

**Investigating Secondary Regular Classroom Teachers'
Intervention to Accommodate Students with Dyslexia in a
Private School in Dubai, UAE: Exploratory Case Study**

دراسيه استقصاءيه عن تدخل معلمي المدارس الثانوية في الصفوف الدراسيه
العاديه لاستيعاب الطلاب الذين لديهم عُسر القراءة في مدرسة خاصة في دبي

by

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**Dissertation submitted in fulfilment
of the requirements for the degree of
MASTER OF EDUCATION**

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ABSTRACT IN ENGLISH

This exploratory case study aims to determine which extinct secondary school teachers in a private school in Dubai, UAE use successful intervention to accommodate students with dyslexia in the regular classroom, as well as the obstacles they may face. The study also sheds light on the hurdles secondary school students with dyslexia may encounter and how to overcome these obstacles. Interviews and surveys were used as part of a mixed-methods strategy to obtain qualitative and quantitative data.

The findings demonstrate that secondary regular classroom instructors had a limited awareness of dyslexia as a reading disability and were confused by dyslexia features. Some parents' responses to interview questions suggested dissatisfaction with the intervention's outcomes on their children. Concerns raised by several parents demonstrated a link between instructors' lack of comprehension of dyslexia's characteristics as well as inability to identify their children's unique skills, and the ineffectiveness of some classroom teachers' interventions. Majority of secondary instructors highlighted that class size, the length of the curriculum, lack of teaching tools, the pace of lessons, lack of human resources, parental denial and lack of parental cooperation are hurdles to addressing the requirements of students with dyslexia in the classroom.

The findings also showed recommendations for better practice, such as dyslexia training for regular classroom teachers, adopting teaching tactics that accommodate the special requirements of students with dyslexia, recognizing students' learning styles, and communicating with parents and educators. Some participants underlined the need of boosting secondary students with dyslexia self-esteem, which might be a topic for future research. Additionally, the study's limitations and the need for future research were addressed.

Key Words: Dyslexia-intervention-regular classroom teachers-inclusion-challenges -parental participation-human resources-class size-multisensory- teachers training- recommendations

ABSTRACT IN ARABIC

تهدف دراسة الحالة الاستكشافية إلى تحديد الي اي مدي معلمي المدارس الثانوية في مدرسة خاصة في دبي ، الإمارات العربية المتحدة يستخدمون التدخل الناجح لاستيعاب الطلاب الذين لديهم عسر القراءة في الفصول الدراسية العادية ، فضلاً عن العقبات التي قد يواجهونها. توفر الدراسة أيضاً نظرة ثاقبة للتحديات التي قد يواجهها طلاب المدارس الثانوية الذين لديهم عسر القراءة وكيف يمكن التغلب على هذه التحديات.

تم استخدام المقابلات والدراسات الاستقصائية كجزء من استراتيجية الأساليب المختلطة للحصول على البيانات النوعية والكمية. تظهر النتائج أن مدرسين الفصول الدراسية الثانوية العادية لديهم وعي محدود بعسر القراءة وكانوا مرتبكين بسبب سمات عسر القراءة. تشير ردود بعض أولياء الامور على أسئلة المقابلة إلى عدم رضاهم عن نتائج التدخل على أطفالهم. أظهرت المخاوف التي أثارها العديد من الآباء وجود صلة بين عدم فهم المعلمين لخصائص عسر القراءة وكذلك عدم القدرة على تحديد المهارات الفريدة لأطفالهم ، وعدم فعالية بعض تدخلات معلمي الصف. قال غالبية المدرسين الثانويين إن حجم الفصل وطول المنهج ونقص أدوات التدريس ووتيرة الدروس ونقص الموارد البشرية وقلة مشاركة الوالدين كلها عقبات أمام تلبية متطلبات الطلاب الذين لديهم عسر القراءة في الصف.

أظهرت النتائج أيضاً توصيات لممارسة أفضل ، مثل التدريب على التعامل مع عسر القراءة لمعلمي الفصل العادي ، واعتماد أساليب التدريس التي تستوعب المتطلبات الخاصة للطلاب الذين لديهم عسر القراءة ، والتعرف على أنماط تعلم الطلاب ، والتواصل مع أولياء الأمور والمعلمين. أكد بعض المشاركين على الحاجة إلى تعزيز احترام الذات لدى طلاب المرحلة الثانوية بعسر القراءة ، والذي قد يكون موضوعاً للبحث في المستقبل. بالإضافة إلى ذلك ، تمت معالجة قيود الدراسة والحاجة إلى البحث في المستقبل.

الكلمات المفتاحية: عسر القراءة - التدخل - معلمو الفصول الدراسية العادية - الدمج - التحديات - مشاركة الوالدين - الموارد البشرية - حجم الفصل - تعدد الحواس - تدريب المعلمين - التوصيات

DEDICATION

This dissertation is dedicated to the soul of my mother, Thanaa Ragab, and my father, Farag Elfar for their unconditional love, encouragement, and support which has kept me going throughout my life.

I also dedicate it to my husband, Dr.Mohamed Khamis., who has provided me with strength, support, and patience throughout this experience. I consider myself fortunate to have you as a partner.

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LIST OF ACRONYMS

SENDCo: Special Education Need coordinator

UAE: United Arab Emirates

SEN: Special Educational Needs

KHDA: Knowledge & Human Development Authority

MOE: Ministry of Education

AT: Assistive Technology

OG: Orton-Gillingham

SAT: Scholastic Aptitude Test

IELTS: International English Language Testing System

EMSAT: The Emirates Standardized Test

CHAPTER 1

INTRODUCTION

1.1 Background

Students from various social and economic backgrounds, with a broad variety of potential abilities and talents, as well as different learning styles and demands, are accommodated at educational institutions across the globe. However, there are always those students who do not progress as quickly as anticipated. These students may be categorized as careless, and the relevant institutions may assume that teaching them is unachievable.

Dyslexia is one of the most prevalent childhood disorders and the most frequent type of learning disability (Cortiella and Horowitz 2014). Slow and inaccurate word recognition are key features of dyslexia. Difficulties in word recognition and spelling persist even when individuals with developmental dyslexia have had adequate instruction, intelligence, and undamaged sensory abilities (Peterson & Pennington 2015).

Due to the hidden nature of dyslexia, many instructors may blame students' poor academic performance on other readily understandable issues, such as attention deficit disorder or familial difficulties. The inability of teachers to notice the limitations of students with dyslexia could have an impact on students' academic development and possibly long-term achievement (Nadelson et al. 2019).

As a result of the fact that dyslexia is a sort of impairment that is not readily apparent, it is conceivable for students who are affected by the condition to go undetected until they reach the

university level. According to Wanzek et al. (2010), the majority of what is known about reading interventions pertains to early intervention programs for children who are still very young. Additionally, although dyslexia is frequently diagnosed in elementary school, a significant number of individuals experience severe and chronic reading challenges throughout senior school (Bazen et al. 2020).

Alborno and Gaad (2014) discussed the challenges that schools in the UAE face when integrating students with special needs. Their study emphasized that despite the regular classroom teachers' use of a range of teaching strategies, the greatest obstacle was a lack of lesson preparation tailored to the requirements of students with disabilities, save in a few circumstances. The study's findings indicated that all of the students with disabilities who were observed preferred working independently in the resource room with the SENCo during lesson delivery, noting that they learn more and have more opportunities to utilize the resource room's many manipulatives other than the regular classroom.

In the UAE, 'School for All' guidelines include a series of recommendations outlining the roles of SENCos and subject teachers (MOE, 2010). It also specifies their communication patterns and the monitoring requirements for children with specific learning disabilities. The rules, however, are highly broad, and practitioners judged them to be too ambiguous and lacking in practical information (Alborno and Gaad 2014).

The guidelines include dyslexia together with other learning disabilities, but they do not mention intervention programs specific for dyslexia. Instead, they offer broad and generalized screening for students with disabilities.

1.2 Study Rationale

There are various barriers in the way of the UAE government's efforts to guarantee that inclusive education is implemented properly in UAE schools. Teacher intervention in the mainstream environment is one of the fundamental difficulties confronting the UAE's educational approach to inclusion. It was highlighted in a recent study that students with dyslexia spend most of their day in general education classes with regular classroom teachers. Typically, teachers in the classroom are the first to notice a student's challenges in learning. Consequently, their ability to detect the student's reading difficulty and provide appropriate intervention and assistance is so critical (White, Mather & Kirkpatrick 2020).

Reading and comprehending text were found to be more difficult for students with dyslexia in upper grades. Vaughn and Wanzek (2014) discovered that these difficulties could not be easily remedied in these students unless they were given intensive and ongoing interventions, as well as quality instruction, from teachers who had received specialized training.

Students with dyslexia need to get the appropriate assistance to be considered adequately competent for admittance into higher education. According to their study by Ruijsenaars & Hellendoorn (2000), students with dyslexia who are not given the opportunity to fulfill their full academic ability may have a detrimental influence on their future job goals. According to the findings of their research on grown-ups who have dyslexia. The researchers came to the conclusion that a lack of early intervention at the primary and secondary school levels, as well as low expectations and poor intervention by their teachers, had a negative impact on students' predicted chances of success in achieving their professional career objectives and furthering their education.

The current investigation is a research study using a mixed method approach, Its primary objective is to investigate the efficacy of secondary school teachers' interventions at one of the private schools in Dubai to accommodate students with dyslexia in the regular classroom, as well as the obstacles they may encounter. Also, the study strives to collect reliable data and gives insight into the challenges that secondary school students with dyslexia may experience, as well as potential solutions.

1.3 Significance of The Study

The justification for the current study is tied to both upcoming practice and research in the field of inclusion. It is believed that the outcomes of this study will contribute to the body of research in UAE that is linked to interventions that teachers might use in the classroom to accommodate secondary school students who have dyslexia.

Despite significant research on early interventions, few studies have examined the effectiveness of intervention programs that relate intervention techniques to secondary school students' academic performance and learning outcomes (Tam & Leung 2019).

Dyslexia is not commonly acknowledged in the Arab world, and academic study on the disability is exceedingly limited in the area (Aboudan et al. 2011). Studies that have been carried out in Arab countries lack the conceptual understanding of the prevalence of reading problems and dyslexia that is present in countries where English is the primary language.

The outcomes of this study will fill a research need and give insight into teachers' knowledge and intervention toward fulfilling the requirements of secondary students with dyslexia, as there are few studies for adolescents with dyslexia in the UAE.

The findings and observations of the current research can effectively identify the needs and challenges that could be faced by secondary school students with dyslexia . This can help to modify the teaching and learning process in a way that is more suitable for the students, as well as assist in providing support for them while they are enrolled in regular classes. To help children in secondary schools make progress in their education, the findings of this study will be included into designing professional development programs intended to raise awareness of dyslexia and facilitate the implementation of effective interventions.

In conclusion, current research findings have the potential to expand the scope of future research across a variety of schools and emirates in the UAE. The current study may assist in identifying the requirements of students with dyslexia in secondary school, which can then be addressed by the government and schools in the United Arab Emirates (UAE).

1.4 Objectives and Research Questions

The study's major goal is to find out how far secondary school instructors use effective intervention in their teaching. Additionally, the present study aims to identify the potential problems that regular classroom that teachers may experience. The study also sheds light on the challenges that students with dyslexia in secondary school may face, as well as the solutions to those challenges that may be found in the findings.

The aim of this study is to explore the topic at hand by answering the following research questions:

- 1-To what extent are secondary school teachers knowledgeable about dyslexia and able to implement teaching strategies that support students with dyslexia in the regular classroom?
- 2- What are the challenges faced by Secondary school students with dyslexia to cope with learning in their regular classroom?
- 3- What challenges do secondary school teachers experience in accommodating students with dyslexia in their classroom?
4. What could be recommended to improve the intervention and effectively accommodate secondary school students with dyslexia in the mainstream classroom?

CHAPTER 2

LITERATURE REVIEW

2.1 Inclusion in UAE

Education for all was elevated to the forefront of educational institutions throughout the globe with the Salamanca Declaration of 1994. (UNESCO, 1994). All students, regardless of ability, are included in inclusive education, according to the statement. This means all students with varied origins, talents, or constraints could realize their full potential (Meynert 2014). As a consequence, several governments have set the objective of establishing inclusive schools.

Federal Law 29/2006 in UAE was adopted in conformity with international criteria that identify special education as an integral aspect of all educational programs.

Article 12 of the law mandates that students with exceptional needs be given the same educational opportunities as their typically developing peers. As a result of revisions made in 2009 to UAE Federal Law 29/2006, people who have impairments now have a direct impact on the way that UAE policy develops (UAE Interact 2009). The time before the legislation was fully integrated, children with disabilities were only allowed to attend special education schools and not ordinary schools (Gaad 2013).

In 2010, the Department of Education produced a publication titled Schools for All that marked a shift toward inclusive education for the benefit of students with disabilities. The goal of this guide was to provide guidance to school leaders and educators on how to foster a more diverse and inclusive learning environment. The Inclusive Education Policy Framework was published by KHDA at the end of 2017. Procedures and criteria for ensuring the adoption of a less restrictive

environment in Dubai's education sectors. Overall, the goal of the policy framework is to make Dubai an inclusive city by 2020.

KHDA prepared a new framework for schools to undertake inclusive education later in 2019. This resource assists Dubai private schools in incorporating equality and inclusion into their educational policies and practices.

Vice President and Prime Minister of the UAE recently passed Dubai Disability Rights Law No. (3) of 2022. To ensure that people with disabilities are completely integrated into society, the Ruler of Dubai enacted Legislation No. (1) of 2022 related to regulation of the law on the rights of people with disabilities (Gulf News 2022).

2.2 What is Dyslexia?

Pennington and Olson (2005) defined dyslexia as neurological abnormality causes this form of learning deficit. It's characterized by problems with accurate and/or fluent word recognition, as well as poor spelling and decoding abilities. A considerable amount of literature attributed the proximal origin of these difficulties to phonological processing. Dyslexia is characterized by a phonological impairment that hinders decoding and impairs reading, spelling, and writing abilities (Lyon et al. 2003). Their study emphasized that individuals with dyslexia have trouble recognizing words accurately or fluently. Despite proper teaching, intelligence, and intact sensory ability, people with dyslexia have difficulty understanding linguistic information.

A large national examination in the United Kingdom, The Rose (2009), presented a rather different definition: Dyslexia is a type of learning problem that affects a person's ability to read and spell

words correctly. Difficulties with phonological awareness, verbal memory, and verbal processing speed define dyslexia. Dyslexia impacts individuals of various cognitive abilities. There are no clearly delineated points, thus it is better to think of it as a continuum rather than a distinct category. From a historical perspective, Adult dyslexia was originally discovered in the late 1800s, whereas developmental dyslexia in children was discovered in 1896. dyslexia's reversals of letters and words were once thought to be caused by visual system malfunctions in the 1920s. At the time, this notion was widely accepted. Children with dyslexia are not particularly susceptible to seeing letters or words in the reverse position, contrary to popular perception (Shaywitz & Shaywitz 2003). This finding contradicts a prevalent misconception. Rather, they have a great deal of trouble identifying the letters and will often confuse a "b" with a "d," as well as read "saw" as "was." The issue is linguistic, not visual

Another prevalent myth is that reading difficulties caused by dyslexia is correlated with an intellectual disability or poor environmental conditions. Smirni et al. (2020) highlighted in their study that diagnosis and treatment of dyslexia are not based on the difficulty in learning to read that is associated with intellectual disability, sensory deficits (visual and auditory), educational deprivation, environmental conditions, or emotional problems that the child experiences.

2.3 Theoretical Framework

2.3.1 Vygotsky Theory of Constructivism

Secondary students with dyslexia must be supported by regular classroom teachers, according to this research. Vygotsky theory of constructivism is selected as a theoretical framework since

instructors are important in educating students with learning challenges generally and students with dyslexia particularly in regular classes.

