Providing Alternate Learning Environments and Multiple Teaching Strategies to Meet the Needs of Students with Dyslexia

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ABSTRACT

This phenomenological qualitative study examined the possibility of enhancing educational experiences for students with dyslexia. The data recorded in this study emphasized the need for alterations to the methods by which dyslexic students are educated, viewed, and perceived by general education teachers. This qualitative study added to the body of literature on the education and learning environments of students with dyslexia. Students must be taught utilizing a repetitive, multi-sensory teaching approach, so that they can build pathways in their brains. Through teacher interviews within this study, it is extremely evident that general education teachers do not have the confidence, education, or experience to teach dyslexic students. All the general education teachers included in this study stated that they would like extensive professional development on all aspects of dyslexic education. This would be beneficial for any school district to implement for all teachers that teach reading. The themes of the environmental impact on learning, teacher struggles, neurobiological disorder, secondary consequences of dyslexia, and the COVID-19 impact are all relevant in responding to the research questions.

Keywords: dyslexia, multi-sensory teaching, dyslexic education

INTRODUCTION

This phenomenological qualitative study examined ways to enhance the educational experience for students with dyslexia. A diagnosis of dyslexia implies that a student has a learning difference and that they must be taught utilizing a structured, explicit, and multisensory approach to learn and retain information (Juneja, 2018). These students have difficulty decoding words and typically have problems with some type of memory (Schlesinger & Gray, 2017). Dyslexia is different from other learning problems because these students have at least the intellectual capability of an average child, but dyslexia inhibit their ability to learn in the traditional classroom setting. This is a result of the typical teaching strategies and standards in a classroom environment. The most common teaching strategies utilized in the traditional classroom involve presenting information auditorily or visually but, usually the two are not combined (Allen, 2010). These are the most challenging strategies for most dyslexic students to learn (Juneja, 2018). These students need a multisensory teaching approach, and they also require repetitive instruction, which is difficult to implement with over twenty students in every class (Allen, 2010).

Research suggests that students with dyslexia have difficulties with their auditory and visual-phonological working memories (Toffalini et al., 2018). These abilities are crucial for memorization and learning the literacy continuum. The lack of working memory contributes to the need of the dyslexic students' need to touch, hear, and see concepts several times to understand, remember, and apply the knowledge (Toffalini et al., 2018). General education teachers have a wide range of students, with a variety of abilities, and they do not always have the time and educational training to provide the repetition that is needed for a dyslexic student (Allen, 2010).

As described in the literature review, the current standard of education for students with dyslexia is to pull them out of their standard classroom for small group dyslexia intervention (Birsh & Carreker, 2018). The pull-out instruction involves either one-on-one or small group teaching by an educator who is trained in dyslexia and related disorders (Ward-Longergan & Duthie, 2018). This educational instruction is limited because of decreasing school budgets, the increasing numbers of students who are being identified as dyslexic, and the shortage of teachers trained to provide the multisensory intervention (Ward-Longergan & Duthie, 2018). Multisensory instruction is the researched based technique of instruction for dyslexic students (Ward-Longergan & Duthie, 2018).

PURPOSE OF THE STUDY

The purpose of this phenomenological qualitative study was to examine the possibility of enhancing the educational experience for students with dyslexia. The current standard of education is not meeting the needs of today's dyslexic students (Schlichtmann et al., 2018). The pace and style of instruction is contrasting with the neurobiological differences in a dyslexic's brain (Schlichtmann et al., 2018). This study highlighted the gaps in research on dyslexia and added to the body of knowledge the specific needs of a dyslexic learner.

RESEARCH QUESTIONS

The following are the research questions that guided this study.

RQ$_1$. How do the general education teachers and reading interventionists provide an environment that is conducive to the learning styles of dyslexic students?

RQ$_2$ What information do teachers need to be educated on their view of dyslexia as a learning difference and not as a learning disability ?

RQ$_3$ In an era that is assessment driven, how can the researcher decipher how educational leaders, schools, and teachers can regain the focus of teaching the individual dyslexic child?

RQ$_4$ The entire state of Texas battled an unprecedented pandemic with COVID-19 ravaging the population, how has the pandemic impacted the dyslexic students in the classroom?

