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Assessment of learners with dyslexia in mainstream primary schools: An investigation

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With this study we sought to investigate the effectiveness of assessment of learners with dyslexia in mainstream primary schools in the Bubi district of Matabeleland North, Zimbabwe. An exploratory case study design of the qualitative approach was adopted. Semi-structured individual interviews and focus group interviews (FGI) were used to collect data from heads of schools and teachers selected for the study. Gathered data were analysed and interpreted thematically. The major findings of the study were that no standardised instruments existed to assess learners with dyslexia in the infant category, the test used for those in the junior school category was not effective enough and most teachers had limited knowledge of dyslexia. We recommend the development of a variety of culturally sensitive assessment tools for infants as well as the junior school category. We also recommend that early diagnosis for early intervention and continuous professional development of teachers to keep abreast of the current trends in the education of learners with dyslexia be implemented.

Keywords: assessment; dyslexia; infant reading interventions; learning cycle; mainstream primary school; reading difficulties; remediation

Introduction

Globally, the emancipation of people with disabilities has largely been influenced by several factors which include societal perceptions, attitudes, legal provisions and basic knowledge about the rights of such individuals. In the recent past, disability was associated with abnormality or incompleteness and most societies believed that people with disabilities were not fully eligible for the opportunities which were available to other people as a matter of right (Ntibe, 2011). The maltreatment of people with disabilities differed with contexts. In ancient Greece, they were either abandoned in the bush as outcasts or even killed. In the courts of the Roman Empire, they were kept as jesters and sometimes drowned or burnt to death (Haage, 2017). Such negativity continued until the Renaissance period when a paradigm shift in the general world view on disability took place.

Gradual acceptance of one another further led to the development of inclusive communities and education systems that strive to cater for diversity in humanity (Radić Šestić, Dimić & Šešum, 2012). Learners with dyslexia are among specific groups that inclusive education seeks to empower, particularly in mainstream schools. This is meant to ensure that their inherent assets are positively used to improve reading skills as they learn with others.

Dyslexia can generally be described as a specific learning disability which leads to notable differences between reading competence and intelligence in learners that are exposed to adequate educational provision. Ozernov-Palchik and Gaab (2016) explain that dyslexia is caused by poor development and functioning of the brain. Learners with this condition may be impaired in all or some parts of the reading network which include the frontal, parietal, temporal and occipital lobes of the brain. The frontal lobe is mainly responsible for speech production and organisation, the parietal lobe facilitates the mapping of letter sounds and their spelling, the temporal lobe is where verbal memory resides, and the occipital lobe is known as the home for the visual cortex (Menting, 2014).

Learners with dyslexia experience reading difficulties, which depend on the type of dyslexia and the severity thereof that an individual has. Paul and Norbury (2012) observe that dyslexia can either be developmental or acquired. Developmental dyslexia is caused by biological anomalies while acquired dyslexia emanates from brain damage that might have occurred after an individual's acquisition of basic reading skills (Woollams, 2014). The subcategories of developmental dyslexia include dysphonetic (auditory), dyseidetic (visual) and mixed dyslexia (Heim & Brande, 2012). Dulude (2012) cites peripheral and central dyslexia as the two main types of acquired dyslexia. Knowledge about the etiology, type and severity of dyslexia that an individual has is crucial for effective service provision and can be gathered through conducting a detailed assessment procedure.

In the Zimbabwean context, both formal and informal assessment techniques are adopted in assessing learners with dyslexia for placement into different intervention programmes. Learners who receive services through the Early Reading Initiative (ERI) and the Whole School Remedial Programme (WSRP) are identified by their class teachers through informal measures. These include observations and learners' written tasks. Those that are assisted through the administration of the Performance Lag Address Programme (PLAP) and clinical remediation are selected based on the results of the Wide Range Achievement Test 1 (Remedial Programme Booklet, 2011). The Schools Psychological Services/Special Needs Education department (SPS/SNE) has a mandate to administer this instrument in schools. This test assesses a variety of language aspects such as spelling, grammar, prepositions, opposites, similes, completion of sentences and comprehension. The instrument was developed and standardised in the United Kingdom, which parcelled its education system to its colonial

states. Consequently, the test was adopted in its original state and used to teach learners with reading disabilities.