It seems that the Vygotskian paradigm has a greater relevance on educational curricula since it extends beyond the concept of autonomous discovery, which is mostly offered in the Piagetian paradigm. In addition, educational and psychological implications of the Vygotskian approach give not just chances for active engagement but also an appreciation of individual uniqueness.

The Vygotskian approach also encourages the process of guided discovery. This approach stresses the ability of teachers to lead students' learning to maximize their learning potential. This might be accomplished by adapting the scope and intensity of their interventions to the zone of proximal development (ZPD) of each student (Papadopoulos et al. 2004).

2.3.2 Gardner Theory of Multiple Intelligence

Gardner (2006) claims in his theory that intelligence is more accurately defined as a collection of individuals' abilities, talents, and mental capabilities related to several fields of knowledge in one specific cultural situation. Gardner concluded that various people's genetic qualities or environmental setting determine how each of the nine distinct forms of intelligence grows and develops. These types of intelligence include logical-mathematical intelligence, spatial intelligence, verbal intelligence, kinesthetic intelligence, musical intelligence, as well as inter and intra-personal and naturalistic intelligence. Gardner intended to convey the idea that each

intelligence has its own relatively independent intellectual capability that can function without the assistance of the other intelligences (Purkayastha, Nehete & Purkayastha 2012).

Kornhaber (2004) argues that students with learning disabilities may benefit from multiple intelligence since the theory suggests that these students have both strengths and weaknesses. Students have a diverse variety of abilities and learning potential, and whatever weaknesses they may have in one or more areas will be compensated for by their strengths in others.

Dyslexia and multiple intelligences were evaluated in secondary school students as a part of a research done by Andreou, Vlachos & Stavroussi (2013). According to the findings, a preference for spatial intelligence and less preference for language talents was seen in students with dyslexia compared to their peers. Multi-intelligence theory suggests that the learning gap may be addressed by applying tactics that resonate with the student's abilities. Linking dyslexia to ability gives dyslexia a far more optimistic perception than it would be just seen as a disability. Students with dyslexia may benefit from improved educational approaches based on the identification of talents linked with dyslexia, which might point them in the direction of careers in which they thrive.

2.4 Major Hypotheses Regarding Developmental Dyslexia

For better understanding of dyslexia and finding the most effective teaching strategies for students with dyslexia who have variety of learning styles, a wide range of biological, cognitive, and environmental factors must be considered. Biological considerations include brain disorders and how the anatomy of the brain affects learning. Cognitive aspects include how brain processes the information it receives. Environmental impacts include culture, family, and parental engagement, which determines student behavior (Khalid & Anjum 2019).

An overview of the various dyslexia hypotheses as described in the prior research, will be examined in this paper.

2.4.1 Phonological Hypothesis

According to phonological theory, people with dyslexia exhibit a unique impairment in the recognition, storage, and/or restoration of speech sounds. It explains their reading difficulties by pointing out that learning to read alphabets requires mastering the ‘grapheme-phoneme ‘correspondence, or the relationship between letters and components of speech. If these sounds are not adequately interpreted, ‘grapheme-phoneme ‘correspondence ‘will be harmed (Ramus et al. 2003).

Opponents of the phonological theory admit that phonological deficit exists, but they argue that the disorder is much broader and phonological deficit is merely one aspect or consequence of the larger disorder.

Previous study by Snowling (2001) stated that in addition to the presence of phonological deficit, people with dyslexia show signs of poor verbal short-term memory and slow automatic naming.

Another previous study by Katzir et al. (2008) has reported that phonological awareness deficiencies do not account for all dyslexia instances. In a subpopulation of individuals with developmental dyslexia, problems with rapid automated naming (RAN) are also evident.

The phonological theory is criticized for failing to explain symptoms such as motor coordination deficits, short-term memory problems or visual challenges that are unrelated to phonetic decoding difficulties (Uppstad & Tonnessen 2007).

2.4.2 Double Deficit Hypothesis

This theory offered a new way of thinking about developmental dyslexia. The theory proposes that phonological impairments and naming-speed deficits are two distinct causes of reading dysfunction.

According to this notion, they have argued that naming-speed deficiencies may occur independently or in conjunction with phonological abnormalities. This theory revealed the presence of two single-deficit subgroups with more restricted reading impairments and one double-deficit subtype with more ubiquitous and severe impairments. The combination seems to define children with the most severe and widespread reading problems across several languages.

People with both deficits have greater difficulties than those with just one (Norton et al. 2015).

Rapid automatized naming(RAN) also reflects the automaticity of processes, which is equally vital for reading (Norton & Wolf 2012). The rate at which a person can name colors, letters, numbers, and objects or the ability to read out loud is known as naming speed or rapid naming.

2.4.3 The cerebellar Deficit Hypothesis

According to this hypothesis, dyslexia is caused by an anomaly in the cerebellum which disrupts normal development and results in difficulties with balance, attention, working memory, automatization, and consequently reading (Mody and Silliman ,2008).

Nicolson & Fawcett (2013) argued that dyslexia may be linked to motor control difficulties during speech articulation, according to the theory of cerebellar involvement. Additionally, they reasoned

that the cerebellum helps to automatize learned activities, such as memorizing grapheme-phoneme correlations when reading text.

2.4.4 The Magnocellular Deficit Hypothesis

The visual-processing issues that are not addressed by the phonological method can be explained by this theory. According to this notion, individuals with dyslexia may have a hard time processing visual, fast-moving stimuli and low-frequency stimuli (Germano et al., 2010). Problems with visuo-spatial attention and eye movement control have been suggested as possible causes by Stein and Walsh (1997).

Stein, (2001) pointed out that visual magnocellular systems are critical to reading since it involves the ability to recognize the visual shape of words (orthography). According to the magnocellular hypothesis, individuals with dyslexia have difficulty concentrating on what they read because their motion sensitivity is diminished, and their binocular fixation is unsteady. This could clarify why people with dyslexia sometimes complain of letters sliding about and difficulties focusing on words

2.4.5 Rapid Auditory Processing Hypothesis

According to the theory of rapid auditory processing theory by Tallal (1980), the difficulty of understanding the links between sounds and symbols, which form the foundation of phonics rules, was thought to be the primary cause of auditory perception deficiencies. According to the theory, the deficiency resides in the perception of short or fast changing sounds.

This approach is supported by the fact that people with dyslexia do badly on auditory tests, such as frequency discrimination and temporal order judgment (Ahissar et al. 2000).

2.5 Dyslexia Related Interventions Programs

The teaching methods for students with dyslexia consider a wide range of factors. Multisensory instruction, structured learning, over learning, features of metacognition, and automaticity are among the most critical factors (Reid, 2019) .

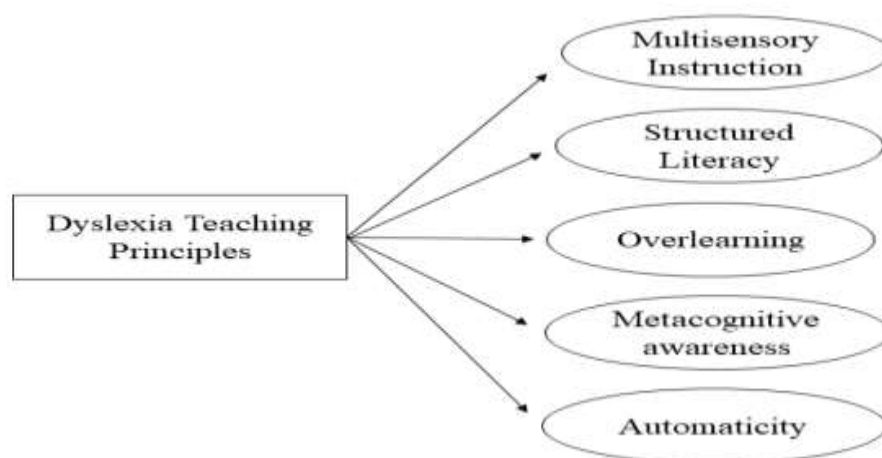


Figure 1:Dyslexia Teaching Principles (Rahul & Ponniah 2021)

2.5.1 Multi-Sensory Approach

Multisensory teaching is an essential part of education for individuals with reading disabilities as it emphasizes the structure of language. Additionally, this is an explicit, direct, cumulative, and

rigorous method of instruction. Multisensory learning is the simultaneous use of visual, auditory, and kinesthetic pathways to improve language acquisition and memory. In learning to read and spell, connections are influenced by changing between the visual, auditory, and kinesthetic-tactile pathways (Birsh, 2005).

Giess et al. (2012) suggested in their article that educating students only via sight and hearing is a typical classroom approach. However, children with dyslexia often do not acquire new knowledge by sight and hearing alone; they need the synchronous experience of many sensory techniques. All ages and subject areas can benefit from research-based multisensory strategies that increase learning opportunities for those who are visual-spatial thinkers and verbal-linguistic speakers.

Students with dyslexia may have difficulty solving arithmetic tasks, as was found by Miles and Miles (2004). Students with dyslexia may get confused or lose track of the left and right sides of a mathematical operation, resulting in an invalid answer, but they still could understand mathematical concepts. Their study suggested using multisensory instructional strategies such as the Flynn Multimedia calculator or Gypsy multiplication. According to the study, these applications provide a virtual reality experience in which students may hear the names of numbers and operations pronounced aloud and see operations taking place. Additionally, these applications assist students in determining the right order of magnitudes and in comprehending mathematical processes.

Purkayastha, Nehete & Purkayastha (2012) referred to a multi-sensory Orton-Gillingham (OG) as educational strategy that aids students with dyslexia and other learning difficulties. The study explained that OG technique of teaching combines auditory, visual, and kinesthetic aspects. When

students utilize ICT gadgets as instructional aids (presentations, music, or movies), they rely entirely on their visual or aural senses. It was also explained in their study that OG places a premium on the use of touch and movement (Kinesthetic) in teaching and learning techniques. When a child encounters a burning candle, the child is burned. The next time the child encounters a burning object, it makes a sudden move. This is an example of tactile learning. The letter 'O' may be taught by touching the tips of the thumb and forefinger. Numerals may be taught via the practice of counting little bamboo sticks. This kind of learning provides the student with a stronger feeling of awareness.

2.5.2 Metacognitive Approach

Monitoring one's own knowledge, proficiency, or performance is known as metacognitive monitoring. Metacognitive control is an expression used to describe the capacity to change people's behavior to achieve a certain objective (O'Leary & Sloutsky 2019).

Understanding how students with disabilities learn and comprehend text has been attributed to the capacity to monitor individual's cognitive processes (Sodian & Frith 2008; Schneider 2008).

Metacognition has been hypothesized by many researchers to be particularly advantageous to children with special educational needs in their ability to absorb learning activities, self-organize, and manage their own learning.

According to a previous study by Goldfus (2012) on a 17-year-old student. Despite not being hyperactive, this teenage student had the classic symptoms of dyslexia and attention deficit disorder. He showed signs of low self-esteem, poor self-regulation, and lack of interest in school.

The adolescent attitude toward learning has improved with time when receiving metacognitive intervention. When he received the metacognitive intervention, he had a strong sense of self-motivation because of having scaffolding in place to help him succeed in his studies. The findings of that study revealed that by developing metacognitive awareness and procedural knowledge that encompassed abilities such as rereading and making sense of the texts, the student started to move from a passive state of despair and helplessness to a more active one of engagement and responsibility.

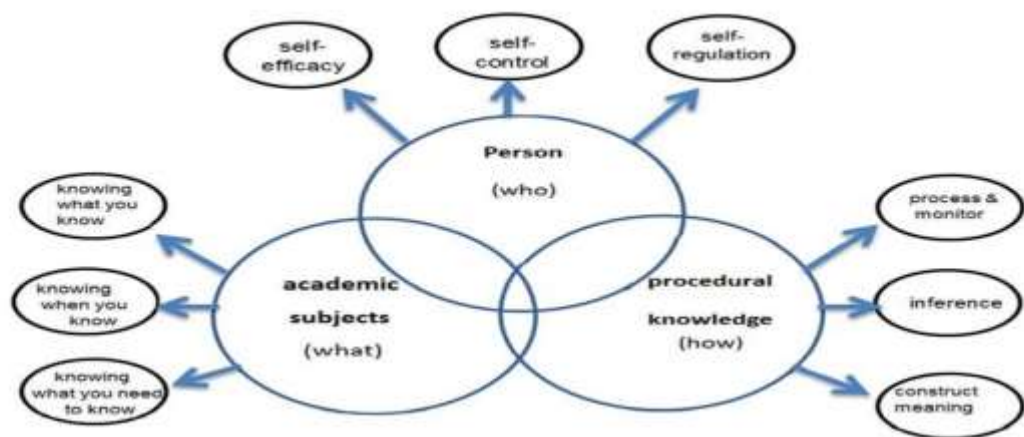


Figure 2: Components of Metacognition (Goldfus 2001 in Goldfus 2012)

2.5.3 Overlearning and Automaticity

It was emphasized by Lubica (2015) that automaticity is critical for all abilities, but it is especially critical for children with dyslexia. Students with dyslexia used to require additional time to develop automaticity, particularly in literacy, and this factor should be incorporated into the instructional program. This should be accomplished via the use of a well-structured educational curriculum. Also, overlearning is important because it exposes students to a variety of materials and strategies,

including enjoyable activities, which contribute to different learning experiences and so promote automaticity.

The practice of orthographic mapping is one that all proficient readers do to develop their reading fluency and automaticity. Orthographic mapping refers to the method through which we store written words in our long-term memory to do 'automatic' word recognition. Kilpatrick (2015) explained that proficient readers can instantaneously identify between 30,000 and 70,000 words. This rapid recognition implies that a proficient reader may give their complete focus to understanding rather than devoting mental energy on word identification. Clearly, assisting students with dyslexia in expanding their orthographic vocabulary is critical to reading success.

When learning a new word, orthographic facilitation is the experience of pronouncing it more precisely when it is linked with its written equivalent. Baron et al. (2018) conducted research that showed that orthographic facilitation occurs not just in generally developing children, but also in children with dyslexia, despite deficiencies in phonological abilities that usually limit spoken word acquisition. The presence of orthography benefited both learning and output of newly acquired spoken words.

2.5.4 Structured Literacy

Moats (2019) emphasized that the components and procedures of Structured Literacy(SL) are crucial for children with reading impairments, including dyslexia. An SL instructor methodically

teaches linguistic principles, emphasizing how each part fits into the overall. The abilities are taught in a deliberate progression from easy to more demanding. One idea leads to another. An automatic and fluent application of language information is the objective of systematic instruction. Hands-on, multimodal, and fun activities are basic elements of this teaching approach.

2.6 Individualized Programs

These are often highly organized programs that could be seen as fundamentally self-contained and can serve as a core component of an entire approach for educating students with dyslexia.

Reid (2009) highlighted that many of the personalized programs have a lot in common thematically, but they also have a lot in common in terms of how they emphasize aspects like a sequential framework, multi-sensory instruction, over-learning, and the development of automaticity.

Individualized programs, assisted learning techniques, support strategies, and approaches for the whole school are examples of programs and strategies that may be utilized to assist students who struggle with dyslexia. The selection criteria should be contextual, assessment-based, curriculum-based, and learner-profile-based (Reid 2015).

Information processing has three steps: intake, cognitive processing, and output. A student may experience a broad variety of inputs, cognitive processes, and outputs. Visual, auditory, tactile, kinesthetic experiences or cognitive processes are inputs. Reading, writing, and speaking are examples of outputs. A person's whole learning experience depends on both input and output phases which used to be overwhelming for students with dyslexia (Rahul & Ponniah 2021).

2.6.1 Phono-Graphix Reading Method

The Phono-Graphix reading program is an example of an individualized approach that could be used with students with dyslexia. The multi-syllable management, basic code, and advanced code, are the three levels of teaching that are included in the Phono-Graphix program's skills training. Students are taught the relationship between a letter and a sound at the most fundamental coding level. The concepts of Segmenting and blending are first presented to the students using words containing adjacent consonants. A symbol may be formed of two characters that represent a single sound in one-to-two mapping in the advanced coding. Majority of sounds may be represented in more than one way, as in the sound "oa." in boat. A systematic approach to working on multi-syllable terms with between two and five syllables is introduced at the multi-syllable management level.