SAMPLE

The population and sample that was used in this qualitative phenomenological research study comprised students diagnosed with dyslexia in third through fifth grades. The study utilized purposeful sampling, examining every dyslexic student in the population (Miles et al., 2014). Comparable case selection was used in comparing the students' experiences and confidence in their general education classroom and during their pull-out dyslexia classroom (Miles et al., 2014). Six students were included in the study as well as three general education teachers and three certified dyslexia interventionists.

Each teacher was considered a case and were compared to collect data for the study (Miles et al., 2014). Each teacher was interviewed and observed. The data that was utilized in the study was preexisting reading data provided by the teachers and the school campuses. The sampling was theoretically driven. The students and teachers who were observed throughout the study emphasized the theory.

The population and samples within the study had an iterative quality (Miles et al., 2014). The information gathered from the samples generated a progressive study that worked to answer the research questions. The data led to patterns, contrasts, or unexpected information.

DATA COLLECTION AND ANALYSIS

Data was collected for this qualitative phenomenological research study by conducting interviews with classroom and dyslexia certified educators of the specified students. Several observations were conducted of the classroom teachers and the certified dyslexia teachers during instruction, taking field notes during these observations. Additionally, the anecdotal notes from both the general education and dyslexia educators were considered. Work samples and grades for the dyslexic students were received and analyzed results from standardized testing, benchmark assessments, and any other prior academic data that was available for the students. Field notes and observations were used to build a Word document to store common themes and patterns in the data, resulting in a stronger quality of current data (Miles et al., 2014). With permission of the interviewees, the interviews were recorded, and then translated into text, and coded. The first cycle of coding grouped together similar themes and patterns that were relative to the study. Descriptive and provisional coding were used in the first cycle to organize the literature and

sources. The second level of coding in this qualitative phenomenological research study took the information from the initial coding process and grouped the information into smaller summaries (Miles et al., 2014). Common pattern codes were categories, causes, explanations, relationships, and theoretical constructs. After the second round of coding the data were transformed into matrices and networks (Miles et al., 2014).

RESULTS

RQ$_1$: How can schools provide an environment that is conducive to the learning styles of dyslexic students?

The themes of the environmental impact on learning, teacher struggles, neurobiological disorder, secondary consequences of dyslexia, and the COVID-19 impact were all relevant in responding to this research question. All the themes were emulated though the data sources that are represented in response to this question. The learning environmental impact on dyslexic students was extremely prevalent in this study and was supported by the data provided by the student observations, the teacher interviews, the student assignments, and the student I station data. During the student observations, it was noted that all students were more active with their learning when they were learning with their reading interventionist. All students, except for Student D had their Zoom cameras on and were orally participating with the reading interventionist. The only student to interact orally with the general education teacher and have the camera on was Student B. Student B was also the only student who attended school in person.

Student A was extremely impacted by her learning environment as a virtual student and by the diagnosis of ADHD, which is a secondary consequence of dyslexia. In her home, which is her learning environment, she struggled to stay focused and even disappeared from the virtual sessions several times. Student A turned the Zoom camera on and off and was not responsive to the reading interventionist. The student used the restroom without letting the interventionist know. Student A was impulsive, another secondary consequence of her dyslexia. In the teacher interviews all the teachers commented on the environment for student learning. All the teachers and reading interventionists thought that the students that were learning virtually, were struggling in the environment. This view was especially prevalent in the general education classroom. Work samples for all the students were accessed via Google Classroom. The work samples indicated the struggles of the virtual learning environment. All the students, except for Student C, had missing and failing assignments in the Google Classroom. In addition, all the students, except for Student D, showed either slow or no growth in reading skills, a likely contribution due to the students' virtual status. Student B was the only in-person student, but still struggled in all aspects of school, despite the environment.

RQ$_2$: What information do teachers need to be educated on their view of dyslexia as a learning difference and not as a learning disability?