Despite the availability of different assessment techniques, relevant stakeholders like teachers, heads of schools and district education supervisors regularly express concern in this regard. The chief concern is that the overall assessment of learners with dyslexia has not been able to fully direct proper service provision, leading to continued decline in the academic performance of these individuals over the years. This scenario prompted us to investigate the effectiveness of the assessment procedures adopted for learners with dyslexia in mainstream primary schools in the Bubi district and to use the findings to suggest strategies for improved service delivery.

Literature Review

Conceptualisation of educational assessment

Educational assessment is a fundamental endeavour that enables the identification of strengths and weaknesses of various learners in a teaching and learning context. According to Evans (2013), educational assessment denotes the entire process of collecting relevant data about a learner to make informed decisions. Terms like evaluation, measurement and testing have been closely associated with and related to educational assessment. Hayes (2010) substantiates this by stating that assessment, testing, and evaluation are terms that basically describe the outcomes of the educational process.

Types of educational assessment

Formative assessment is one type of educational assessment that is conducted at given points in the instructional process (Popham, 2011). This is done to establish the extent to which the content, process and product of learning have progressed with reference to stated goals. The two forms of formative assessment are diagnostic and on-going. On-going assessment is continuous and intended to deliver informed decisions on whether to maintain, adjust or change teaching methods and learning activities. Diagnostic assessment is done to provide insight into a learning characteristic such as prior knowledge, motivation, interests and preferred learning styles. This is the form that generally applies in the assessment of learners with dyslexia. Summative assessment is terminal and used for grading purposes. It is useful for learners with dyslexia when differentiated enough to reflect the knowledge and skills obtained by learners at the end of a learning cycle (Hayes, 2010).

Crucial factors in the assessment of learners with dyslexia

Several factors need to be considered in the assessment of learners with dyslexia. Singer (2008) identifies reading aptitude as significant in the

assessment of learners with dyslexia. The process examines skills that focus on language, such as rapid naming of items, phonemic awareness, and word identification. Learners also need to be tested in oral language skills, which relate to the ability to listen well, understand speech, as well as convey ideas through the spoken word (Moats & Dakin, 2008). Language skills, which are in the low-level category, such as sound recognition and those belonging to the high-level bracket, as in expressing thought in a spoken form, constitute oral skills which are subject for assessment.

Fälth (2013) observes that word recognition plays a critical part in assessment and is concerned with the ability to read printed words. It pertains to accuracy and fluency when reading. Some learners with dyslexia can read accurately but at a very slow speed. The ability of learners to decode the meaning of words is also involved in the assessment process. In this case, learners are exposed to nonsense words which compel them to institute new interpretations instead of relying on words which they already know and are stored in memory (Singer, 2008). Spelling of words also occupies an important position in assessment as it helps to ascertain the ability of the learner to remember the arrangement of letters in words. An inability to spell words subsequently blurs word identification and pronunciation (Moats & Dakin, 2008).

Assessment should take cognisance of the auditory processing skill that learners use to decode the speech of older people. This is a phonological process, which is a low-level language skill that does not involve the decoding of meaning (Kumburu, 2011). Furthermore, the skills of automaticity and fluency must be considered in effective assessment of learners with dyslexia. Fälth (2013) contends that the speed of naming letters and words is one of the best predictors of reading competence.

Woolley (2010) avers that a multi-disciplinary approach must be considered when conducting assessment of learners with dyslexia. The team of assessors may comprise stakeholders such as a learner's parents or caregivers, teachers, school heads or principals, educational psychologists, speech therapists and medical doctors. Gutuza, Khosa, Gazimbe and Mapolisa (2015) advise that assessment tools used for individuals with special needs must reflect cultural relevance. This means that the instruments used to assess learners with dyslexia should resonate with the social and cultural development of targeted countries. In addition, these tools must be user-friendly with a capacity to detect individual learners' specific learning challenges. Woolley (2010) further reveals that several researchers have cautioned that some tests are not broad enough to effectively address

difficulties associated with teaching and preferred individual learning styles.

Theoretical Framework

This study was underpinned by Scriven's (1967) theory of assessment. This theory states that the process of assessment is a judgement based on weighted standards, goals and criteria. This is summative assessment. Feedback from this form of assessment serves to indicate gaps between the ideal and the required (Taras, 2007). The measure to reach the required standard is considered as formative assessment. Therefore, summative and formative assessments lead into each other and are one continuous process.