A study by Wright & Mullan (2006) investigated the efficacy of the Phono-Graphix program as a remediation approach for students with dyslexia. According to the study's results, students were able to improve their basic phonological processing skills using the Phono-Graphix tool.

2.7 Support Strategies

Reid (2015) emphasized that it is not always essential to create a specialized support plan for each student; rather, support strategies may be employed by the teacher to assist the student with learning disabilities in developing the necessary competences to participate in the entire range of curricular

activities. These support strategies provide the instructor some freedom and choice and often do not need any specialized training.

2.7.1 Using Assistive Technologies(AT)

Despite having similar intellect and educational chances to learn to read, there is a reading achievement gap between students with dyslexia and their classmates. This may be challenging for instructors to manage since students with dyslexia would be required to grasp information that is above their reading ability.

Text-to-speech software is one of the most often utilized assistive technologies. Rather of having to struggle to read what is written, students may just listen to what is written instead of reading it themselves (Taylor 2009; Wood et al. 2018).

For students with dyslexia, assistive technologies such as word processors with spell checks may help them improve their writing organization and structure, as well as their confidence in their writing (Hiscox, Leonavičiute & Humby 2014).

More research has been put onto speech recognition software. Athanaselis et al. (2014) stated that speech recognition software is gradually becoming one of the most often utilized assistive technologies for dyslexics. The program starts by capturing the spoken statement and then dissects it into its component sounds. It then applies a variety of algorithms to analyze each sound, and after doing so, it writes down a word that is the closest match it can discover to the original spoken word.

The Lindamood Phoneme Sequencing (LIPS) and The Read, Write and Type (RWT) programs was explored by Germano, Gagliano, and Curatolo (2010), which looked in depth at both computer-

assisted educational systems. The findings demonstrated that students in the combined-intervention group (who were exposed to both computer-based reading programs and classroom teaching) outperformed their colleagues in the control group (who were just exposed to the standard reading program at their school).

Recent research, however, found that AT does not take the place of good reading and writing intervention tools, according to Dawson et al. (2019). As a lifelong battle to read and write is almost certain for students with dyslexia., an effective program must incorporate both AT implementation and intervention measures.

2.7.2 Using Scaffolding and Sequential Approaches

Reid and Green (2007) pointed out that it is possible to use the concepts of sequential, cumulative, and organized instruction to help students who have trouble with short-term working memory issues. Instructions should be given sequentially to aid short-term memory. The authors highlighted the importance of breaking down activities and materials into manageable chunks, and to repeat each segment as many times as required before moving on to the next level of learning.

Anggadewi (2017) demonstrated that a child's inability to learn a specific subject in a particular amount of time is referred to as a learning disability. For this reason, students feel overwhelmed and that could lead to a decrease in motivation and an increase in laziness when it comes to schoolwork. With scaffolding, instructors deliver materials in stages with the assistance of other students. Another recent study by Witzel & Mize (2018) highlighted how scaffolding could help students with dyslexia in grasping the mathematical concepts. The article explained that task analysis may be used to break down a lengthy division into several phases for mathematics. It is suggested that it is better for students to practice each step individually rather than all at once. It is

also suggested that it is possible for a student to achieve better with a minimum number of mistakes by practicing a stepwise method progressively.

In the field of mathematics, Witzel & Mize (2018) explained that doing a task analysis which includes segmenting long division into a sequence of stages could be an assist for students with dyslexia. Students need to practice each stage individually, either one or two at a time, as opposed to practicing the whole procedure all at once. Students may improve their chances of success and make fewer mistakes when they gradually go through step-by-step procedures in practice.

Dyslexia may have an influence on the study of mathematics for a variety of reasons. For example, children who struggle with dyslexia have inadequate arithmetic abilities and find it difficult to carry out mathematical processes and sequences of operations. Additionally, students who struggle with reading have difficulties understanding the texts from which they must get the procedures that lead to the final answer to the problem (Lawson, Croft & Halpin 2003).

2.7.3 Using Preferred Mode of Learning

Exley (2003) performed small-scale research on seven children with dyslexia in seventh and ninth grades. The main purpose of the study was to determine whether catering instruction to the preferred modes of learning of students who have dyslexia will increase those students' overall performance as well as their levels of achievement in reading and mathematics.

Using preferred learning techniques to teach students with leads to better results and accomplishments, according to the study's findings, which backed with an earlier study by Reid (1999). Five of those students were able to increase their scores on the mathematics and spelling

exams, while the other two, although not having any quantitative outcomes in the tests, were able to get a greater comprehension of the mathematical ideas and spelling patterns.

2.7.4 Using Mapping and Diagrams

Mind maps allow students to demonstrate their knowledge in a more concrete manner in learning science. The use of mind maps may be utilized to demonstrate the interconnectedness of different physics concepts. It is also common practice to use a range of colors in the display of wall charts. To aid secondary students with dyslexia in acquiring new vocabulary linked to the science lesson, it is also important to include visuals and diagrams wherever possible (Peer& Reid 2001).

All students may benefit from strategies that are dyslexia-friendly, according to Reid's (2005) paradigm for educational practices. Metacognitive training and mind mapping, for example, are meant to help students better organize and simplify their information in order to increase their ability to remember it.

CHAPTER 3

METHODOLOGY

3.1 Introduction

Data collection methodologies, ethical considerations, reliability, and validity of the procedure are all included in this chapter's contents. In quantitative and qualitative approaches, it is assumed that the deductive positivist method and the inductive interpretative approach would provide valid and trustworthy data (Cresswell, 2013).

The actual quantitative/qualitative distinction, according to Maxwell (2010), is not between numbers and text, but between theories of variance, which emphasize variables and correlations, and theories of process, which focus on events and interactions. The goal of research that employs a combination of both methodologies is to widen and enrich the results of a study and consequently incorporate the most successful research components into the current body of knowledge (Schoonenboom & Johnson 2017).

It is possible to merge qualitative and quantitative procedures at various phases of the research process because of philosophical concepts that govern the use of mixed methods. Pragmatism is often recognized as the Mixed Methods approach's philosophical paradigm. Mixed Methods techniques are supported by a set of assumptions about knowledge and inquiry that divides them from strictly quantitative approaches based on post positivism and purely qualitative approaches based on interpretivism or constructivism (Rallis & Rossman, 2003).

By using semi-structured interviews, the quantitative phase produces precise data that can be examined statistically while the qualitative phase gave insights into the variables that influenced by different behaviors and skills (Merriam, 2009).

When conducting mixed-method research, the researcher may benefit from the strengths of both qualitative and quantitative research, while also accounting for their weaknesses. In other words, the researcher can make up for the shortcomings of both quantitative and qualitative research (Johnson & Onwuegbuzie 2004).

3.2 Research Design and Approaches

A mixed-method research design is used to investigate secondary school teachers' intervention to accommodate students with dyslexia in the regular classroom, the research was carried out at a private school in Dubai that follows an American curriculum and has a total enrollment of 1800 students with a different educational needs and cultural backgrounds. Four students in the secondary section of the school in grades 7, 10, and 11 have received official reports stating that they have been diagnosed with dyslexia.

The study was conducted using both quantitative and qualitative approaches. With the help of this strategy, the researcher was able to narrow the focus of the investigation by combining the findings of one quantitative technique with those of the qualitative phase (Ayiro 2012).

3.3 Data Collection Using Quantitative Approach

It was determined that the questionnaire would be the best supplement to the interviews approach since it allowed the researcher to identify the most important aspects, such as secondary teachers'

knowledge and intervention to accommodate students with dyslexia as well as difficulties faced by teachers to satisfy the requirements of students with dyslexia. The questionnaire also provided recommendations for improving secondary students with dyslexia's education in the regular classroom.

The sample consisted of 15 secondary regular classroom instructors who have students with dyslexia in their classroom. Teachers who participated in the current study are regular classroom teachers who teach core subjects including English, Mathematics, and Science. The language of instruction is English in the three subjects.

Google Forms, an online platform was used to build the questionnaire. Participants received an email with a link to access the survey. which had 32 questions organized into six parts. The introduction to the study, together with directions and informed consent, was presented in the first section. The second section included questions about the topic they teach, their years of experience, past special education certifications, and whether they have attended any seminars or courses to deal with students with dyslexia. The third section of the survey looks at the knowledge that secondary regular classroom instructors on dyslexia. The fourth section comprises questions that investigate the ways in which secondary school instructors intervene with children who have dyslexia. The fifth part of the survey includes questions on the educational obstacles that need to be conquered before effective intervention may be achieved. In the sixth section, the viewpoints of the teachers are investigated on several strategies that have been recommended as better accommodations for secondary students who have dyslexia.

The researcher chose Likert five-point scale, with the middle point being sometimes, and the other four points ranging from always to never to investigate teachers' intervention with students with dyslexia. The researcher utilized a Likert five-point scale, with the middle point being neutral and

the other four points ranging from strong agreement to strong disagreement, to investigate the challenges that teachers may face with students who have dyslexia in their classrooms as well as their recommendations for improved intervention.

The survey questionnaire was first piloted and verified with five secondary regular classroom teachers from the same school. The data was thoroughly examined during the validation of the questions by piloting the questionnaire, and minor adjustments to the instrument were made.

3.4 Data Collection Using Qualitative Approach

Post completion of the questionnaire survey, qualitative data were collected via in-depth interviews and focus group discussions. The interviews were structured to follow a predetermined and planned order of questions, much like survey questions.

A total of 11 people took part in the semi structured interviews. Some interviews were performed face to face, while others were recorded using the Google Meet platform free of cost based on participant's preference.

Interviews were conducted with six secondary school teachers who teach English, mathematics, and Science and who have students with dyslexia in their classes. To eliminate the possibility of bias and to add more significance to the study, identical questions were given to two different instructors who teach the same subject. The in-depth interviews also included participation from four parents who have children with dyslexia and attend the secondary sector in the same school. Also, secondary school SENDCo took part in the in-depth interviews. The interviews were conducted over the course of three successive weeks with all the participants.

Arabic translations of the interview questions were made at the request of two parents. The comments of an experienced professor who is fluent in Arabic were sought so the researcher made certain that the definitions of the phrases remained unchanged. (Appendix 10)

3.5 Data Analysis

Qualitative data were analyzed using the SPSS statistical package. SPSS is software that makes it simpler for users to understand and modify data from questionnaire surveys and other sources (Gaur & Gaur 2012).

The qualitative data was subjected to a thorough descriptive analysis. To assure validity and reliability of the study, the gathered data was presented in a professional format after being processed, analyzed, and interpreted (Christensen et al. 2017).

3.6 Ethical Considerations

The researcher understands the need of investigating and meeting the right set of standards and ethical criteria before commencing the study in the most competent and professional manner possible. Concerning the distribution of questionnaires and conducting qualitative interviews, ethical concerns were taken into consideration. These concerns included confidentiality and the anonymization of data. Following the completion of the question preparation, ethical permission was requested from the ethics review committee at the British University in Dubai, and it was subsequently granted. A formal letter from the university outlining the research's objectives was shared with all participants (Appendix 1).

The participants were provided with consent forms that included an explanation of the purpose of the research and prior to continuing with the data collecting, their consent was first requested (Appendix 2&3). Everyone who gave information was immediately informed that their identities would be protected, and they were offered the choice to opt out while receiving reassurances concerning considerations of privacy (Creswell 2009).

It was made clear to all the participants that they would not be put under any form of coercion to persuade them to carry out the next steps of the research. They are given the option to make their own independent decision on whether to take part in the study being conducted. Participants were also informed that at no point throughout the study, any personally identifiable information will not be disclosed to anyone. Additionally, in the case that any personally identifiable information is submitted, it will be removed immediately to maintain the strictest level of confidentiality.

3.7 Validity and Reliability

The questionnaire was developed and created from (Wadlington & Wadlington, 2005; Reid ,2009; Alawadh, 2016; Reid, 2005; Wilson ,2002). Appendices include key questionnaire statements (Appendices 4-8). After analyzing the literature, the interview questions were created and developed from (Forbis 2016) (Appendix 9). Triangulation is a term used to describe the use of two or more methodologies in a mixed methods study (Creswell 2014).

To increase confidence in the findings, two or more independent measurements are needed to support a hypothesis. To acquire a complete view of the findings, two or more techniques must be used in conjunction with each (Heale & Forbes 2013).

Reliability Statistics

Cronbach's Alpha	Number of Items
.789	32

Table 1: Overall Reliability

If the same survey were conducted with different participants at various times, the same results would be achieved, according to the reliability test (Robson 2005). As a result, the researcher used Cronbach Alpha to check the study's reliability; the predicted value for each of the variables was over 0.7 (Foster 2001). The result is 0.789 for each of the 32 elements, indicating a high degree of reliability.

CHAPTER 4

RESULTS AND FINDINGS

4.1 Chapter Overview

This chapter's results will be examined and presented using both qualitative and quantitative methods. SPSS was utilized to perform the quantitative data analysis by the researcher to reach findings.

The quantitative data is displayed by utilizing a variety of statistical tests, descriptive statistics, and reliability test to investigate broad trends and patterns. These findings, together with descriptions of the qualitative data from interviews, will be presented together.

Data from interviews and surveys, together with well-defined study questions, helped the researcher to acquire a thorough understanding of the results. Consequently, the researcher was better equipped to explain the findings.

4.2 Quantitative Analysis Research Question 1

To what extent are secondary school teachers knowledgeable about dyslexia and able to implement teaching strategies that support students with dyslexia in the regular classroom?

The following tables shows the frequencies, percentage, the mean, and the standard deviation for different categories of the questionnaire divided into three sections:

1-Background information

2-Teachers' knowledge about Dyslexia

3-Teachers 'Intervention with Students with Dyslexia,

1. Background information

Which subject do you teach?	
Mathematics	4 (27%)
Science	5 (33%)
English	6 (40%)
What is your highest degree?	
Bachelor	4 (27%)
Master	11 (73%)
Do you have a qualification in special education?	
No	15 (100%)
Have you taken any workshops/courses to work with students with dyslexia?	
No	12 (80%)
Yes	3 (20%)
Total	15 (100%)

Table 2: Background information

According to the table above, surveys were conducted among 15 secondary regular classroom teachers. 40% percent of the participants were English teachers, 33% were Science teachers, and 27% were Mathematics teachers. 73% of participants have a bachelor's degree, whereas 27% who

hold a master's degree in the field they teach.100% of participants have no qualification in special education. Only 20% percent of participants said they had attended a session or course specifically designed to help them deal with students who have dyslexia, however 80% of the participants said they had not.

1. Teachers' knowledge about Dyslexia

This section explores the Teachers' knowledge about Dyslexia, through 8 items. After studying existing research on dyslexia, the researcher constructed this survey (Wadlington & Wadlington,2005). (Appendix 5) The response continuum for each item assumes that teachers' knowledge about Dyslexia can be measured Not sure=1, Not true=2, True=3.

