia. Most teachers have limited or no formal training in the topic, with only a small fraction reporting substantial training. For those with some exposure, training often amounted to brief, informal sessions rather than comprehensive instruction. Notably, even respondents who received specialised education at university level often encountered dyslexia only briefly and not as a focus of study.

Amongst teacher trainers the lack of training was also evident among respondents in both general SEN and dyslexia specifically. Most respondents reported minimal to no training with only one person stating they had received extensive preparation. This trend was even more pronounced for dyslexia, with the vast majority receiving no training at all and only one individual reporting a moderate level of training.

This lack of targeted training leaves many teachers and teacher trainers underprepared to address specific learning difficulties, particularly dyslexia. With

nearly 80% of respondents having no formal training in dyslexia, many educators rely on informal sources or peer guidance, leading to inconsistent and often inadequate support for learners with literacy challenges. This lack of structured instruction in SEN not only limits teachers' ability to recognise and address diverse learning needs but also impacts educational outcomes for these children.

These results highlight an urgent need for comprehensive training programmes in SEN, especially dyslexia, within teacher preparation and ongoing training to equip educators with the necessary skills to support all learners effectively. The positive finding is that respondents, both teachers and trainers, emphasised the importance of professional development in this area and expressed a strong desire and willingness to take advantage of any training opportunities made available to them.

Sourcing information

When asked where they would seek information on dyslexia, most respondents indicated online resources as their primary source, while others mentioned consulting experienced colleagues, educational institutions, and printed materials.

The identification of the internet, particularly platforms like Google and social media, suggests that most educators seek accessible, immediate and convenient sources of information. The concern is that while these resources can provide general insights, they may not be context-specific for Africa, and lack the depth and accuracy needed to support complex educational challenges like dyslexia.

A smaller proportion of respondents mentioned more specialised or authoritative resources, such as Kenya Institute of Special Education or EARC, which may offer more reliable and context applicable information. Notably, some educators still turn to colleagues, highlighting the importance of peer support and informal knowledge sharing in schools. These findings suggest that more direct connections between educators and specialised dyslexia resources need to be fostered.

Recommendations

The following recommendations are drawn from a combination of research respondents' insights and the authors' analysis of the findings. These suggestions aim to address the critical gaps in teacher preparation and resources for supporting learners with dyslexia and other special needs affecting reading, writing and comprehension:

Training

A clear and critical gap in knowledge about dyslexia and other SENs was strongly identified among both teacher trainers and practising teachers. To address this the following training approaches are recommended:

In-service training

In-service training for current teachers was the most popular recommendation from teachers. Many expressed a desire and enthusiasm for ongoing professional development, especially in areas such as dyslexia and inclusive teaching practices. Regular workshops, training sessions, and sensitisation programmes should be provided to enhance teachers' skills and allow them to stay current with best practices. This training should focus on practical strategies that teachers can immediately implement in their classrooms, helping them to better support diverse learners and address their specific needs.

This training will also empower and motivate teachers, many of whom feel they are currently ill-equipped and unable to provide the necessary support to struggling learners. Teachers identified school holidays as a good time to hold in-service training. They also suggested government support and coordination or partnerships with NGOs specialising in education, particularly those with a focus on dyslexia. NGOs could work directly with schools and teacher training institutions to provide targeted training workshops and resources. These organisations could also serve as a link between schools and expert knowledge, helping to bridge the gaps in teachers' understanding of complex learning difficulties.

Enhancing Instruction in teacher training colleges

It is essential that teacher training institutions incorporate dedicated, comprehensive modules on SEN including dyslexia into their curricula. These modules should be integrated into all teacher training programmes to equip trainee teachers with the necessary knowledge and skills to identify, refer for assessments, and effectively teach learners with dyslexia and other learning challenges. Teacher training curricula should include content on common literacy challenges such as reading, writing, and comprehension, as well as strategies for differentiating instruction to meet the diverse needs of learners. By embedding this content into teacher training from the outset, institutions can ensure that all teachers are adequately prepared to address literacy challenges and adopt inclusive education practices from day one of their careers.