Formative assessment is intended to improve learning in the classroom within a framework of pedagogy as well as formal judgements outside the classroom (Colvin, 2010). On the other hand, summative assessment is designed to judge the extent to which learners grasp the material of instruction. This may be done through giving learners tests, assignments and activities upon which to base judgements. This can be conducted for grading, placement and certification. Formative assessment is useful in helping learners and teachers to continuously improve the way in which they function to realise set criteria and standards (Taras, 2007).

Paul and Norbury (2012) argue that if assessments were designed only for summative purposes, then formative information could not be obtained, since the summative assessments occur at the end of a phase of learning. It makes no attempt at highlighting the educational history of the learner. This history is critical to influence decisions related to the behaviour, characteristics and the readiness of the learner to receive education. On the other hand, formative assessment yields information which provides a recipe for future action, either by the learner or the teacher (Wiliam, 2003).

Assessment is considered as a cycle of three phases, inclusive of eliciting evidence, interpreting evidence and acting (Wiliam, 2003). Eliciting evidence is synonymous to diagnosis and pertains to the use of standard instruments which are designed to expose the current conditions of the learner. Interpreting evidence would also be against specific criteria and standards. Interpretation implies taking care of ambiguity in the assessment results. This is due to the varied functions or purposes for which an assessment is conducted. The results of an assessment are then used to determine action to be taken (Colvin, 2010). Regarding the teaching of learners with dyslexia, the results may trigger a change in the teaching strategies or the placement of the learner as informed by the severity of the problem and the types of reading assistance required for the learner.

Methodology

Interpretivism was adopted as research paradigm in this study. Interpretivism allows researchers to view the world through the perceptions and experiences of the participants (Nguyen & Thanh, 2015). In this study, this paradigm was considered critical for it enabled the identified problem to be studied within its context for in-depth insight before reaching a conclusion and making necessary recommendations. An exploratory case study design of the qualitative approach was used. This enabled the solicitation of the views and opinions of participants regarding the assessment of learners with dyslexia. The population for this study consisted of mainstream primary school heads and teachers. The purposive sampling technique was used to select participants for the study. The selected heads of schools managed institutions that had special classes, implying that they had considerable experience in managing individuals with diverse learning needs. Ten heads of schools and 20 teachers were sampled. Two teachers were selected from each school, that is, one Teacher in Charge (TIC) and one Grade 3 teacher. The TIC managed the infant department, inclusive of Early Childhood Development A-B and Grades 1 to 2. The most senior Grade 3 teacher was selected in a school which had more than one Grade 3 class.

Research Procedure

Permission for field entry was sought from the University of Venda Research Ethics Committee and the Ministry of Primary and Secondary Education in Zimbabwe. Participants' consent to take part in the study was also solicited. The participants were informed that they had the liberty to participate and withdraw from the study at any given point if they felt uncomfortable with the proceedings and were assured that their contributions would be used only for the purposes of the study.

The interview schedule consisted of semi-structured items and was used for heads of schools. These contained contextual aspects which were derived from the purpose of the study. In order to achieve dependability, the designed items were piloted with three heads of schools who were not related to the schools under study. Appointments to interview participants were made prior to the actual interviews. Interviews with heads of schools were mostly administered in their offices and at convenient times that safe-guarded the smooth flow of school programmes. All FGIs were held after individual interviews were conducted with the heads of schools. Two FGIs were held with the TICs and Grade 3 teachers. The group interviews were carried out over 2 successive weeks in the afternoon on Wednesdays. Data gathered were tape recorded with the participants' consent.

Data Collection and Analysis

Data were collected through individual interview questions and focus group interviews. The methods enabled us the opportunity to gather in-depth data about the assessment of learners with dyslexia, in a manner that encourages convergent inquiry paradigms (Nieuwenhuis, 2014). Gathered data were analysed thematically. This is an inductive process which involved scrutinising data collected through individual and focus group interviews in search of common meanings and patterns regarding the phenomenon under study. It began with the coding of data, sorting different codes into potential themes and collating all the relevant coded data extracts within identified themes (Nowell, Norris, White & Moules, 2017). The use of multiple researchers helped to enhance trustworthiness of the findings.

Findings

The findings of the study are categorised in terms of five thematic areas. These are conduction of an assessment procedure, use of a multi-disciplinary team in assessment, identification of learning styles through assessment, literacy skills and knowledge of teachers on dyslexia, and parental support for learners with dyslexia.