Items	Not sure	Not true	True	Total	Mean	Standard Deviation
1- 'Dyslexia is caused by a poor home environment and/or poor reading instruction.'	6 (40%)	7 (47%)	2 (13%)	15	1.7	0.70
2- 'Dyslexia often affects writing and/or speaking abilities.'	1 (7%)	3 (20%)	11 (73%)	15	2.7	0.62
3- 'Reading and writing letters backwards is the main sign of dyslexia.'	3 (20%)	3 (20%)	9 (60%)	15	2.4	0.83
4- 'People with dyslexia have below average intelligence.'	-	15 (100%)	-	15	2.0	0.00
5- 'Multisensory instruction is necessary for students with dyslexia to learn.'	6 (40%)	-	9 (60%)	15	2.2	1.01

6- 'The brains of individuals with dyslexia are different from those of people without dyslexia.'	7 (47%)	2 (13%)	6 (40%)	15	1.9	0.96
7- 'Individuals with dyslexia may pronounce words in a passage very well but be unable to comprehend it.'	5 (33%)	5 (33%)	5 (33%)	15	2.0	0.85
8- 'Individuals with dyslexia usually exhibit the same characteristics with similar degrees of severity.'	10 (67%)	4 (27%)	1 (7%)	15	1.4	0.63
Overall	38 (32%)	39 (33%)	43 (36%)	120	-	-

Table 3: Analysis of Teachers' knowledge about Dyslexia

Items	Correct answer	Wrong answer	Total	Mean	Standard Deviation
1	7 (47%)	8 (53%)	15	0.5	0.52
2	11 (73%)	4 (27%)	15	0.7	0.46
3	3 (20%)	12 (80%)	15	0.2	0.41
4	15 (100%)	-	15	1.0	0.00
5	9 (60%)	6 (40%)	15	0.6	0.51
6	6 (40%)	9 (60%)	15	0.4	0.51
7	5 (33%)	10 (67%)	15	0.3	0.49
8	4 (27%)	11(73%)	15	0.3	0.46
Overall	60 (50%)	60 (50%)	120	-	-

Table 4: Analysis of Teachers' knowledge about Dyslexia

General Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Teachers' Knowledge	15	.30	.90	.5133	.18074

Table 5: General Analysis of Teachers' knowledge about Dyslexia items

The researcher used such statistics to show the value of the mean range that represents the average of responses between a minimum value of 0 for “wrong answer” and a maximum of 1 for “correct answer”. The sum of all the scores divided by the total number of scores yields the mean value and equal to 0.5133 which is in the middle of the range 0-1 indicating knowledge level around 50 %.

The findings show that 53% of teachers stated that dyslexia are caused by a bad family environment and/or inadequate reading instruction, which is not accurate. Only 47% recognized the correct answer. Moreover, 73 % of participants were aware that dyslexia frequently impact writing and/or speaking ability, 27 % were unaware of this fact.

According to the findings, 80 % of teachers believe that reading and writing letters backwards is the primary symptom of dyslexia, which is not accurate. Additionally, the results demonstrated that all the participants answered item 4 correctly as all disagreed that people with dyslexia have a lower IQ.

Many participants (60%) were aware that students with dyslexia require multisensory instruction, but only 40 % correctly recognized that the brains of people with dyslexia vary from those of non-dyslexic people., yet 60% of teachers were unaware of this fact.

Furthermore, 73% of the participants stated that persons with dyslexia may accurately pronounce words in a paragraph, but they are unable to comprehend what they are reading, which is incorrect.

Only 27% of the participants were aware that people with dyslexia do not all have the same symptoms with the same intensity, while the majority (73%) were unaware of this.

3- Teachers ‘Intervention with Students with Dyslexia

This section explores the teachers ‘intervention with students with dyslexia, through 10 items. Items were developed after reviewing literature related to suggested intervention with students with dyslexia (Reid ,2005; Reid, 2009). (Appendix 6)

This table includes a Likert scale for each of the items. For each question, the respondents' level of agreement or disagreement with each statement is represented by a linear scale, and it assumes that teachers ‘intervention with students with dyslexia can be measured as Never=1, Rarely =2, Sometimes =3, Often =4, and always=5 (high level of intervention).

Items	Never	Rarely	Sometimes	Often	Always	Total	Mean	Standard Deviation
1-I provide one task at a time to ensure that it has been understood and consolidated before embarking on the next task.	-	-	3 (20%)	7 (47%)	5 (33%)	15	4.1	0.74
2-I allow additional time to complete tasks and assessments.	-	-	-	6 (40%)	9 (60%)	15	4.6	0.51

3-I use charts and diagrams to highlight the bigger picture of what is being taught.	-	1 (7%)	3 (20%)	6 (40%)	5 (33%)	15	4.0	0.93
4-I use visuals to assist the learner follow the information.	-	-	4 (27%)	5 (33%)	6 (40%)	15	4.1	0.83
5-I use color to highlight keywords.	-	2 (13%)	3 (20%)	2 (13%)	8 (54%)	15	4.1	1.16
6-I utilize games to consolidate vocabulary.	-	1 (7%)	6 (40%)	6 (40%)	2 (13%)	15	3.6	0.83
7-I use technology such as multimedia calculator or combining listening and reading by using applications	-	1 (7%)	3 (20%)	4 (26%)	7 (47%)	15	4.1	0.99
8-I present information in little chunks with frequent opportunities for repetition and revision.	-	-	2 (13%)	6 (40%)	7 (47%)	15	4.3	0.72
9-The font I use in my presentations is large and clear enough for all students	-	-	2 (13%)	3 (20%)	10 (67%)	15	4.5	0.74
10-I give a chance for the student to self -correct and self -monitor	-	-	1 (7%)	9 (60%)	5 (33%)	15	4.3	0.59
Overall	-	5 (3%)	27 (18%)	54 (36%)	64 (43%)	165	-	-

Table 6: Analysis of Teachers ‘Intervention with Students with Dyslexia

Overall Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Teachers ‘Intervention	15	3.50	5.00	4.1333	.45461

Table 7: Overall Analysis of Teachers ‘Intervention with Students with Dyslexia

According to table 7, majority of participants (79%) use good intervention with students with dyslexia in their classroom as their answers were often or always while only 21% of participants have answered rarely or sometimes. Thus, most teachers showed good quality of intervention with students with dyslexia.

According to Table 7, a "mean" value ranges from 1 for the "never" answer, whereas the "always" response has a minimum value of 5. The sum of all the scores divided by the total number of scores yields the mean and equal to 4.133 indicating a good level of intervention.

It is evident from teachers' responses that allowing additional time to complete tasks and assessments was the strategy that is used the most as 100 % of teachers (n=15) have chosen always or often. The SD (0.51) and mean (4.6) for this question both confirm that all individuals reacted in a similar fashion.

However, the least used strategy was utilizing games to consolidate vocabulary, as 53%(n= 8) of teachers answered always and often .

This demonstrates that majority of instructors are aware of the need for intervention to satisfy the requirements of students with dyslexia.

4.3 Qualitative Analysis - Research Question 1

1- Teachers Knowledge about Dyslexia

a. Teachers

It has been established from the interviews that teachers lack good knowledge about traits of dyslexia. Majority of teachers who participated in the interviews mentioned that they have limited knowledge about dyslexia. Only one teacher, Mathematics teacher 2 declared *“in addition to completing my teaching diploma, I have also completed a few courses on special*

education. These courses stressed on how to work with students who have special needs as well as students with dyslexia, down syndrome, and autism”.

b. Parents

When the parents were asked if they find the secondary school teachers knowledgeable about dyslexia, majority of parents stated that some teachers are knowledgeable but not all.

Parent 1 stressed that all secondary regular classroom teachers are neither knowledgeable about dyslexia nor well-trained and they are not equipped with necessary educational resources to deal with such issues.

When the parents were asked if their children’s weaknesses and strengths were acknowledged by their teachers, their answers differed. Parent 2 mentioned that some of the regular classroom teachers acknowledged her child’s weaknesses and strengths. Also, parent 3 claimed, *“Recently, yes; but this was not always the case. When she was first given a diagnosis in grade two, I often encountered resistance from her educators. She added” some of her instructors now in secondary school have a better understanding of dyslexia and that they are more accepting of it “.*

On the other hand, parent 1 and parent 4's response to the identical question was no. Parent 4 stated, *” I do not want to be pessimistic but unfortunately her regular classroom teachers do not have a background about my child difficulty however regular meetings. Regular Class teachers like students to be perfect and find it difficult to understand my child’s difficulties and unfortunately ignore her. She added” the school SENDCo helped her and gave her the support she needed and filled the gap caused by her regular classroom teachers”.*

c. SENDCO

Secondary school SENDCo stated that teachers' knowledge is not generally evident among secondary regular classroom teachers. Due to a lack of knowledge about dyslexia, the IEP-recommended intervention for students with dyslexia may be difficult for regular classroom teachers to implement.

2-Teachers 'Intervention with Students with Dyslexia

a. Teachers

When secondary regular classroom teachers questioned about the strategies they employ with students with dyslexia, their replies revealed good classroom intervention.

One-to-one instruction, visual aids, large print worksheets, more time, and peer help were all mentioned by English teacher 2. Moreover, English teacher 1 mentioned using large fonts occasionally. Additionally, one-to-one attention, visual and verbal prompts, and extra time to complete the work were all used by Mathematics teacher 1. Mathematics teacher 2 emphasized using prepared notes, shorter class periods, frequent checks, modeling, and manipulatives. Science teacher 1 claimed, "*working one-to-one with each of them and providing instant feedback on their performance, reading aloud to them the problems that need more investigation and data analysis, as well as dividing the problem into manageable chunks is beneficial*".

Science teacher 2, stated, "*providing students with visual aids could assist them in remembering scientific language and vocabulary*". She added "*when introducing a new topic, I provide word lists of new terminology in advance, and I do not penalize for spelling mistakes*".

When teachers were asked if there is a link between their chosen intervention and the achievement of students with dyslexia in their subject, all instructors said yes. All teachers acknowledge that proper intervention makes a difference in students' achievement and makes some progress. Most

of them referred to student's IEPs as a good resource for suggested intervention with students of dyslexia. English teacher 2 stated *"in my classroom, using the appropriate intervention based on the IEP's suggestion for students with dyslexia helped students obtain better results and gain confidence in the quality of their work"*.

Mathematics teacher 2 claimed, *"using some of the instructions recommended in their IEPs such as visuals, graphs, color coding, helped to see improvement"*.

b. Parents

Parents' responses differed when asked about their overall satisfaction with the level of support their child receives in the regular classroom. Parent 2 and Parent 3 were satisfied with the degree of support their children received., however, parent 1 and parent 4 were unsatisfied. Parent 4 added *'my answer will be unsatisfactory in the absence of the SENDCo support. My daughter's personal efforts along with the SENDCO's support helped her a lot to overcome her difficulties"*.

When parents were asked if their children are provided with proper intervention such as highlighting crucial points, visual displays, graphic organizers, and not being asked to read aloud, their answers differed. Parent 1 and Parent 4 answered no. Parent 4 highlighted the absence of efficient support at school. She mentioned that her daughter works independently at home and only school SENDCo supports her at school with her core subjects.

On the other hand, Parent 2 was satisfied and stated, *"Yes, certain accommodations are available. In Islamic studies, however, there is no pull-out session, her Islamic teacher understands that my daughter has trouble remembering and she instructs her to recite rather than memorize. When it*

comes to evaluation or classwork, other instructors offer her easier material. At least most of the instructors are making modifications to suit my daughter's requirements".

Also, Parent 3 claimed, " *Only a few of the teachers in his classes use visual displays; moreover, they do not require him to read out loud in front of the class and they do not address his spelling errors".*

When parents were asked about the level of support by their children's classroom teachers during assessments, they agreed that their children are provided with extra time and separate venues during summative assessments. Parent 2 added " *with the option of utilizing her laptop if necessary*". Also, parent 4 added " *sometimes the teacher is reading for him*".

When asked if their children have access to assistive technology in their regular classrooms, all acknowledged that their children are permitted to use their laptops in class, but specific software, such as voice to text, is not available.

c. SENDCo

When school SENCO was questioned about the secondary school teachers' intervention at school, she stated, " *Some of the teachers use leveled worksheets, virtual labs, integrate technology in classwork, peer support, leveled exams based on the students' performance and IEPs recommendations*".

When asked if secondary school students with dyslexia receive adequate accommodations for tests and evaluations in their regular classroom, she said that they do. She stated, " *Yes, during the*

summative assessments only. Teachers used project-based assessments and some exams were conducted orally; however, there is little support given during formative assessments that is done frequently in the regular classroom”.

4.4 Qualitative Analysis Research Question 2

What challenges are faced by Secondary school students with dyslexia coping with learning in their regular classroom?

a. Teachers

When teachers were questioned about the difficulties that secondary school students with dyslexia could experience, and whether they had seen any underachievement in students with dyslexia in their subject, majority of responses were affirmative. Both English teacher 1 and English teacher 2 claimed that it is extremely stressful for students to take the external exams required for university admission, such as the IELTS and SAT, as well as the EMSAT, which is required by institutions in the UAE.

Mathematics teacher 1 and Mathematics teacher 2 have noticed some challenges related to classwork. Both teachers acknowledged that students have a limited memory span and have difficulty with word problems, as well as having difficulty concentrating for long periods of time. Mathematics teacher 2 highlighted some concerns, she stated “*some students with dyslexia lack the prior knowledge and abilities necessary for secondary education. Parents' denial and delay in*

identifying student's disability at school, in my opinion, are to blame for the lack of effective intervention and underachievement”.

Additionally, problems related to self-esteem have been indicated by both Mathematics teachers. Mathematics teacher 1, stated, *"lack of self-esteem, being slow in understanding the material, and a short attention span are all challenges that must be overcome".* Mathematics teacher 2 stated, *"they are being bullied by a few of their peers because they have difficulty in reading the problem-solving questions and analyzing the task quickly. They have some emotional difficulties due to challenges that arise within the family and the lack of professional help provided by the school in terms of building up students with dyslexia self-esteem and self-confidence".*

Both Science teachers stated that their students have difficulty with their subject. Science teacher 1 who is a physics teacher stated, *"Numerous mathematical computations are required for physics coursework. It requires a variety of abilities and ideas, such as the ability to sequence logical events and to think spatially".* Science teacher 2 who is a biology teacher stated, *"Many of the dyslectic students have difficulty understanding the concepts, especially that biology requires a good command of the language of instruction and the scientific terms “.*

Additionally, Science Teacher 1 pointed out that students need to build their learning capacity, she stated, *"they are unwilling to exert effort because they lack confidence in their educational ability. In addition, grasping the formula, solving multi-step problems, and remembering lengthy key phrases is particularly difficult for them".*

b. Parents

When parents were asked about their children's strengths and weaknesses, there was a consensus. Parent 1 characterized her child as friendly and optimistic in terms of strengths. Parent 2

characterized her child as outgoing and independent. Parent 3 stated that her child is eager to learn and pays attention in class. Parent 4 characterized her child as pleasant, and she added that she remembers new terminology by drawing pictures.

Concerning weaknesses, all parents mentioned difficulties with reading, writing, spelling, word problems and taking notes.

When parents were questioned about the difficulties their children encountered because of their disability, their responses varied. Parent 1 emphasized the lack of setting individual goals for students by teachers, however the fact that the IEP was shared with teachers. Parent 3 reported that her child often loses his concentration and used to have a headache from the class's loud noises. Parent 4 shared several concerns, she stated, ” *She feels embarrassed to read aloud in class. After grade three, rarely they support her in reading. I think it is because high number of students in class and the big curriculum content, teachers don’t have time or patience to meet her needs “.*

c. SENDCo

Secondary school SENDCo emphasized that teachers require students with dyslexia to write notes, which is extremely challenging for them. Additionally, the font used by teachers in their presentations is occasionally tiny, making it difficult for students to interpret.

4.5 Quantitative Analysis Research Question 3

What challenges do secondary school teachers experience in accommodating students with dyslexia in their classroom?

This section explores the educational challenges related to successful Intervention, through 8 items. Items were developed after reviewing literature related to suggested intervention with students with dyslexia (Alawadh, 2016;Wilson ,2002). (Appendix 7).

Each item in the following table has a Likert scale. For each question, the respondents' level of agreement or disagreement with each statement is represented by a linear scale, and it assumes that educational challenges related to successful intervention can be measured by Strongly disagree=1, Disagree =2, Neutral =3, Agree =4, and strongly agree=5.

Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	Mean	Standard Deviation
1-The length of the curriculum hinders me from fulfilling the requirements of dyslexic students in the classroom	1 (7%)	-	3 (20%)	6 (40%)	5 (33%)	15	3.9	1.10
2-The large number of students in the class makes it difficult to provide enough intervention	-	3 (20%)	-	8 (53%)	4 (27%)	15	3.9	1.06
3-I am not acquainted enough with helpful interventions for students with dyslexia	2 (13%)	1 (7%)	6 (40%)	4 (27%)	2 (13%)	15	3.2	1.21

4-I have not been adequately provided by dyslexia training courses	-	-	3 (20%)	9 (60%)	3 (20%)	15	4. 0	0.65
5-The vast quantity of work allocated to me as a teacher outside of the classroom does not provide me with enough time to implement sufficient intervention.	-	3 (20%)	-	7 (47%)	5 (33%)	15	3. 9	1.10
6-The lack of relevant instructional tools is a barrier to implementing adequate intervention	-	2 (13%)	3 (20%)	9 (60%)	1 (7%)	15	3. 6	0.83
7-Parents' lack of cooperation makes it difficult to execute effective measures to fulfill the needs of students with dyslexia.	-	4 (27%)	4 (27%)	4 (27%)	3 (19%)	15	3. 4	1.12
8-The school administration's policy on accommodating students with dyslexia in the classroom is unclear	2 (13%)	6 (40%)	4 (27%)	2 (13%)	1 (7%)	15	2. 6	1.12
Overall	5 (4%)	19 (16%)	23 (19%)	49 (41%)	24 (20%)	12 0	- -	-

Table 8: Analysis of Educational challenges related to successful Intervention

According to the table above, 61 % of the people who took the survey agreed with the questions, while only 19 % were neutral and 20 % did not agree.

Overall Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Educational Challenges	15	2.40	4.60	3.5800	.68369

Table 9: Overall Analysis of educational challenges related to successful Intervention

Using such data, the researcher determined the value of the mean range, which is the average of replies ranging from a minimum value of 1 for "Strongly disagree" to a maximum value of 5 for "Strongly agree." The mean is calculated by dividing the total score by the number of scores equal to 3.58 points above the middle value of three, reflecting the average number of instructors who agreed with the questionnaire's challenges.

According to table 8, Majority of teachers (80%)(n=12) agreed on that big class, not having adequately provided by dyslexia training courses and the big workload outside the classroom could be a challenge to implement sufficient intervention.

The length of the curriculum and absence of instructional tools comes next as 73%(n=11) and 67% (n= 10) of teachers respectively agreed that those are barriers to fulfil the requirements of students with dyslexia in the classroom.

Moreover, 40% (n=6) and 47% (n=7) of teachers agreed that not being acquainted enough with helpful interventions for students with dyslexia and lack of parents' cooperation respectively could be a barrier for successful intervention with students with dyslexia.

On the other hand, just 20% (n=3) of teachers believe that the school administration's policy on accommodating students with dyslexia is unclear, while majority of teachers (n=12) do not believe the school inclusion policy to be a barrier.

4.6 Qualitative Analysis - Research Question 3

a. Teachers

When teachers were asked about the challenges, they could face in the classroom that may hinder successful intervention with students with dyslexia, teachers showed different opinions.

English teacher 1 stated, " *To prepare them for the external standardized test is the big challenge. It was never possible to give them the same tasks as their peers*". English teacher 2 and Mathematics teacher 2 and Science teacher 2 claimed that large number of students and the absence of a support teacher could hinder satisfying the requirements of students with dyslexia in the regular classroom.

Lesson pace was highlighted as a challenge by Science teacher 2 and Mathematics teacher 1. Mathematics teacher 1, claimed, " *The major challenge is the lesson pace. My students are pulled out most of the class time so during push in sessions I find it difficult to keep them on the same concept as the rest of their peers*"

Science teacher 1 added another challenge, she stated, " *I am challenged to increase their interest in learning and performance. Also, motivating them to be more confident requires a great deal of work on my side*".

All teachers admitted that when parents are in denial of their children's disability, the effectiveness of their intervention with students with dyslexia could be negatively impacted.

Parents' denial, according to science teacher 1, might affect parents' trust in regular classroom teachers and could impact negatively on the effectiveness of intervention. She stated " *Because of their denial and the fact that parents watch their children struggle, they end up losing trust in the*

capabilities of the class teachers and instead employ private tutors to educate their children at home. As a result, their child begins to lose interest in school and to become unwilling to put forth effort, which has a negative influence on the effectiveness of the intervention employed in the classroom”.

b. SENDCo

It is clear from the responses of teachers and SENDCo in the interviews that none of them view school policy as a challenge. Everyone agreed that the school policy is clear enough and that the IEP is a good tool. Secondary SENDCo stated, *” The policy is clear and updated regularly. Teachers who teach students with dyslexia have access to all the data related to the performance of students via the school online platform”.*

However, English teacher 1 pointed out that the policy on aiding students with disabilities is explicit yet broad and more information is required for dyslexia.

Additionally, Mathematics teacher 1, stated, *” The school policy is clear, but implementation is difficult due to shortage in human resources, including special education teachers and assistants”.*

4.7 Quantitative Analysis. Research Question 4

What could be recommended to improve the intervention and effectively accommodate secondary school students with dyslexia in the mainstream classroom?

This section explores the suggestions for better accommodation, through 6 items. Items were developed after reviewing literature related to suggested intervention with students with dyslexia (Gravin,2005). (Appendix 8).

Each item in the table below is accompanied with a Likert scale. The response continuum for each question is a linear scale indicating the extent to which respondents agree or disagree with each statement. This assumes that Suggestions for better accommodations can be measured as follows: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly Agree = 5.

Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	Mean	Standard Deviation
1-Assessing students with dyslexia using methods that consider their specific difficulties	-	-	-	9 (60%)	6 (40%)	15	4.4	0.51
2-It is essential to allow for cross-curricular knowledge transfer and allowing instructors of different subjects to collaborate with one other and share good practices with students with dyslexia	-	-	3 (20%)	7 (47%)	5 (33%)	15	4.1	0.74
3-Teaching strategies that consider the unique needs of students with dyslexia are more likely to be successful.	-	-	-	7 (47%)	8 (53%)	15	4.5	0.52
4-In order to have an effective intervention in the regular classroom, it is vital to understand the different learning styles of the students.	-	-	-	5 (33%)	10 (67%)	15	4.7	0.49
5-Staff training in the field of dyslexia is critical, since all staff should be aware of the challenges that dyslexia may cause.	-	-	1 (7%)	6 (40%)	8 (53%)	15	4.5	0.64

6-Communication between families and educators regarding the challenges, as well as discussing the best	-	-	-	5 (33%)	10 (67%)	15	4.7	0.49
Overall	-	-	4 (4%)	39 (43%)	47 (53%)	90	-	-

Table 10: Analysis of Suggestions for better accommodation

As shown in the table above, it is evident that 96% of participants agreed with the survey questions, whereas only 4% of participants were neutral and no one disagreed.

Overall Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Suggestions	15	4.00	5.00	4.4800	.37071

Table 11: Overall statistics of Suggestions for better accommodation

The researcher used such statistics to show the value of the mean range that represents the average of responses between a minimum value of 1 for “Strongly disagree” and a maximum of 5 for “Strongly agree”. The mean is the total of the scores divided by the number of scores, the mean equal 4.480 indicating high acceptance of suggestions for better accommodation. All participants agreed with all items.

All staff(100%)(n=15) agreed to items (1,3,4,6), that using methods for assessment that consider students specific difficulties, using teaching strategies that consider the unique needs of students with dyslexia, understanding students learning styles and communication between family and educators could help for better intervention.

80%(n= 14) agreed on item 2, that collaboration between different subjects and using the best practices for students with dyslexia is a good suggestion for better intervention while 20%(n=3) were neutral.

93 %(n= 14) agreed on item 5,that staff training in the field of dyslexia is critical in identifying the challenges that may be caused by dyslexia while 7%(n=1) was neutral.

4.8 Qualitative Analysis Research Question 4

a. Teachers

When teachers were asked for suggestions on how to enhance the intervention and provide better accommodations for secondary school students with dyslexia, all teachers emphasized the necessity of professional development workshops. English teacher 1 stated” *Dyslexia is a wide term and there are numerous aspects of the condition that neither I nor the other teachers in the school are familiar with.* English teacher 2 pointed out that elementary school teachers receive more workshops than secondary school instructors. According to Mathematics Teacher 1 and Science teacher 1, training is essential for teachers dealing with dyslexic students in the classroom to have a better grasp of the latest strategies and tools. Moreover, Science teacher 2 highlighted the importance of sharing the best practices in training.

Mathematics teacher 1 emphasized the need for special education assistants in class and providing teachers with teaching tools and resources. She said” *hiring learning support assistants is important during push-in sessions. Providing ready to use manipulatives that are recommended in students IEPs such as graphs, number lines and solid shapes to be used in the classroom*”. Science

teacher 2 also believed that instructors should have access to resources that facilitate effective intervention.

Mathematics teacher 2 added *“create several classes in the same grade level into groups based on their current ability level and assign one of the teachers to work with each group. This approach will help for more successful intervention”*.

Additionally, Science teacher 1 and Mathematics teacher 2 drew attention to the importance of boosting children with dyslexia self-esteem. Science teacher 1 suggested collaboration with experts and expanding the function of the guidance counselor in the school might help

b. Parents

All parents stressed the importance of professional training workshops for secondary school teachers on traits of dyslexia. Parent 1 emphasized that all instructors should learn about dyslexia and its issues. She highlighted the importance of the role of the inclusion department in leading and implementing good practices. Parent 2 suggested a variety of improvement approaches. She highlighted the importance of assistive technology such as text to speech software. She added *“I discovered it while researching and realized that institutions throughout the world use these tools”*. She believes the evaluation is based on knowledge, not writing, or reading abilities. She stated *“if writing is challenging for my child, why isn't the test given orally?”*. In addition, she recommended that teachers make recorded sessions available to students. She also stressed the necessity of professional education. She added *“Professional training on dyslexia is required not just for special education instructors, but also for regular classroom teachers”*. She believes that educators will be unable to assist students or their parents if they lack knowledge and adequate training.

c. SENDCo

She suggested more theoretical and practical professional development workshops for inclusion teachers and leaders as well as regular classroom teachers in the secondary school, led by specialists from both the school and outside the school.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

a. Teachers Knowledge

The findings of the survey on teachers' knowledge of dyslexia suggested an approximate 50% level of knowledge among participants. According to majority of teachers who participated in the interviews, it was evident that teachers have inadequate information on dyslexia. Also, secondary school SENDCo and parents mentioned that secondary regular classroom teachers' understanding about dyslexia characteristics is not typically obvious.

According to 53% of instructors, dyslexia may be caused by a poor home environment and/or insufficient reading instruction, which is not accurate. Poverty, bad environment, speech, or hearing issues do not cause dyslexia; however, they may make children more prone to struggle with reading. (Snow, Burns, & Griffin, 1998). Only 47% recognized the right answer.

According to the findings, 80 % of teachers believe that reading and writing letters backwards is the primary symptom of dyslexia, which is not accurate and not supported by literature. During the first stages of reading and writing instruction, it is very common for children with and without dyslexia to initially struggle with writing letters and words in the backward order (Hudson, High & Al Otaiba 2007).

Only 40% of participants correctly recognized that individuals with dyslexia possess brains that are distinctive from those who do not have dyslexia, yet 60% of teachers were unaware of this fact. Research has demonstrated that a dyslexic individual's brain grows and works differently from that

of a person who does not have dyslexia. Good readers have more brain activity in the left hemisphere, which is critical for reading, and less in the right hemisphere compared to struggling readers (Shaywitz, 2003).

Moreover, 73 % of participants claimed that individuals with dyslexia may correctly sound words in a paragraph but cannot grasp it, which is incorrect. Snowling (2008) stated that people with dyslexia are unable to do well in tasks that require a high degree of phonological awareness.

Additionally, the findings show that only 27% of the participants were aware that people with dyslexia do not all have the same symptoms with the same intensity, while the majority (73%) were unaware of this.

Additionally, while 73 percent of participants were aware that dyslexia frequently impact writing and/or speaking ability, 27 % were unaware. Moreover, the results demonstrated that all the participants disagreed that people with dyslexia have a lower IQ which is consistent with literature. It is widely known that the phonological element of language plays an important role in the development of dyslexia, although normal cognitive ability or receiving adequate instruction in the classroom. Problems with reading comprehension also have secondary effects, limiting the acquisition of vocabulary (Lyon, Shaywitz & Shaywitz 2003).

Data from the findings support the results of the previous study by Reid, Strnadová & Cumming (2013), they argued that unless the work is varied and presented visually, auditorily, and kinesthetically, reading may be extremely difficult for students with dyslexia. 60% of participants were aware of the need for multisensory instruction for students with dyslexia to learn.

b. Teachers Intervention

Teachers' responses to the statements in the survey reflect good instruction techniques with students with dyslexia in the classroom. One-to-one instruction, multisensory techniques, breaking instruction into chunks (Reid & Green 2007), visual aids (Peer& Reid 2001), large print worksheets, more time, peer help, and extra time to complete the work, frequent checks, modeling, and manipulatives (Reid 2005) were all mentioned by majority of teachers in the interviews. When parents were questioned if their children receive enough accommodations for exams and evaluations in their usual classroom, all responded that extra time, a separate venue, and permission to use their computers are provided during assessments. Parent 2 added” ... *sometimes the teacher is reading for him*”. This response is verified as a good practice by a previous study by Abedi, et al. (2006) which emphasized that students who have learning difficulties may also benefit from modifications to the testing method, such as having the instructors read out loud to them and being given more time to finish the exam.

However, all parents were satisfied with the accommodation provided in assessments, but they confirmed the absence of special software or apps for students with dyslexia, such as text to speech. Additionally, the secondary school SENDCo emphasized the use of accommodations only for summative exams, not for frequent formative evaluations in the classroom.

When parents were asked whether they were satisfied with the accommodations conducted in the classroom and if their children's classroom teachers recognized their children's strengths and weaknesses, their responses ranged from strongly agreed to strongly disagreed. Parent 2 who was satisfied said,” *I see a change. One of the teachers first refused to recognize my daughter's dyslexia-related difficulties, but when I explained the situation to her at the parent meeting, she began to*

understand the difficulty.” parent 3 answered, “ Very satisfied. The school is providing the best support; I can see the improvement in my son academically and in his personality. He has become more confident”.

On the other hand, parent 1 and Parent 4 were strongly unsatisfied. Parent 1 stated that her child's weaknesses and strengths, as well as her child's needs and individual objectives, are not addressed by the classroom teachers. When parent 4 were asked about the accommodation provided in the regular classroom, she mentioned that the only support is from school SENDCo. Parent 4 added, *“...unfortunately her regular classroom teachers do not have a background about her difficulty however regular meetings. ... I desperately tried to convince the teacher to simplify the content for her, however she has a formal report.”*

The outcomes of interviews and surveys revealed that teachers' awareness of dyslexia is insufficient. The results reveal a link between instructors' knowledge about dyslexia and the outcome of their intervention. Teachers' replies to survey and interview questions show effective classroom intervention, however some parents' dissatisfaction might be related to a lack of teachers' awareness of dyslexia, as well as the requirements and demands of students with dyslexia, which were raised in parents' concerns. Identifying child's strengths and weaknesses is crucial, since not all children with dyslexia have the same profile (Reid 2019).

c. Challenges with Secondary Students with Dyslexia

When asked if they have seen students with dyslexia underachieve in their subject, teachers overwhelmingly agreed. According to both English teachers 1 and 2, taking university admission exams like the IELTS, SAT and EMSAT in the United Arab Emirates is difficult for students. Concerns raised by teachers in this study are like those raised in a prior study by Indrarathne (2019).

The General Certificate of Education (GCE) is required by all Sri Lankan public school students. Exam content cannot be modified; however English language test questions are incomprehensible to students with dyslexia.

According to Cogan and Flecker (2004), challenges have been discovered in secondary school subject areas. Students with dyslexia have a tough time mastering the English language and literature. Due to the rigorous nature of these courses in secondary school, spelling, marking significant aspects from readings, and expressing views are all essential .