Improving access to reliable information on dyslexia

Given the lack of understanding and awareness of dyslexia identified in this research it is imperative that teachers have access to reliable, up-to-date and authoritative information on dyslexia and other learning difficulties. This could include verified and reliable digital materials, online courses, or specialised resources offered by organisations such as the Kenya Institute of Special Education or national and international dyslexia organisations.

Furthermore, teachers should be encouraged to seek out more authoritative sources of information rather than relying too heavily on basic internet searches or informal peer support. While the internet can be a valuable tool, it is essential that teachers have access to resources that provide accurate, evidence-based information on dyslexia, assessments, and interventions. Schools could also consider creating partnerships with local organisations or institutions to provide teachers with information and training on identifying and addressing dyslexia in the classroom.

Expanding resources and support for learners

A critical barrier to effectively supporting students with SENs, particularly dyslexia, is the lack of adequate teaching resources in schools. Teachers highlighted the need for specialised learning materials tailored for dyslexic students. These could include picture books, books with clear fonts, audio resources and manipulatives such as

flash cards, alphabetic blocks, phonic / magnetic blocks and multi-sensory sand trays etc. It is recommended that government and educational authorities prioritise funding for these resources to create more inclusive learning environments. Schools should be provided with the necessary tools to address the diverse needs of their learners, ensuring that no child is left behind due to a lack of support materials.

Addressing the impact of large class sizes

A critical concern raised by teachers is the difficulty in providing individual support to learners in large class sizes. With an average class size of 36 students, and some as large as 80, teachers reported that it was impossible to give the necessary time and attention to learners with literacy difficulties. They expressed frustration, hopelessness and a sense of guilt when explaining these issues, knowing that many children fall far behind and will never reach their full potential. This highlights the crucial need for either smaller class sizes or additional classroom support, such as teaching assistants or specialised tutors. These recommendations would allow more time for individual learners, particularly those with special needs, and provide the tailored support they urgently require.

Enhancing special educational needs capacity in schools

Policy changes should be implemented to ensure there is at least one teacher trained in special needs education in each school. This would allow for more focused support within the school and ensure that teachers are not solely reliant on external resources or informal support. The presence of a trained SEN teacher can also facilitate individualised learning plans and targeted support for students with dyslexia and other learning difficulties.

Conclusion

The difficulties caused by dyslexia can have far-reaching effects across various learning areas, impeding academic performance and overall cognitive development. Providing appropriate support and interventions for learners with such difficulties is crucial to help them succeed in all aspects of their education and into adult life. Early interventions can prevent the most damaging consequences of dyslexia such as low self-esteem, anxiety, avoidance of school and social isolation, factors that sometimes lead to far-reaching consequences like delinquency, substance abuse and criminality.

The recommendations resulting from this research highlight the urgent need for systemic changes in teacher training, resource provision, and government support to ensure that all students, including those with dyslexia and other learning difficulties, receive the education they deserve. By improving teacher knowledge, providing better resources, and fostering a supportive learning environment, we can begin to address the widespread literacy challenges that many learners face. Furthermore, the involvement of external organisations and a more robust role for government will help ensure that the needs of students with learning difficulties are met in a sustainable and effective manner.

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Appendices

1. Questionnaire for Primary Teachers

Introduction
We are conducting a study about the effectiveness of teacher training in Kenya and we would like to ask you some questions about your experiences of teaching in the classroom.

There are no right or wrong answers so please <u>feel free to speak openly</u> about your own experiences as a teacher. We appreciate you signing the consent form and we will not use your name in the study results.

There are 17 questions and this should take less than 30mins. You will have a chance to ask any questions you have at the end.
Are you happy to go ahead?

Introductory Questions:

1. So to start, how long have you been a teacher?

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2. Where did you do your training?