Conduction of an Assessment Procedure

Participants were first required to present their views on whether an assessment procedure was conducted before service delivery. Mixed responses were obtained in this regard with some revealing that they were not sure while others seemed positive. Furthermore, it was discovered that both formal and informal assessment techniques were used. Those in the infant category were identified using informal methods like observations and written work. Learners in Grades 3 to 7 were identified using both formal and informal methods. It further emerged that the Wide Range Achievement Test 1 (WRAT 1) was the only standardised test that was used to identify learners with dyslexia in mainstream classes in Grades 3 to 7. The composition of this test included several language aspects except those that were concerned with the auditory processing of information. While some participants viewed this as a major weakness of WRAT 1, others felt that testing various language aspects in a single test as suggested in this instrument could compromise its effectiveness. In view of this, two participants said:

... this district uses only the WRAT to identify and place learners in Performance Lag Address Programme and clinical remediation. The test however does not test competence in auditory processing of information (FGI 1).

The test used for our learners with reading disorders is just one and it tests a variety of concepts all at the same time (Head 7).

It also emerged that the quantity of the test items of WRAT 1 was viewed as too high for most learners with dyslexia. Participants were also emphatic in revealing the fact that this test even seemed difficult to those who did not have serious reading challenges. Therefore, this compromised the relevancy of WRAT 1 in assessing learners identified to be dyslexic. Some of these individuals lacked basic reading skills and this should indicate the starting point of any relevant assessment procedure. Furthermore, the time given to attend all items of this test was very limited considering that most individuals with dyslexia took much longer than expected to complete specific reading tasks. On the other hand, we established that, in determine learners' performance in WRAT 1, measurement of oral reading and spelling was done during the assessment process and the marking of the written tasks was normally completed in the provincial office by the SPS/SNE personnel. Sometimes the assessment results were only released to the schools after a considerable period, and this delayed the provision of early intervention for the identified candidates. Two participants said:

... May I also say that I feel the test used to assess these learners is too difficult and the chances are high that misplacement of learners is bound to happen (Head 8).

At times the results take long to reach to the schools as marking is done in the province then results sent to the district before they come to us in schools. Taking too much time to send us the results means that we will delay to assist these learners and this affects the effectiveness of the intervention programmes. (Head 4)

Use of a Multi-Disciplinary Team in Assessment

Participants were asked to present their responses regarding the use of a multi-disciplinary team in conducting assessments to establish the reading disorders of learners with dyslexia. Data gathered through interviews revealed that the SPS/SNE Department was mandated to administer this instrument and the relevant team consisted of psychologists, the district remedial tutor and sometimes the speech therapist. While this team was viewed as relevant in this endeavour, literature advocates for a much broader multi-disciplinary composition which considers a learner's parents or caregivers, regular class teachers, school heads or principals and medical doctors in addition to the SPS/SNE personnel (Woolley, 2010). One participant said: *"Performance of learners in reading and written tasks may suggest that they need help. To place learners in PLAP and clinical remediation, an assessment by the psychologists with the help of some teachers is conducted"* (Head 1).

Our study revealed that most teachers in mainstream primary schools were either not

satisfied with or unaware of the composition of the team of practitioners involved in the assessment process. Teachers were just informed about the visits by assessors to schools but the actual date, the composition of the team of assessors or the actual assessment process was not revealed. This was to prevent the assessment items or tests from leaking to teachers who might also use it to drill their learners in preparation for future assessments, as the same instrument was used yearly. In this regard, participants said: *“Teachers are generally left out of the assessment of learners. They are told to surrender their classes to the assessment team for the tests while they can engage in other activities during the process”* (FGI 1).

Identification of Learning Styles through Assessment

The views of participants were sought on the ability of the assessment process to identify the learning styles of individuals with dyslexia. Most participants were not content with this and they suggested that the assessment techniques adopted needed to establish the preferred learning styles of individuals as these would suggest relevant instruction and suitable media. The results from our study further revealed that some learners with dyslexia would prefer to study in groups while others preferred individual tuition. Some depended on their sense of sight in learning while their counterparts resorted to other sensory modalities. In this regard, literature suggests that learning content for those with dyslexia may be presented visually (visual modality), traced (kinetic and tactile) in their hands or plastic letters and the letter name or sounds can then be orally (auditory mode) presented (Norton & Wolf, 2012). Two participants said:

The way different learners learn must be highly valued because people are different and so is the way they learn (Head 10).

The ways in which learners learn should also be considered if these programmes are to be effective. Some prefer using their sense of sight, some hearing, while others would also need to touch or learn from drawings (FGI 2).