Mathematics teachers 1 and 2 have detected other classwork challenges. Both teachers admitted that students with dyslexia have a short attention span and struggle with word problems. Their answers were confirmed by a study by Kroesbergen & Johannes (2003), which found that the ability to perform basic Calculations such as subtraction, multiplication addition and division may not be sufficient to help a student with dyslexia meet the required target by the end of the school year. Students are expected to acquire skills in problem-solving to meet the obstacles presented by assigned activities.

During the interviews, science teachers also mentioned some of the difficulties that students experience in their subjects. Science teacher 1 stated Physics courses requires math calculations which demands logical sequencing and spatial thinking. Biology teacher 2 highlighted students with dyslexia have trouble grasping topics, since biology demands a thorough command of instruction language and scientific words.

On the other hand, many teachers noted during the interviews their concerns related to self-esteem of students. Mathematics teacher 1, stated, "*lack of self-esteem, being slow in understanding the material, and a short attention span are all challenges that must be overcome*". Mathematics teacher 2 stated, "*They are being bullied They have some emotional difficulties due to*

challenges that arise within the family and the lack of professional help provided by the school “.

According to a previous study by Glazzard (2010), early detection of dyslexia is important for students' self-concept and self-esteem. Before detection and intervention, adolescents with dyslexia have poor self-esteem and felt isolated due to poor peer, family, and teacher interactions.

Science Teacher 1 remarked that students with dyslexia need to increase their learning capacity since she stated, *“they are unwilling to exert effort because they lack confidence in their educational ability”*. This finding is supported by prior research by Polychroni, Koukoura, and Anagnostou (2006). Their study aimed to determine how students with dyslexia evaluate their academic talents, reading skills, and learning attitudes. The results indicated that students with dyslexia have a more pessimistic view of their academic ability.

All parents in the interviews listed reading, writing, spelling, word problems, and notetaking as difficulties which is corroborated with the research by (Peterson & Pennington 2015).

Additionally, parent 1 said, teachers do not develop specific objectives for students with dyslexia however the IEP includes enough details. Parent 3 said her child loses focus and gets headaches from the class's loud sounds and Parent 4 pointed out that large class size and big curriculum make teachers overwhelmed and impatient to satisfy her child needs. Previous research by Elias (2014) stressed that size of a class has an impact on students' learning since smaller classrooms allow for better instruction. Most students with dyslexia require individualized instruction and assistance such as one to one teaching so that they can progress at their own speed.

d. Secondary Teachers Challenges

The recent study's results indicated that the vast majority of secondary teachers (80%) agreed that class size might make it difficult to administer adequate intervention. This finding is supported by previous research by Wilson (2002). It had shown that teachers believe the size of their classes influences their instructional strategies, especially regarding how they divide the class into smaller groups and the amount of attention they can provide to each individual student. Other variables negatively influencing the adoption of inclusive practices include big students number and a low student-to-teacher ratio (Bhatnagar & Das 2014)

The length of the curriculum and a shortage of teaching materials, according to 73 % and 67 percent % of instructors, respectively, are believed as further barriers to fulfilling the requirements of children with dyslexia in the classroom. It is suggested by Hastings & Logan (2013) that the SENCO and learning support team should collaborate with subject teachers to find relevant items from a resource library that could be made available to all staff to help them address the needs of all students.

Moreover, the survey responses revealed that ,47% (n=7) of teachers agreed that lack of parent cooperation could be a barrier for successful intervention with students with dyslexia. Science teacher 1, stated, “.... *because of their denial they end up losing trust in the capabilities of the class teachers and instead employ private tutors ...As a result, their child begins to lose interest in school and to become unwilling to put forth effort*” This finding is supported by Chandramuki, Shastry, & Vranda (2012), since they explained that when a desire to have a "perfect" child is not realized, mothers are frequently connected with negative feelings such as denial, dissatisfaction, guilt, and stress.

Instructors seem to be less confident and have a negative attitude about having students with special needs in a large class, as well as a lack of parental and administrative support (Gaad & Khan 2007). Moreover, English teacher 1 highlighted another challenge, she said, " ... the absence of a support teacher could hinder satisfying the requirements of students with dyslexia in the regular classroom. Mathematics teacher 1 supported the same point of view as she stated, " *The school policy is clear, but implementation is difficult due to shortage in human resources, including special education teachers and assistants* ".

Their response is verified by Hastings & Logan (2013) who stressed the importance of human supports including the availability of classroom assistants and therapists which could help to change teachers' attitude to inclusion and the effectiveness of their intervention.

Moreover, lesson pace was highlighted as a challenge by Science teacher 2 and Mathematics teacher 1. Mathematics teacher 1, claimed, " ... *the major challenge is the lesson pace* ". Their response is reflected in the findings of Hastings & Logan (2013), they emphasized that subject teachers at the secondary level have far less time to engage with students who are struggling academically than they have in elementary school. This makes it more difficult for subject teachers to help struggling students succeed.

Another problem identified by Science teacher 1 is motivating students with dyslexia to be more confident in their abilities to study. They are hesitant to put effort because they lack confidence in their educational capacity (Anagnostou 2006).

e. Suggestions for Better Accommodation Outcomes

The quantitative analysis revealed that majority of teachers agreed or strongly agreed (80% to 100%) with the recommendations suggested by the survey. Majority of teachers agreed on using specific methods for assessments, using teaching strategies that consider the unique needs of students with dyslexia, understanding students' learning styles, communicating with families and educators, sharing the best practices across subjects, and providing staff training in the field of dyslexia (Gravin 2005).

When parents were asked about their ideas for providing better accommodations for secondary school students who have dyslexia, without exception, they stressed the importance of attending professional development workshops. Their responses are validated by another study conducted by Knight (2018) , which stressed the need of having a precise understanding of the underlying behavioural and cognitive difficulties associated with dyslexia in order to identify those who may be at risk and take the appropriate intervention.

Furthermore, Mathematics teacher 1 brought up the necessity for special education assistants in the classroom and the availability of teaching materials and resources to teachers which is backed up by *Hastings& Logan (2013)*.

The significance of providing children who have dyslexia with opportunities to improve their self-esteem was nurtured by, Science Teacher 1, as well as Mathematics Teacher 2. Burden (2008) supported the idea that children who have dyslexia are prone to suffer from emotional disorders, such as depression or withdrawal

Additionally, Science teacher 1 indicated that collaborating with specialists and increasing the guidance counsellor's role may be beneficial. This proposal contradicts the findings by (Falzon &

Camilleri 2010). Their study found that counselling failed to improve the self-esteem of students with dyslexia because they lacked basic understanding about the disorder. However, counselling cannot be viewed as a stand-alone intervention strategy; rather, it could be included into a coordinated effort that is supported by instructional pedagogies, and an inclusive school culture. One parent highlighted the importance of assistive technology such as text to speech software (Parr 2013; Wood et al. 2018). She also believes that students 'evaluation is based on knowledge, not writing, or reading abilities. She stated" *if writing is challenging for my child, why isn't the test given orally.*"

Secondary school SENDCo recommended additional theoretical and practical professional development workshops at the secondary school for inclusion teachers and leaders, as well as regular classroom teachers, led by professionals from both the school and outside the school. McCray and McHatton (2011) back up this suggestion. Their study looked at elementary and secondary school teachers' attitudes on including children with disabilities before and after attending a course on integrating exceptional students. They observe that the problem stems from theory-based training with minimal emphasis on actual experience.

5.2 Conclusion

Despite the UAE government's attempts to ensure implementing inclusive education effectively in UAE schools, number of barriers remain. One of the key issues confronting the UAE's educational approach to inclusion is the influence of intervention of educators in the regular classroom . The major goal of this research is to determine the degree to which secondary school instructors use effective interventions to accommodate secondary students with dyslexia in regular classroom settings., as well as to identify the potential obstacles that regular classroom teachers

and students with dyslexia may face. In addition to providing insight into the challenges and obstacles, the study identifies potential solutions to these challenges.

It was notable in the present study that teachers lacked adequate knowledge about dyslexia, and their comprehension of dyslexia features was not standard. However, instructors' responses to the survey statements and interview questions indicate good intervention with students with dyslexia in the classroom. According to teachers, the school administration's policy on accommodating secondary school students with dyslexia in the classroom is clear. Additionally, School SENDCo stated that teachers who teach students with dyslexia have access to each student's IEP data via the school's online platform. This displays the teachers' intervention knowledge, despite their lack of awareness of dyslexia.

Meanwhile, some parents' responses to interview questions show dissatisfaction with the intervention's outcomes regarding their children. Their responses revealed a correlation between instructors' lack of understanding of dyslexia traits and failure to recognize their students' individualized abilities which led to ineffectiveness of the intervention provided in the regular classroom. Parents who disagreed that their children's instructors acknowledged their children's weaknesses and strengths, emphasized that classroom teachers do not have a background regarding their children's challenges, even though frequent meetings take place. In addition, the SENDCo pointed out that the intervention that is suggested for students with dyslexia in their Individualized Education Programs (IEPs) might be problematic for regular classroom instructors to apply in the classroom owing to the inadequate knowledge that they have regarding the different features of dyslexia as well as students individualized needs. To sum up however the findings revealed knowledge about the beneficial intervention that must be conducted with students who have dyslexia, but it is vital that each child be treated on an individual basis.

The current study provided insight on the difficulties that secondary students with dyslexia may confront in the classroom setting. According to the findings, English teachers highlighted that university entrance examinations such as IELTS, SAT, and EMSAT are a significant barrier for secondary school students in the United Arab Emirates, who find it difficult to qualify for these exams. As shown by replies from teachers and parents, reading, writing, spelling, and note-taking presented difficulties.

Additionally, Mathematics teachers emphasized that students struggle with word problems. Besides, Science teachers emphasized that students with dyslexia struggle with instruction language and scientific terminology understanding. The physics teacher underlined the difficulty of mathematical computations, which requires sequential logic and spatial reasoning, as the greatest hurdle.

Moreover, low self-esteem, delayed content understanding, and a short attention span were identified as difficulties, as was the unwillingness of children with dyslexia to exert effort owing to a lack of confidence in their educational abilities. One teacher stated that inspiring students with dyslexia to be more confident in their study ability is difficult since they are unwilling to exert effort because they lack confidence in their educational capabilities.

Regarding the challenges that teachers may encounter in the classroom, majority of secondary teachers stated that class size might make it difficult to deliver adequate intervention and execute Individualized Education Program suggestions (IEP). The length of the curriculum, a lack of teaching resources, and the pace of lessons are considered to be further obstacles to meeting the requirements of students with dyslexia in the classroom. In addition, the survey results suggested

that lack of parental involvement might be a barrier to effective intervention with students with dyslexia.

In addition, responses indicated that, although the school's policy is clear, its execution is challenging owing to a lack of human resources, particularly special education teachers and assistants.

When teachers were asked for recommendations on how to improve the intervention and provide better accommodations for secondary school students with dyslexia, all instructors underlined the need of professional development workshops. Moreover, all the parents stressed the importance of dyslexia training for secondary school teachers. Secondary school SENDCo recommended more theoretical and practical professional development workshops for inclusion teachers and leaders as well as regular classroom teachers, delivered by school and outside-school professionals.

Furthermore, the quantitative analysis results indicated that majority of teachers agreed or strongly agreed that using specific methods for assessment ,employing teaching strategies that consider the unique needs of students with dyslexia, understanding students' learning styles, and communication between parents and educators could contribute to more effective intervention. Moreover, one of the parents mentioned the idea that their child would benefit from using assistive technologies such as text-to-speech software and having oral examinations.

Finally, some of the participants highlighted the significance of strengthening the self-esteem of children with dyslexia. This is a potential topic for future study that could support teachers in assisting students with dyslexia in the regular classroom.

5.3 Limitations

Throughout the course of the study, a variety of obstacles developed at various stages. Due to accessibility challenges and scheduling conflicts, the research could only be done at a single private school in Dubai, and only a relatively small number of people were available to participate. The participants in the study gave a wealth of information that offers a comprehensive picture to the research questions ,however, for subsequent research to be able to be generalized, a bigger sample size is necessary.

Due to the restricted time and busy schedules of parents, SENDCo, and teachers towards the end of the school year, the researcher was required to follow up with them regularly and offer them with frequent reminders.to ensure that all participants completed questionnaires and attended interviews.

5.4 Future research

The framework described in this study might potentially benefit from the research's contributions. It is possible that it could be improved even further by reaching out to additional participants to conduct a comparison study of the data across schools to strengthen the data.

The participation of educators, students, and parents has the potential to create data that is more accurate and reliable. It is possible to include students in future study to make it possible to hear more perspectives.

The relevance of boosting the self-esteem of students who have dyslexia was brought to light by the comments of few of the participants. This is a possible area that might be investigated more in

the future to generate theories and pedagogies that will support teachers in assisting individuals with dyslexia who attend mainstream classrooms.

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APPENDICES

Appendix 1



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25 May 2022

To Whom It May Concern

This is to certify that Ms. Ghada Elfar, of ID number 20000051, is a registered student in Master of Education in Special and Inclusive Education programme at The British University in Dubai.

Ms. Elfar is currently working on her thesis titled "Investigating Secondary School Teachers' Intervention to Accommodate Students with Dyslexia in a Private School in Dubai: Case Study". She is required to gather data through interviews and surveys.

Ms. Elfar needs affiliating herself professionally in your organization. Your assistance in engaging her in research projects is hereby requested. Any support provided to her in this regard will be highly appreciated.

This letter is issued upon Ms. Elfar's request.

Yours sincerely,



Mira Hamzeh
Head of Admissions, Student Services & Communications
The British University in Dubai

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Appendix 2

Consent agreement form

Researcher name: Ghada Farag Mohamed Elfar

Research details: A dissertation project to earn my master's degree in education / Special and Inclusive Education(SIE) at the British University in Dubai BUID. The topic is "*Investigating Secondary School Teachers' Intervention to Accommodate Students with Dyslexia in a Private School in Dubai: Case Study*". The main purpose of this study is to investigate to what extent high school teachers use effective intervention to accommodate students with dyslexia in the regular classroom and the challenges they may face. The study also offers insight on the obstacles that high school students with dyslexia may confront and how the barriers can be resolved.

Please read the below terms carefully before you sign the agreement.

- Your participation in this questionnaire/ interview is voluntarily.
- You should not be put under any form of pressure to complete the study.
- You have the right to withdraw from this study upon your personal decision.
- Any personal information should not be provided in any part of the research. In case of providing any personal details, it will be removed immediately to guarantee confidentiality.

I _____ (name of participant) freely agree to participate in the research project. The research purpose and procedures have been clearly explained to me. My participation is voluntarily, and I give the researcher the right to analyze and use the information provided in this questionnaire/ interview.

I hereby give the permission in the form of my signature to the researcher to use the information provided in the questionnaire/ interview for the purposes of the study.

Signature: _____

Date: _____

Appendix 3

Section 1 of 6

Secondary School Teachers' Questionnaire

Dear teachers,

My name is Ghada Elfar and I am a master student in Special and Inclusive Education at the British University in Dubai , working under the supervision of Professor Eman Gad.

I am conducting a research study to investigate secondary school teachers' Intervention to accommodate students with dyslexia in the regular classroom.

Your participation in this study is voluntary. If you choose not to participate or withdraw from the study at any time, there will be no penalty. Please note that the British University in Dubai's ethical standards shall be followed at all times. For privacy reasons, participants' names and identities will not be made public.

Thank you for being part of this research. I truly appreciate your time and effort in answering the questions for my research.

If you have any questions concerning this research study, please contact me on the following email:
Alfarghada@gmail.com / 20000051@student.buid.ac.ae

Sincerely,
Ghada Elfar

Appendix 4

Section 2 of 6

Background information

Description (optional)

Which subject do you teach? *

☐ Mathematics

☐ Science

☐ English

What is your highest degree? *

☐ Bachelor

☐ Master

☐ Doctorate

Do you have a qualification in special education? *

☐ Yes

☐ No

Have you taken any workshops/courses to work with students with dyslexia? *

☐ Yes

☐ No

After section 2

Continue to next section

Appendix 5

5. What is your knowledge about dyslexia? *

Tick all that apply.