The impact of teaching instruction of dyslexic students was extremely prevalent in this study and was supported by the data provided by the student observations and the teacher interviews. The themes of environmental impact on learning, teacher struggles, and neurobiological disorder emerged in response to this research question. During the student observations it was apparent that the reading interventionists were providing the multisensory instruction required for the dyslexic learner. The instructional strategies in the general classroom were strictly auditory and visual. As mentioned in the literature above, these are not effective strategies for the dyslexic learner. It is likely that this issue contributed to the lack of progress observed for all students, except for Student D.

All the general education teachers in the study acknowledged that they did not know how to specifically educate, provide intervention, or identify a dyslexic student. All the teachers stated that they

struggled to meet the needs of the dyslexic students, and all the general education teachers stated that they feel like they need to be educated to meet the needs of the dyslexic students. The teachers indicated that they have always had dyslexic students in classes, so a great need for training on dyslexia exists.

RQ$_3$: In an era that is assessment driven, how can the researcher decipher how educational leaders, schools, and teachers can regain the focus of teaching the individual dyslexic child ?

The need to regain the focus of teaching the individual dyslexic child was prevalent in this study and was supported by the data provided the student observations, the student data, and the teacher interviews. The themes of teacher struggles, neurobiological disorder, and secondary consequences of dyslexia emerged in response to this research question. During the observations with the students and during the pull-out reading intervention, the younger students worked individually with the reading interventionist and the older students worked in a small group. It was obvious that the students seemed more at ease and confident in this setting. The older students in the small group even worked together, comfortably in their pull-out intervention. Students B and E were also observed working individually with their general education teacher and their behavior was like the way they behaved during their pull-out instruction. The students were responsive in the individual setting. It was apparent by the students' behavior, participation, and compliance with the reading interventionist that the students preferred the pull-out instruction.

The student data showed that the dyslexic students suffer in the general education classrooms except for Student D. Students either showed no reading growth, or extremely minimal growth in reading skills. Only Student D is reading on grade level and according to the data, the other students in the study are reading at least one year below grade level. However, according to the data from the reading interventionist, the students in the study are showing growth in the multi-sensory curriculum, MTA, which assesses the individual students on a regular basis. According to the data, the students are learning, but the learning is only measurable in their dyslexic curriculum.

The general educators indicated that they do not have the training, education, or experience to properly educate, identify, or provide intervention to a student with dyslexia. According to the data collected for this study, it seems likely that this deficiency contributed to the lack of progress and success that dyslexic students are experiencing in the general education classroom.

RQ$_4$: The entire state of Texas battled an unprecedented pandemic with COVID-19 ravaging the population; how has the pandemic impacted the dyslexic students in the classroom?

The impact of the COVID-19 on the dyslexic students was extremely prevalent in this study and was supported by the data provided by the student observations, the student data, and the teacher interviews. The codes of environmental impact on learning, teacher struggles, neurobiological disorder, secondary consequences of dyslexia, and the COVID-19 impact codes were all relevant in response to this research question.

Students, except for Student C, were failing and not completing their assignments in a timely fashion. The students, except for Student C, had failing and missing assignments. Student C was the only student in the study that was passing all the classes, and Student D was the only student that was reading on grade level. The remaining students in the study were missing assignments, failing one or more classes, and were unable to receive all the intervention possible from their general education teacher because of their virtual status.

The general education teachers and reading interventionists in this study are struggling with teaching students in the virtual environment. The general education teachers are also all concerned about the dyslexic students in their classes because the students are struggling even more than their neuro-typical students. The general education teachers and reading interventionists are also concerned that the

dyslexic students' will be even more at-risk for an extended "COVID slide," because the students are already behind in their reading abilities.

Nonconforming Data

As mentioned above, in several areas, Student D was the exception in this study. Student D is a student diagnosed with dyslexia, but who is reading on grade level. The student is also a virtual student, learning from home. According to the data, Student D had good attendance. The student is also making above average progress in dyslexia intervention.

INTERPRETATION OF THE FINDINGS

The themes of the environmental impact on learning, teacher struggles, neurobiological disorder, secondary consequences of dyslexia, and the COVID-19 impact were all relevant in responding to the research questions.