Literacy Skills and Knowledge of Teachers on Dyslexia

Some participants showed that some teachers lacked the requisite literacy skills and knowledge on the assessment of learners with dyslexia in mainstream schools. Teachers should be aware of the signs and symptoms of dyslexia which include omission of letters when reading, substitution of certain letters, mirror reading and poor left to right orientation. Teachers should have basic knowledge pertaining to the causes of dyslexia, types of dyslexia as well as the general background of learners. This helps in the provision of instruction and designing of appropriate assessment

assignments and activities. In this regard, participants said:

... teachers must be aware of the signs of reading disorders which may include omitting letters when writing spellings, reading from right to left or reading English words in IsiNdebele (Head 4).

Some learners may come from backgrounds that discourage learning and, therefore, may regularly fail to do their homework or absent themselves often from school. It is, therefore, necessary for the teacher to gather all this information so that he may give relevant treatment. (FGI 1)

It also emerged that the knowledge of teachers about instructional content is crucial in assessing learners with dyslexia. It is perceived that learners that have reading challenges reflect the weaknesses of the teacher in teaching reading. Teachers must have strong oral and reading competencies to become fitting role models to learners. Participants also showed that teachers should be aware of the current practices and trends in the education of learners with dyslexia. They commented that *“teachers must always research on the content to be learnt by learners ...”* (Head 8). Teachers need to be fully cognisant of the various ways in which dyslexia can be observed to also come up with different teaching materials and methods. Two participants said:

Learners with reading disorders face different reading problems. Some can see the letter symbols, read the letters of the alphabet but fail to read words built using letters. Other learners may read words correctly but cannot understand their meanings and in such a case they also fail to make sentences using read words. (FGI 1)

Teachers should know and understand the challenges faced by different learners so that those learners are assisted using relevant methods and materials (Head 9).

The study also established that teachers of learners with dyslexia should exhibit excellent assessment skills. This would allow them to identify and differentiate learners with dyslexia from those with other special needs concerns. It is essential for teachers to be creative in content planning, lesson presentation, selection of media, assessing of learners as well as instituting remedial measures. Participants said:

Teachers should also have good identification skills. By having these, it will help them to notice learners who face difficulties in reading. They should identify the exact area that challenges the learner (Head 6).

I also feel that teachers should be creative and resourceful. They should make class libraries with a variety of reading materials which could be reading cards, games, puzzles and booklets and encourage learners to utilise it even in the absence of the teacher. This will assist to create a reading culture in learners. (Head 7)

Parental Support for Learners with Dyslexia

It was established that the successful assessment of learners with dyslexia was at times hindered by

limited support from parents or caregivers. Learners who do not receive the needed encouragement to learn at home tend to either be absent from school or exhibit low commitment to learning. Inconsistent school attendance hampers learners' academic progress, and is mostly reflected in the assessment process. Individuals that miss lessons the most normally achieve less. It also emerged that some illiterate parents did not assist their children with home assignments because they were incapable in that regard. This impedes academic progress and continued learning from home to school and vice versa. Participants stated that "[p]arents that are uneducated are not disturbed by the non-attendance of their dyslexic children to school and are unable to help them with homework" (FGI 2).

The low economic status of some families appeared to impact negatively on the academic success of learners with dyslexia. School levies of learners from low income households are usually not paid on time, there is a lack of reading materials at home, homes are often without proper lighting systems, learners come to school hungry or walk long distances to school. The inability of some parents to pay school fees and levies causes financial strain on the part of school administrations to purchase adequate teaching and learning resources. Participants said the following:

Most learners at this school travel long distances from their homes to the school and some are always late for the lessons and this ultimately impacts on the success of assessment efforts at the school (Head 2).

Due to non-payment of levies by some learners who come from low income families, the schools often lack adequate funds to purchase reading materials. Some children come from poor families without electricity to help them in their studies and walk long distances to schools. This affects their readiness for assessment in reading and writing. (FGI 1)

It also emerged that teachers had to have good collaboration skills. In this regard, the participants in the study felt that teachers needed to collaborate with parents, the school administration as well as other professionals, who could be their colleagues. Literature states that a productive teacher-parent relationship is crucial for learners with special needs and allows for the continuous educational support of learners between home and school. One participant said: "... teachers have a capacity to work with the parents of learners identified to be having reading disorders so that even when learners are at home they can continue learning being assisted by their parents" (Head 5).