	Tue	Not True	Not Sure
Dyslexia is caused by a poor home environment and/or poor reading instruction	☐	☐	☐
Dyslexia often affects writing and/or speaking abilities	☐	☐	☐
Reading and writing letters backwards is the main sign of dyslexia.	☐	☐	☐
People with dyslexia have below average intelligence	☐	☐	☐
Multisensory instruction is absolutely necessary for students with dyslexia to learn	☐	☐	☐
The brains of individuals with dyslexia are different from those of people without dyslexia	☐	☐	☐
Individuals with dyslexia usually exhibit the same characteristics with	☐	☐	☐

[e.com/forms/d/1-mg1qw62KApba78oi6unSH4ePtWs6Xck1HZZsCnKJA0/edit](https://forms.gle/1-mg1qw62KApba78oi6unSH4ePtWs6Xck1HZZsCnKJA0/edit)

Secondary School Teachers' Questionnaire

similar degrees of severity

Appendix 6

6. How do you accommodate students with dyslexia in the classroom? *

Tick all that apply.

	Always	Often	Sometimes	Rarely	Never
I provide one task at a time to ensure that it has been understood and consolidated before embarking on the next task.	☐	☐	☐	☐	☐
I allow additional time to complete tasks and assessments.	☐	☐	☐	☐	☐
I use charts and diagrams to highlight the bigger picture of	☐	☐	☐	☐	☐
I use colour to highlight key words.	☐	☐	☐	☐	☐
I use labelled diagrams and charts.	☐	☐	☐	☐	☐
I utilize games to consolidate vocabulary.	☐	☐	☐	☐	☐
I use technology such as multimedia calculator or combining listening	☐	☐	☐	☐	☐
I present information in little chunks with frequent opportunities	☐	☐	☐	☐	☐

<https://docs.google.com/forms/d/1-mg1qw62KApa78oi6unS4ePWs5Xck1HZZsCnKJA0/edit>

6/6/22, 10:12 PM

Secondary School Teachers' Questionnaire

for repetition and revision.

The font I use in my presentations is large and clear enough for all students

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I give a chance for the student to self - correct and self - monitor.

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Appendix 7

7. What are the challenges that could be faced by secondary school teachers to accommodate students with dyslexia in the mainstream classroom? *

Tick all that apply.

	Strongly agree	Agree	neutral	disagree	Strongly disagree
The length of the curriculum hinders me from fulfilling the requirements of dyslexic students in the classroom.	☐	☐	☐	☐	☐
The large number of students in the class makes it difficult to provide enough intervention.	☐	☐	☐	☐	☐
I am not acquainted enough with helpful interventions for students with dyslexia	☐	☐	☐	☐	☐
I have not been adequately provided by dyslexia training courses.	☐	☐	☐	☐	☐
The vast quantity of work allocated to me as a teacher outside of the classroom does not provide me with enough time to implement sufficient intervention.	☐	☐	☐	☐	☐
The lack of relevant instructional tools is a barrier to implementing adequate intervention.	☐	☐	☐	☐	☐

Appendix 8

8. What could be recommended to improve the intervention and effectively accommodate secondary school students with dyslexia in the mainstream classroom? *

Tick all that apply.

	Strongly agree	agree	neutral	disagree	strongly disagree
Assessing students with dyslexia using methods that take into account their specific difficulties.	☐	☐	☐	☐	☐
It is essential to allow for cross-curricular knowledge transfer and allowing instructors of different subjects to collaborate with one other and share good practices with students with dyslexia.	☐	☐	☐	☐	☐
Teaching strategies that take into account the unique needs of students with dyslexia are more likely to be successful.	☐	☐	☐	☐	☐
In order to have an effective intervention in the regular classroom, it is vital to understand the different learning styles of the students.	☐	☐	☐	☐	☐

Appendix 9

Parent 1

1-At what age was your child first formally identified as being at risk of a reading difficulty ? At age 9
2-Is there a family history of dyslexia?? No
3-Which grade is your child this year ? Grade 10
4- What is your child strengths and weaknesses when it comes to learning? She is positive and friendly. She likes sports and arts and likes to be creative. She is a visual learner . My daughter's weaknesses are reading, writing, and spelling as well as memorizing.
5-Does your child's strengths and weaknesses have been acknowledged by his/her regular Secondary classroom teachers? unfortunately, no
6-Can you tell me about the challenges your child is facing while coping with dyslexia in his/her classroom? However, the fact that her IEP is shared with her teachers , no personal targets assigned to her learning in many of the subjects taught on a daily basis.
7-Do you consider secondary school teachers knowledgeable with adequate training in dyslexia? Why do you think that? No, since they are not competent enough or well trained to cope with such problems and they are not provided with adequate resources offered by school.
8-Does your child's regular classroom teacher have a good understanding of your child's learning needs? Give reasons for your answer No, because they are not trained and not prepared to deal with such cases.
9-Are there any regular classroom accommodations provided to your child? Examples may include highlighting crucial points, dividing activities into manageable parts, visual displays, and graphic organizers, not being forced to copy large amounts of notes, and not being asked to read aloud Only one teacher is using visual displays .
10-Does your child have access to assistive technology in his/her regular classroom? This includes laptops and devices with software and apps such as text to speech, speech recognition or mind mapping tools. Only my daughter's personal laptop that does not include any of those software
11-Does your child receive reasonable adjustments for exams and assessments in his/her regular classroom? Examples include extra time, separate venue, rest breaks, alternative methods, assistive technology, or providing of a reader During the unit tests and summative assessments, my daughter used to be sent to the special education room, where she is helped with additional time and the use of her calculator and modified assessments.
12-Describe your overall level of satisfaction with the level of support your child receives in his/her regular classroom? Very unsatisfied -Unsatisfied-neutral-satisfied-very satisfied. Give reasons Unsatisfied due to not receiving enough support from her classroom teachers.

13- What are your suggestions for providing better support and effectively accommodating Secondary school students with dyslexia in their regular classroom?

All classroom teachers should get training to have a good understanding about dyslexia and its challenges .Also a strong inclusion department is necessary that could guide and put strategies at school. To provide students with dyslexia with a variety of useful tools to assist them achieve their goals.

Parent 2

1-At what age was your child first formally identified as being at risk of a reading difficulty ?

She was formally diagnosed seven years ago when she was in grade 2 and the test got repeated in grade 5 with similar diagnosis

2-Is there a family history of dyslexia?

No but big doubt that her dad has it but no formal test

3-Which grade is your child this year ?

grade 10

4- What is your child strengths and weaknesses when it comes to learning?

What I like about my daughter is that she used to develop her own way of studying .Now she is in grade 10 and she is completely independent. She's a really outgoing and social girl, and she tries her best to get the job done in the most efficient manner possible. Weaknesses are the main characteristics of dyslexia .Short memory and difficulties in logical thinking in mathematics. She seems to get distracted easily so she needs frequent checking for understanding

5-Does your child's strengths and weaknesses have been acknowledged by his/her regular Secondary classroom teachers?

Recently, yes; but this was not always the case. When she was first given a diagnosis in grade two, I often encountered resistance from her educators. However, I discovered that some of her instructors now have a better understanding of dyslexia and that they are more accepting of it.

6-Can you tell me about the challenges your child is facing while coping with dyslexia in his/her classroom?

The most difficult task she has is taking notes. She used to do her work at home since she is slow and the time at school is insufficient for her. So she would often copy notes from her peers at home.

7-Do you consider secondary school teachers knowledgeable with adequate training in dyslexia? Why do you think that?

The level of understanding and knowledge is not the same among her teachers. In terms of knowledge, I find some are knowledgeable, but some don't have the skills to deal with dyslexia .

8-Does your child's regular classroom teacher have a good understanding of your child's learning needs? **Give reasons for your answer**

I see a change. One of the teachers first refused to recognize my daughter's dyslexia-related difficulties, but when I explained the situation to her at the parent meeting, She began to understand the difficulty

9-Are there any regular classroom accommodations provided to your child? Examples may include highlighting crucial points, dividing activities into manageable parts, visual displays, and graphic

organizers, not being forced to copy large amounts of notes, and not being asked to read aloud Yes, certain accommodations are available. In Islamic studies, however, there is no pull-out session since her Islamic teacher understands that my daughter has trouble remembering and she instructs her to recite rather than memorize. When it comes to evaluation or classwork, other instructors offer her easier material. At least most of the instructors are making modifications to suit my daughter's requirements.
10-Does your child have access to assistive technology in his/her regular classroom? This includes laptops and devices with software and apps such as text to speech, speech recognition or mind mapping tools. Only her personal laptop is allowed to be used in her class.
11-Does your child receive reasonable adjustments for exams and assessments in his/her regular classroom? Examples include extra time, separate venue, rest breaks, alternative methods, assistive technology, or providing of a reader She used to be given additional time for formal examinations, and she now takes her tests in a separate room with the option of utilizing her laptop if necessary
12-Describe your overall level of satisfaction with the level of support your child receives in his/her regular classroom? Very unsatisfied -Satisfied-Unsatisfied-neutral-satisfied-very satisfied. Give reasons I am satisfied as I feel that my child started receiving some of the support that she needs to feel more confident about her learning.
13- What are your suggestions for providing better support and effectively accommodating Secondary school students with dyslexia in their regular classroom? Providing assistive tools like text-to-speech software as I discovered it while researching and realized that institutions throughout the world use these tools. Also, if writing is challenging for my child, why isn't the test given orally? I believe that the evaluation is based on their knowledge and what they've learned, not on their ability to write or read. If it could be difficult for the teacher to provide full attention to the students due to the big class size, a recorded session could be very beneficial for my daughter. Although some accommodations are available in the classroom, but more is required. Professional training on dyslexia is required not just for special education instructors, but also for regular classroom teachers. I believe if instructors lack awareness and sufficient training, they will be unable to assist students or their parents.

Parent 3

1-At what age was your child first formally identified as being at risk of a reading difficulty ? Age 6
2-Is there a family history of dyslexia?? Yes
3-Which grade is your child this year ? Grade 11
4- What is your child strengths and weaknesses when it comes to learning? He interacts positively with peers and teachers. Also, he is motivated to learn and very attentive and focused in class. However, he struggles with word problems ,reading and writing.
5-Does your child's strengths and weaknesses have been acknowledged by his/her regular Secondary classroom teachers? Yes, some of them .
6-Can you tell me about the challenges your child is facing while coping with dyslexia in his/her classroom? At first, he had difficulties with several subject teachers who did not understand his condition.Also ,sometimes he gets a headache and loses attention because of the noise/loud voices in the classroom.
7-Do you consider secondary school teachers knowledgeable with adequate training in dyslexia? Why do you think that? I've found that most of them are knowledgeable of the characteristics of dyslexia; nevertheless, only a few of them have the capacity to properly apply the instructions and recommendations included in my son's individualized education program (IEP).
8-Does your child's regular classroom teacher have a good understanding of your child's learning needs? Give reasons for your answer Yes ,the teachers follow the recommendations in my child's IEP.
9-Are there any regular classroom accommodations provided to your child? Examples may include highlighting crucial points, dividing activities into manageable parts, visual displays and graphic organizers, not being forced to copy large amounts of notes, and not being asked to read aloud Only a few of the teachers in his classes use visual displays; moreover, they do not require him to read out loud in front of the class and they do not address his spelling errors.
10-Does your child have access to assistive technology in his/her regular classroom? This includes laptops and devices with software and apps such as text to speech, speech recognition or mind mapping tools. He is allowed to use his laptop in the classroom, but no special software is used .
11-Does your child receive reasonable adjustments for exams and assessments in his/her regular classroom? Examples include extra time, separate venue,rest breaks, alternative methods, assistive technology, or providing of a reader He is given extra time during summative assessment in core subjects along with a separate venue and sometimes the teacher is reading for him.
12-Describe your overall level of satisfaction with the level of support your child receives in his/her regular classroom? Very unsatisfied -Unsatisfied-neutral-satisfied-very satisfied. Give

reasons Very satisfied. The school is providing the best support; I can see the improvement in my son academically and also in his personality. He has become more confident.
13- What are your suggestions for providing better support and effectively accommodating Secondary school students with dyslexia in their regular classroom? New teachers must have training on how to deal with students with dyslexia .

Parent 4

1-At what your child first formally identified as being at risk of a reading difficulty ? In grade 4 however in grade 3 I realized her problem, but she had her formal diagnosis in grade 4
2-Is there a family history of dyslexia?? no
3-Which grade is your child this year ? Grade 7
4- What is your child strengths and weaknesses when it comes to learning? She is a friendly teenager. She always asks for help or clarification when needed. She's particularly interested in using pictures to help her remember new vocabulary. Her weaknesses include difficulty in reading, spelling, and writing. Also, she has difficulty expressing the written tasks.
5-Does your child's strengths and weaknesses have been acknowledged by his/her regular Secondary classroom teachers? I do not want to be pessimistic but unfortunately her regular classroom teachers do not have a background about her difficulty however regular meetings. They like students to be perfect and find it difficult to understand her difficulties and unfortunately ignore her . The school SENDCO helped her and gave her the support she needed and filled the gap caused by her regular classroom teachers.
6-Can you tell me about the challenges your child is facing while coping with dyslexia in his/her classroom? She feels embarrassed to read aloud in class .After grade three ,rarely they support her in reading. I think it is because high number of students in class and the big curriculum content ,teachers do not have time or patience to meet her needs
7-Do you consider secondary school teachers knowledgeable with adequate training in dyslexia? Why do you think that? Not all teachers. Some teachers don't have awareness about dyslexia and don't have patience to deal with the difficulties faced with students who have this disability.
8-Does your child's regular classroom teacher have a good understanding of your child's learning needs? Give reasons for your answer Unfortunately, no. Not only with her but also with her brother who has difficulties in his eyesight which causes learning difficulties. I had a meeting with one of her teachers and I desperately tried to convince the teacher to simplify the content with her, however she has a formal report. Secondary School SENDCO is the one who supported her to achieve better.

9-Are there any regular classroom accommodations provided to your child? Examples may include highlighting crucial points, dividing activities into manageable parts, visual displays, and graphic organizers, not being forced to copy large amounts of notes, and not being asked to read aloud Not at all .My daughter is working independently with the support of school SENDCo especially in Science, English and mathematics. But unfortunately, no efficient support at all in her regular classroom.
10-Does your child have access to assistive technology in his/her regular classroom? This includes laptops and devices with software and apps such as text to speech, speech recognition or mind mapping tools. She is allowed only to use her iPad which I find useful especially during the pandemic and it gave her more self-confidence.
11-Does your child receive reasonable adjustments for exams and assessments in his/her regular classroom? Examples include extra time, separate venue,rest breaks, alternative methods, assistive technology, or providing of a reader Yes ,some of them , but during the pull-out sessions in her core subjects only.
12-Describe your overall level of satisfaction with the level of support your child receives in his/her regular classroom? Very unsatisfied -Unsatisfied-neutral-satisfied-very satisfied. Give reasons My answer will be unsatisfactory in the absence of the SENDCo support. My daughter's personal efforts along with the SENDCO's support helped her a lot to overcome her difficulties.
13- What are your suggestions for providing better support and effectively accommodating Secondary school students with dyslexia in their regular classroom? NA

SENDCo Interview Questions

1-Do you consider secondary school teachers knowledgeable with adequate training in dyslexia? Why do you think that? Not all of them. However regular classroom teachers are provided by the recommended intervention with students with dyslexia in their IEPs ,they find difficulties in implementation in the classroom due to lack of knowledge about dyslexia.
2-Do secondary school teachers have a good understanding of students with dyslexia learning needs? Why do you think that? They are supposed to know about the needs of each student with dyslexia by their IEPs but it seems they have difficulty in implementation.
3-Are there any classroom accommodations implemented by secondary school teachers to

support secondary school students with dyslexia ? Yes/No please explain Some of the teachers use levelled worksheets, virtual labs ,integrate technology in classwork ,peer support ,levelled exams based on the students' performance and IEPs recommendations.
4-Do secondary school students with dyslexia receive reasonable adjustments for exams and assessments in their regular classroom? Yes/No please explain Yes, during the summative assessments only. Teachers used project-based assessments and some exams were conducted orally however there is little support given during formative assessments that is done frequently in the regular classroom.
5-Tell me about the challenges secondary school students with dyslexia are facing while coping with dyslexia in their regular classroom. Teachers ask students with dyslexia to write notes which is very challenging for them .Also the font that teachers use in their presentations is sometimes small, which makes it difficult for students .
6-Is the school administration's policy clear in regard to meeting the needs of secondary school students with dyslexia in their classroom? The policy is clear and updated regularly. Teachers who teach students with dyslexia have access to all the data related to the performance of students via the school online platform.
7-What are your suggestions for providing better support and effectively accommodating secondary school students with dyslexia in their regular classroom More theoretical and practical professional development sessions for Secondary regular classroom and inclusion leaders by internal and external professionals.