The learning environmental impact on dyslexic students was extremely prevalent in this study. This impact was confirmed in the data from all the sources involved in this study and was supported by the data that was provided in the literature review. As the research continues to point to dyslexia as a learning difference, and not a learning disability, it is becoming more and more apparent that these students need an adjusted learning environment to utilize their strengths (Schlichtmann et al., 2018). The classroom should be a flexible and supportive learning environment, which can be achieved by removing the literacy barriers and offering multiple means of verbal representation (Otaiba et al., 2018). This environment can be as simple as reading aloud while the student follows along. Instead of focusing on material that is at the learners' grade level, teachers may choose text that sparks the students' interests and utilizes online reading tools such as Learning Ally, an online application that will read books to students, while they follow along (Redford, 2019). Allowing dyslexic students to explore books but not making them physically read them increases their interest in reading, supports their vocabulary growth, and maintains their confidence (Ring & Black, 2018). The findings of this study support the idea that the school environment has a direct impact on students with dyslexia. The acceptance and favorable conditions of an independent classroom may contribute to a positive self-image of these struggling readers (Battistutta et al., 2018). The independent classroom can focus on building on the dyslexic students' ability instead of focusing on their inabilities. Teachers can focus on learning at a slower pace, and the curricula can be presented utilizing a multisensory approach (Battistuttaet al., 2018).

The impact of teaching instruction of dyslexic students was extremely prevalent in this study and was confirmed by the data collected and by the literature review. Dyslexic students likely need different instruction than students with a disability that negatively impacts their cognitive ability (Lauterbach et al., 2017). A diagnosis of dyslexia implies that a student has a learning difference and that they must be taught utilizing a structured, explicit, and multi-sensory approach (Juneja, 2018).

These students have at least the intellectual capability of an average child, but dyslexia inhibit their ability to learn in the traditional classroom setting with standard teaching practices. The most common teaching strategy in the traditional classroom involves presenting information auditorily, which is the most challenging strategy for most dyslexic students (Juneja, 2018). Examples of auditory teaching are lectures, circle time, or any time when the classroom teacher is conveying learning by talking to the class (Juneja, 2018).

Most general education teachers have not received training to identify these students, so the teachers are not aware that potentially dyslexic students have different learning requirements (Allen, 2010). The current standard of education is to provide pull-out general education instruction for these children to overcome their dyslexic tendencies (Birsh & Carreker, 2018). This strategy is somewhat effective for most dyslexics, but it is a slow process, and students will continue to struggle in class during this remediation (Birsh & Carreker, 2018).

As the research continues to point to dyslexia as a learning difference, and not a learning disability, it becomes more apparent that these students need an adjusted learning environment to utilize their strengths (Schlichtmann et al., 2018). These students must be in an environment for most of their school day in which they are taught all core subjects with a multisensory approach. It is imperative that this instruction is taught kinesthetically and utilizing tactile resources, as these approaches have been researched to create neurological pathways for learning in the dyslexic brain (Otaiba et al., 2018). This learning environment will build capacity in the dyslexic students instead of trying to cure their learning difference (Schlichtmann et al., 2018).

In a typical American classroom, the teacher is overwhelmed with too many students who display different types and rates of learning styles (Schlichtmann et al., 2018).

Most dyslexic students learn to read at a much slower pace than the average student (Torppa et al., 2015). Their dyslexia impair the parts of the brain that processes this information. Many dyslexic students literally need to see or hear new literary information several times before they can retain it (Shaywitz, 2003). It is not possible for most dyslexic students to receive this type of reading instruction in a general education classroom (Torppa et al., 2015). The teacher of a dyslexic can present information: auditorily, visually, or kinesthetically. It is imperative for the dyslexic student that their teacher understands their learning difference and to teach them in a way that will work with their neurological constraints (Otaiba et al., 2018). Teachers should provide extensive modeling, daily practice, and frequent feedback (Juneja, 2018). Dyslexia implies a difference or condition which requires specialized assessment and teaching to identify both the specific cluster of strengths and difficulties and to identify appropriate learning and teaching strategies. Evidence shows that most dyslexic students learn most effectively through visual, kinesthetic, tactile modalities. Some examples of this learning are audio books, diagrams, videos, drama, fieldwork, group work, and role play (Juneja, 2018).