Discussion

In this study we established that learners with dyslexia in the infant department were identified by their class teachers through the use of informal techniques, which included observations in oral

lessons and their performance in daily written tasks. This implies that there were no standardised instruments for use in this category and involvement of a multi-disciplinary team in this endeavour was very limited. Woolley (2010) contends that a multi-disciplinary approach must be considered when conducting assessment for learners with dyslexia. The team may be comprised of a learner's parents or caregivers, teachers, school heads or principals, educational psychologists, speech therapists, medical doctors and other relevant stakeholders.

On the other hand, in the junior school category both formal and informal measures were adopted. On formal measures, a single standardised test (WRAT 1) was used to identify learners with severe to profound reading challenges. However, this test was composed of many items that were to be attended to within a short period. This seemed to be a challenge to learners who had poor automatic reading skills. Also, the content in this measuring instrument appeared more difficult than most learners with dyslexia could manage. This compromised its efficiency. In view of this, Gutuza et al. (2015) advise that the assessment tools used for individuals with special needs must be culturally relevant. This means that the instruments used in developed countries to assess learners with dyslexia may not be suitable for those in some developing countries.

The test used had limitations in establishing the preferred learning styles of individuals. In this regard, Woolley (2010) reveals that tests which are not broad enough fail to identify the preferred individual learning styles. These form the basis for intervention. Furthermore, the content that could measure auditory processing of information was not included in the adopted test. Despite this, Kumburu (2011) maintains that assessment should take cognisance of the auditory processing skill that learners utilise to decode the speech of adults. It also emerged that formal assessment was not done regularly and, in most cases, when learners were assessed by the SPS/SNE department, it took a longer time for the results to be released to schools. This delayed placement into various programmes for the required intervention. Formative assessment yields information which provides a recipe for future action, either by the learner or the teacher (Wiliam, 2003).

Research Implications

The results of the study imply that there is an undisputable need to develop culturally relevant assessment tools to identify learners with dyslexia in the infant as well as the junior school category. Furthermore, intensive assessment should be conducted across all academic levels found at a primary school, including the infant category, to provide early intervention and prevent worsening

of the identified condition. A multi-disciplinary team to assess learners with dyslexia must be composed of practitioners that hold diverse portfolios in education, and who should be responsible for providing information pertaining to the learner's background, academic progress, psychological development, language development, and emotional and social development. Above all, the study findings advocate for adequate training of teachers to empower them with knowledge and skills to teach and assess learners with dyslexia at various levels of mainstream schools.

Conclusion

The result of this study provide insight into the absence of formal assessment instruments for learners with dyslexia in the infant category in the Bubi district in Zimbabwe. This denotes overt exclusion of those individuals who require more detailed assessment before service provision. The main standardised instrument used for junior school learners was not efficient enough to diagnose the strengths, weaknesses and preferred learning styles of all individuals with dyslexia. The results also indicate that the multi-disciplinary approach was not effectively used in the assessment of learners with dyslexia both in the infant and junior school category. It would be preferred that the category of stakeholders be broadened to include all partners interested in academic growth of learners with dyslexia such as heads of schools, teachers and parents. Furthermore, it took a long time for the assessment results to be released. This delayed placement of learners into suitable programmes and provision of early intervention measures. The knowledge and awareness of teachers about dyslexia also determined their competence in handling learners with this disability.

Recommendations

Based on this study we recommend that education authorities should facilitate the design of formal assessment instruments for learners with dyslexia at both infant and junior school categories. They should ensure that funds are allocated to facilitate regular assessment of learners with dyslexia and the speedy release of those results. The Ministry of Primary and Secondary Education must collaborate to facilitate the training of more teachers with adequate skills to teach learners with dyslexia across all academic levels at primary schools. The departments in charge of special needs education might design a variety of culturally-relevant assessment instruments for diagnosing the strengths, diverse reading challenges and preferred learning styles of learners with dyslexia – both in the infant and junior categories. The diagnosis of reading problems in learners need to be conducted at the initial phase of learning to enable the provision of early intervention as well as to refer

serious cases for more detailed assessment. Parents should be fully involved in the education of learners with dyslexia, starting from assessment to programme evaluation. This would allow school programmes to be continued at home, where parents (or literate family members) are also responsible for the provision of background information as well as buying needed materials and accompanying referred learners for specialist services.

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Authors' Contributions

DN conceived the study, administered the method and produced the initial draft report. PM supervised the study and assisted in data analysis and interpretation. BD collected and transcribed data. All authors reviewed and approved the final manuscript.

Notes

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