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3. What subject and grade do you teach?

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4. How many learners do you have in your classes?

Core questions:

5. Have you noticed any learners in your class that seem to have specific difficulty with reading, writing or comprehension, compared to their classmates?

☐ None

☐ one or two

☐ 2 to 5

☐ more than 5

6. Can you tell us some more detail about the difficulties these learners have?

7. Why do you think these learners are having these difficulties?

Reminder, There are no right or wrong answers so please <u>feel free to speak openly</u> about your own experiences as a teacher.

8. Do you think there are any particular teaching methods or strategies that can be used to teach these learners?

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9. Do you know any names or terminology used for their specific difficulties?

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10. Have you heard of something called Dyslexia?

☐ Yes   ☐ No   ☐ Not sure

11. *(if answer to Q10 is 'yes' or 'not sure')*

Can you explain what you think is meant by the term Dyslexia?

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12. Does your school have a special education coordinator or similar?

☐ Yes

☐ No

☐ Other (please explain)

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13. Have you had any training in special educational needs?

☐ none

☐ very little

☐ some

☐ a lot

14. Have you had any training specifically in Dyslexia?

☐ none

☐ very little

☐ some

☐ a lot

15. Have any of your learners ever had an assessment for Dyslexia?

☐ yes

☐ no

☐ not sure

16. Where might you look if you wanted more information concerning Dyslexia?

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17. Can you suggest any ways that teachers might be better equipped to teach learners with dyslexia or other Special educational needs

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Is there anything else you would like to add?

Thank you very much – we will share our findings with you in due course.

2. Questionnaire for Teacher Trainers

Introduction
We are conducting a study about the effectiveness of primary school teaching in Kenya and we would like to ask you some questions about your experiences as a teacher trainer.

Please note that there are no right or wrong answers so please <u>feel free to speak openly</u> about your own experiences as a teacher trainer. We appreciate you signing the consent form and we will not use your name in the study results.

There are 18 questions and this should take less than 30mins. You will have a chance to ask any questions you have at the end.
Are you happy to go ahead?

Introductory Questions:

1. ... So to start, how long have you been a teacher trainer?

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2. Where did you do your training and where do you teach now?

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3. In what subject(s) do you train?

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4. How many trainees do you normally have in a class?

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5. How long is the training

Core questions:

6. What different topics do you cover in the training of language teachers

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7. Can you tell us about the specific techniques used to teach reading, writing and spelling?

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8. Are you expected to train teachers about the area of special needs or specific learning disabilities?

Reminder, there are no right or wrong answers so please <u>feel free to speak openly</u> about your own experiences as a trainer.

9. Is there anything in the training syllabus/curriculum which specifically covers the area of learners <u>who struggle</u> with reading, writing, spelling or comprehension.

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10. Do you know any names or terminology used for learners who have specific difficulties in reading, writing, spelling and comprehension?

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11. Have you heard of something called Dyslexia?

☐ Yes   ☐ No   ☐ Not sure

12. *(if answer to Q10 is 'yes' or 'not sure')*

Can you explain what you think is meant by the term Dyslexia?

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13. Does your training college have a special education coordinator or similar?

☐ Yes

☐ No

☐ Other (please explain)

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14. Have you had any training in how to train for special educational needs?

☐ none

☐ very little

☐ some

☐ a lot

15. Have you had any training specifically in Dyslexia?

☐ none

☐ very little

☐ some

☐ a lot

16. Overall, how would rate your own knowledge about dyslexia (please be open and honest)

☐ almost nothing

☐ low

☐ fair

☐ good

☐ very good

17. Where might you look if you wanted more information concerning Dyslexia?

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18. Can you suggest any ways that teachers might be better equipped to teach learners with dyslexia or other Special educational needs?

Thank you, that's the end of the questions, is there anything else you would like to add?

Thank you very much – we will share our findings with you in due course