The need to regain the focus of teaching the individual dyslexic child was prevalent in this study. This need was supported by the data I provided and confirmed by the literature review. The literature review stated this information: Medically, dyslexia is defined as a neurobiological disorder that is characterized by difficulty with reading words accurately or fluently that cannot be contributed to a specific deficit or low intelligence (Schlichtmann et al., 2018). Dyslexic students have strengths who do not fit with their low performance in reading (Lauterbach et al., 2016). Some examples may be extremely talented in mathematics, have high listening comprehension, or have above average social skills (Lauterbach et al., 2016). Their low reading ability is unexpected with their intellectual and other abilities. Unlike children with cognitive disabilities, dyslexic students are aware that they are not learning at an adequate pace in comparison with their neuro-typical peers.

Another secondary consequence to dyslexia is the link between dyslexia and poor mental health (Firth et al., 2013). Schools must take a more prominent role in treating students for mental health issues, especially students who are already diagnosed with learning issues such as dyslexia (Colander, D. et al., 2018). Studies have shown that schools with mental health programs that work with students who are labeled with dyslexia produce students that have higher self-esteem, and they are less likely to feel isolated (Colander, D. et al., 2018). In Great Britain a multitude of full-service schools for dyslexic students focus on students with this learning difference (Colenbrander, D.et al., 2018). These schools hire teachers who are educated to work with students with dyslexia and the core curriculum embraces the strengths within the dyslexic brain (Colenbrander, D. et al., 2018). These schools also provide extensive mental health support, and they are considered mainstream schools, so all social levels of citizens can send their children to them.

Medically, dyslexia is defined as a neurobiological disorder characterized by difficulty with reading words (Schlichtmann et al., 2018). This concept of dyslexia is often the primary concern of educators that teach students with dyslexia. Researchers have added that a complex neurobiological problem, like dyslexia, is likely to be multifactorial (Catts, et al., 2017).

The lower self-perceptions of children with reading struggles are not directly caused by their disability but by the limited amount of positive reinforcement that they receive in the general school environment (Battistutta et al., 2018). These students tend to struggle academically for years, which leads

to an accumulation of failures. They also receive little to no recognition or positive reinforcement for teachers or school staff (Battistutta et al., 2018).

As dyslexic students age, usually by the second or third grade, their demeanor and attitude toward literacy is extremely debilitating. They are not proficient at reading, so they do not want to read (Phillips & Odegard, 2017). As these students move through school, the literacy demands increase, and the students fall further and further behind. In second and third grade, a transition from learning to read to reading to learn occurs, so students who have not mastered phonemic, phonological, and grapho-phonemic awareness are unable to thrive in a mainly auditory classroom (Phillips & Odegard, 2017). These students need multisensory instruction including visual, auditory, kinesthetic, and tactile learning techniques and tools to build their toolbox of reading strategies (Otaiba et al., 2018).

The impact of the COVID-19 on dyslexic students was extremely prevalent in this study, which was confirmed by the data I collected and was supported by the data provided in the literature review. The knowledge of the research was extended by the literature review on this topic as all public education in the United States was considered.

The following data on the impact of the COVID-19 pandemic on learning was retrieved from the literature review. On March 23, 2020, Texas closed all public schools because of an unknown virus that was spreading at a rapid pace (Nelson & Murakami, 2020). After a one to two weeks hiatus, the public schools were instructed by the governor and state agencies to start educating students virtually (Nelson & Murakami, 2020). Virtual learning was an entirely new practice to Texas education, and while teachers and students were applauded by the public, the transition was anything but smooth. Teachers struggled to use programs such as Zoom and Google Classroom, and students had a multitude of problems that stemmed from a variety of sources (Nelson & Murakami, 2020). These problems included lack of resources, lack of parental support, lack of childcare, and lack of technological awareness.

An unprecedented situation was encountered by all American school children in the spring of 2020 (Diament, 2020). The U.S. Department of Education released several documents to guide American schools during this difficult time (Diament, 2020). The main objective of these documents stated that all American children were still entitled to a Free and Appropriate Education (FAPE). That directive was enforced under Individuals with Disabilities Act (IDEA). The Department of Education bluntly explained that regardless of the primary method of general education, all Individual Educational Plans (IEP) must be enforced and utilized for all students that qualify (Diament, 2020). These services and arrangements could be delivered virtually or in person, depending on the decisions of the school district and parents, but students must be accommodated to level the field for their disability.

Virtual education has been relied on in America since March of 2020 and this environment continues to be difficult for teachers, students, and parents (Christakis, 2020). Students with learning differences or disabilities have generally suffered more than general education students. These students are unable to keep up with the pace of on-line learning and are often unable to complete assignments without one-on-one help from a teacher (Christakis, 2020). Typically, parents do not have the training or education to help their disabled children. This situation tends to add stress and conflict to the parent-child relationship (Christakis, 2020).

Most Texas school districts started school virtually in the fall and most were better prepared (Berry, 2020). The districts provided internet hot spots, buses equipped with Wi-Fi parked in rural areas, laptops, and other services for students in need. Unfortunately, most students from special populations were not better prepared (Berry, 2020). Teachers, administration, and social workers have been unable to reach hundreds of students that are “missing” from virtual school (Berry, 2020). Students with a disability were more likely to miss or not participate in virtual instruction for a variety of reasons.

Nelson & Murakami (2020) stated that most students that are in special populations are less likely to attend virtual school because of lack of technology, parental support, technological confidence, lack of routine, and lack of support. These students depend on school and teachers to provide direct instruction and routine to facilitate their learning.

It is estimated the pandemic will set general education students back seven months. This “COVID Slide,” is likely to put dyslexic and other different learners much further than that (Christakis, 2020). This

will be combined with their previous academic deficit, as these students fall behind their general education peers academically. According to Christakis 2020, it is likely that these students will fall behind twelve months, and their primary deficits will be visible in reading and math abilities.

Going forward, it is evident that the COVID-19 pandemic changed American Education as it was previously known (Berry, 2020). It is the hope of educators that education is changed for the better. The public schools and their teachers need more support from the state, federal, and local governments to protect and educate the children, especially in a post-pandemic world where millions of children will suffer from the academic COVID slide and the trauma from their pandemic experiences (Christakis, 2020). Additional counselors, social workers, teachers, and teaching aids will be required to meet all their needs adequately. The United States government and the public at large must recognize that the "whole child" matters, and it is up to the schools to meet the needs for these children so that they are ready to learn again (Berry, 2020).

IMPLICATIONS

It is recommended that school districts be required by the state to provide extensive and comprehensive training on characteristics of dyslexic students, how to identify a possible dyslexic student, and how to educate a dyslexic student. This training should be required of all teachers in first grade through eighth grade. The theoretical research in this study states that dyslexic students represent approximately 20% of the student population, but on average only 4% of dyslexic students are identified and provided with the prescriptive curriculum. Widespread knowledge on the traits of dyslexia would be beneficial to the students, teachers, and the districts because the number of struggling students would decrease.

CONCLUSION

The data recorded in this study emphasized the need for alterations in the way that dyslexic students are educated, viewed, and perceived by general education teachers. As indicated by the research in the literature review, dyslexia is neurobiological and cannot be "cured." Students must be taught utilizing a repetitive, multi-sensory approach so that they can build pathways in their brains. This instruction will lead to memorization and mastery of the skills being taught.

Through the teacher interviews within this study, it was evident that general education teachers want and need professional development and training on all aspects of dyslexia. The general education teachers in the study indicated that they wanted training on characteristics of dyslexic students, how to identify a possible dyslexic student, and how to educate a dyslexic student. This approach would be beneficial for any school district to implement for all teachers that teach reading.

Coincidently, this study occurred during the COVID-19 pandemic, an unprecedented time in public education. All students, except for Student B, were observed as they were learning virtually from home. Some of the students were more engaged than others, however this virtual environment seemed to impact the learning of all the students. According to the literature, there is a projected "COVID Slide." This Slide indicates that students will have lost approximately seven months of school instruction between the 2020-2021 school years. This "COVID Slide" is likely to hinder the progress and learning of dyslexic students.

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