Teacher 1/English

1-Do you find yourself knowledgeable about dyslexia? As much as it catered a little bit to how to deal with students with dyslexia, I don't find myself fully knowledgeable about it.
2-What are some of the interventions that you are using with students with dyslexia in your class? Sometimes I use big fonts

3- Have you noticed any underachievement of students with dyslexia in your subject? Yes/No. If yes, please give reasons. Yes, because most of what I teach is about reading and writing. When my students are in 11th and 12th grade, I prepare them for standardized tests like the SAT and IELTS. All the texts are long with small fonts which is hard for them.
4- What are the challenges that could be faced by secondary students with dyslexia in the regular classroom? The most difficult aspect for them is reading comprehension, followed by a vast range of words that each have more than one syllable. Also, the fact that there is a time limit adds an additional layer of difficulty.
5- Do you believe there is a connection between your selected intervention with students with dyslexia and achieving or not achieving in your subject? What makes you believe that? Definitely proper intervention makes a difference in students' achievement and makes some progress.
6- What are the challenges you experience in accommodating students with dyslexia in your class? To prepare them for the external standardized test is the big challenge. It was never possible to give them the same tasks as their peers and have them accomplish them. However, with some help, some of the regular classroom tasks were achieved.
7- Do you think there is a lack of cooperation from parents that hinders implementing successful strategies to meet the needs of secondary school students with dyslexia? The most significant obstacle, which makes working with some parents difficult, is denial.
8- Is the school administration's policy clear in regard to meeting the needs of secondary school students with dyslexia in their classroom? There have been continuous efforts made, but there has not been a clear policy on how to deal with pupils that have dyslexia.
9- What are your suggestions for providing better support and effectively accommodating secondary school students with dyslexia in their regular classroom? Dyslexia is a wide term and there are numerous aspects of the condition that neither I nor the other teachers in the school are familiar with. Even though we have in the past worked with a significant number of students who have dyslexia, there is still an essential need for us to continue our professional development. In order for students and their parents to overcome barriers while coping with the disability, they need to be provided clear guidance from teachers and SEND department.

Teacher 2/English

1-Do you find yourself knowledgeable about dyslexia? Yes . To a certain extent. I have attended a couple of workshops on lesson planning for students with dyslexia and how to implement instruction in their IEPs
2-What are some of the interventions that you are using with students with dyslexia in your class? One to one instruction, provide visuals, use large prints worksheets, provide extra time, and peer support.
3-Have you noticed any underachievement of students with dyslexia in your subject? Yes/No. If yes, please give reasons. In my classroom, using the appropriate intervention based on the IEP's suggestion for students with dyslexia helped students obtain better results and gain confidence in the quality of their work.
4-What are the challenges that could be faced by secondary students with dyslexia in the regular classroom? Amount of work needed. It is quite stressful for them to take the external examinations that are necessary for entrance to universities, such as the IELTS and the SAT as well as the EMSAT that is required by Universities in UAE.
5-Do you believe there is a connection between your selected intervention with students with dyslexia and achieving or not achieving in your subject? What makes you believe that? Without a doubt, there is . Providing the appropriate attention and giving one-on-one instructions., Also the fact that parents are aware of the challenges faced by their children is another factor that is of great value that helps in successful intervention.
6- What are the challenges you experience in accommodating students with dyslexia in your class? Because of the large number of students and the absence of a support teacher, I feel challenged to offer the students who have dyslexia my complete focus and satisfy their requirements.
7-Do you think there is a lack of cooperation from parents that hinders implementing successful strategies to meet the needs of secondary school students with dyslexia? Of course . I experienced a few other parents who refused to acknowledge the presence of the disability that affected the intervention to be successful.
8-. Is the school administration's policy clear in regard to meeting the needs of secondary school students with dyslexia in their classroom?

Yes, the existence of special education departments, and the provision of individualized education programs (IEPs) for any student who struggles with dyslexia, or any other kind of disability are some of the numerous initiatives that have been implemented at school.
9- What are your suggestions for providing better support and effectively accommodating secondary school students with dyslexia in their regular classroom? There is a need for further professional development for secondary regular classroom teachers. We became become more occupied with the curriculum and duties however, primary school teachers get more workshops than secondary school teachers.

Teacher 1/Mathematics

1-Do you find yourself knowledgeable about dyslexia? To a limited extent
2-What are some of the interventions that you are using with students with dyslexia in your class? One to One attention, Visual and verbal Prompts, extra time to finish the task
3-Have you noticed any underachievement of students with dyslexia in your subject? Yes/No. If yes, please give reasons. Yes ,that is the reason my students are pulled out three to four lessons a week.
4-What are the challenges that could be faced by secondary students with dyslexia in the regular classroom? The most difficult aspect of the subject is word problems. Lack of self-esteem, being slow in understanding the material , and a short attention span are all challenges that must be overcome.
5-Do you believe there is a connection between your selected intervention with students with dyslexia and achieving or not achieving in your subject? What makes you believe that? Yes, using some of the instructions recommended in their IEPs such as visuals, graphs, colour coding ,it helped to see improvement.
6- What are the challenges you experience in accommodating students with dyslexia in your class? The major challenge is the lesson pace. My students are pulled out most of the class time so during push in sessions I find it difficult to keep them on the same concept as the rest of their peers.
7-Do you think there is a lack of cooperation from parents that hinders implementing successful strategies to meet the needs of secondary school students with dyslexia?

In my scenario, the parents are really helpful, but based on my colleagues' stories and my past experiences in other schools, parents are often in denial, which inhibits intervention efficacy.
8- Is the school administration's policy clear in regard to meeting the needs of secondary school students with dyslexia in their classroom? The school policy is clear, but implementation is difficult due to shortage in human resources ,including special education teachers and assistants. 9- What are your suggestions for providing better support and effectively accommodating secondary school students with dyslexia in their regular classroom? Unfortunately, a lack of expertise makes meeting their requirements challenging, particularly in essential subjects. Professional training is required to assist us as regular classroom instructors in recognizing them and sending referrals. Also, to identify their areas of weakness and choose the proper way to help them. Hiring learning support assistants is important during push-in sessions. Providing ready to use manipulatives that are recommended in students IEPs such as graphs ,number lines and solid shapes to be used in the classroom.

Teacher 2/Mathematics

1-Do you find yourself knowledgeable about dyslexia? yes, in addition to completing my teaching diploma, I have also completed a few courses on special education. These courses focused on how to work with students who have special needs as well as students with dyslexia down syndrome and autism
2-What are some of the interventions that you are using with students with dyslexia in your class? I use ready notes, reduced amounts of instruction time, regular checks, modelling, and manipulatives.
3--Have you noticed any underachievement of students with dyslexia in your subject? Yes/No. If yes, please give reasons. Yes, it is correct with some of them. Some students with dyslexia lack the prior knowledge and abilities necessary for secondary education. Parents' denial and delay in identifying a student's

disability at school, in my opinion, are to blame for the lack of effective intervention and underachievement.
4--What are the challenges that could be faced by secondary students with dyslexia in the regular classroom? They have a short memory span, and they have trouble concentrating for an extended period of time. In addition to this, they are being bullied by a few of their peers because they have difficulty in reading the problem-solving questions and analysing the task quickly. They have some emotional difficulties due to challenges that arise within the family and the lack of professional help provided by the school in terms of building up students with dyslexia self-esteem and self-confidence.
5--Do you believe there is a connection between your selected intervention with students with dyslexia and achieving or not achieving in your subject? What makes you believe that? Yes, there is a clear correlation between students with dyslexia ' academic success and the use of appropriate intervention. There is a range of outcomes depending on the severity of the condition and how well the learner is able to follow the instruction.
6-- What are the challenges you experience in accommodating students with dyslexia in your class? However ,individualized teaching is beneficial for students who have dyslexia; yet this kind of instruction is challenging to be provided in settings where there are a lot of students and absence of a special education assistant in the classroom.
7--Do you think there is a lack of cooperation from parents that hinders implementing successful strategies to meet the needs of secondary school students with dyslexia? To begin, there are some parents who refuse to acknowledge the existence of their child's disability, which makes it more difficult to provide the necessary assistance. as well as a lack of participation from parents in terms of following up with their children or boosting their children's self-esteem through collaboration with school regular classroom instructors, school counsellors, and special education departments.
8-. Is the school administration's policy clear in regard to meeting the needs of secondary school students with dyslexia in their classroom? Without question. The long-term objective of our school is to guarantee that no student lags behind the others. In addition to having monthly meetings with parents, the school provides teachers who teach students with dyslexia with extensive individualized education plans (IEPs) that contain information about each student's weaknesses and strengths as well as the subject-specific objectives that must be met.
9- What are your suggestions for providing better support and effectively accommodating secondary school students with dyslexia in their regular classroom? We need to participate in ongoing professional development in order to get a deeper understanding of the latest techniques and tools that might be helpful when working with

students who have dyslexia in the classroom.

Create several classes in the same grade into groups based on their current ability level and assign one of the teachers to work with each group. This approach will help for more successful intervention.

A campaign to inform students about dyslexia and teach them how to be accepting of their peers who struggle with the condition as well as how to aid those classmates.

Consistent communication with parents, often in the form of weekly progress reports that highlight weak spots in the child's performance.

Teacher 1/Science

1-Do you find yourself knowledgeable about dyslexia?

To a certain extent, since it was learned via the process of working with them and following the directions provided by the IEP.

2-What are some of the interventions that you are using with students with dyslexia in your class?

Working one-on-one with each of them and providing instant feedback on their performance. Reading aloud to them the problems that need more investigation and data analysis, as well as dividing the problem into manageable chunks is beneficial.

3--Have you noticed any underachievement of students with dyslexia in your subject? Yes/No. If yes, please give reasons.

Numerous mathematical computations are required for physics coursework. It requires a variety of abilities and ideas, such as the ability to sequence logical events and to think spatially.

In order to do effectively in physics, a wide variety of abilities need to work together. A student who does not have a learning difficulty needs to combine a variety of various thoughts and ideas. Therefore, many students with dyslexia became disinterested in physics as a result of their disability .

4--What are the challenges that could be faced by secondary students with dyslexia in the regular classroom?

Reading difficulties and a limited memory led to a loss of interest. They are unwilling to exert effort because they lack confidence in their educational ability. In addition, grasping the formula, solving multi-step problems, and remembering lengthy key phrases is particularly difficult for them.

5--Do you believe there is a connection between your selected intervention with students with dyslexia and achieving or not achieving in your subject? What makes you believe that?

Yes . I was able to see some improvement in my students' academic performance as a result of my careful compliance to the suggested adjustments in their IEPs as well as, on occasion, the modifications made to the curriculum and the tests that they conduct .

Gaining an understanding of both their existing strengths and potential development areas also have a great benefit in their progress.

6-- What are the challenges you experience in accommodating students with dyslexia in your class? I am challenged to increase their interest in learning and performance. Also, motivating them to be more confident requires a great deal of work on my side.
7--Do you think there is a lack of cooperation from parents that hinders implementing successful strategies to meet the needs of secondary school students with dyslexia? While some parents are highly cooperative, others continue to reject that their child has a disability. Because of their denial and the fact that parents watch their children struggle, they end up losing trust in the capabilities of the class teachers and instead employ private tutors to educate their children at home. As a result, their child begins to lose interest in school and to become unwilling to put forth effort, which has a negative impact on the effectiveness of the intervention employed in the classroom.
8- Is the school administration's policy clear in regard to meeting the needs of secondary school students with dyslexia in their classroom? Yes, it is. It presents a distinct picture of the students' areas of strength and weakness, in addition to their requirements in each topic and recommended intervention.
9- What are your suggestions for providing better support and effectively accommodating secondary school students with dyslexia in their regular classroom? However, the school offers well-written Individualized Education Programs (IEPs), but teachers need additional instruction on the latest intervention requirements for students with dyslexia. In addition, it raises the understanding of regular classroom instructors about their students' special demands. Improving children's self-esteem via collaboration with professionals and expansion of the role of the guidance counsellor in school.

Teacher 2/Science

1-Do you find yourself knowledgeable about dyslexia? Somehow
2-What are some of the interventions that you are using with students with dyslexia in your class? Providing students with visual aids could assist them in remembering scientific language and

vocabulary . When introducing a new topic, I provide word lists of new terminology in advance. and I do not penalize for spelling mistakes.
3- Have you noticed any underachievement of students with dyslexia in your subject? Yes/No. If yes, please give reasons. Many of the dyslectic students have difficulty understanding the concepts, especially that biology requires a good command of the language of instruction and the scientific terms. This does not apply to all dyslectic students since some perform very well.
4- What are the challenges that could be faced by secondary students with dyslexia in the regular classroom? No being t able to cope with the pace of teaching and learning.
5- Do you believe there is a connection between your selected intervention with students with dyslexia and achieving or not achieving in your subject? What makes you believe that? Using differentiated tasks and assessments reflect on the students' achievement. Providing the key words, shorter instructions, simplified language, and extra time can all contribute to higher achievement of results.
6- What are the challenges you experience in accommodating students with dyslexia in your class? Some of them require one on one support which might be challenging especially with big classes.
7- Do you think there is a lack of cooperation from parents that hinders implementing successful strategies to meet the needs of secondary school students with dyslexia? Some parents are cooperative and give extra support to their children, while others might be in denial. When there is a lack of cooperation between parents and teachers, students' achievement might be negatively affected.
8. Is the school administration's policy clear in regard to meeting the needs of secondary school students with dyslexia in their classroom? Yes, the school provides clear IEPs for each student with special education needs.
9- What are your suggestions for providing better support and effectively accommodating secondary school students with dyslexia in their regular classroom? Teachers need the suitable tools to accommodate secondary school students with dyslexia. Providing IEPs with clear instructions of the students' needs, challenges and effective teaching strategies is a helpful tool. Giving professional development sessions and sharing best practices can also help teachers in supporting their students.

Appendix 10

Parent Interview Questions in Arabic

في اي عمر تم تشخيص طفلك رسمياً بأنه في صدد صعوبة القراءة؟
هل هناك اي تاريخ عائلي لحسن القراءة؟
هل لدى طفلك تشخيص او تقييم رسمي؟ -
ما هي نقاط الضعف و نقاط القوة لدى طفلك في التعلم ؟
هل تم التأكد من نقاط القوة و الضعف في التعلم من قبل مدرس الصف ؟
هل تعتبر مدرسي المرحلة الثانوية بدراية عن التدريب المناسب لحسن القراءة؟ ولماذا تعتقد ذلك ؟
صف جودة تعليمات القراءة المقدمة لطفلك في الفصل ؟ ضعيف - مقبول - جيد - جيد جداً - ممتاز. اذكر الاسباب
هل مدرس الصف الخاص بطفلك على فهم جيد بمتطلبات طفلك للتعلم ؟ اذكر الاسباب لاجابك
هل هناك اي تجهيزات مقدمة لطفلك في الصف؟ بعض الامثلة على ذلك -تظليل النقاط الاساسية -تفكيك المهام الكبيرة لخطوات صغيرة - العرض البصري - عدم توقع الطفل لنقل كمية كبيرة من المذكرات و النقاط -عدم توقع القراءة بصوت عالي امام الصف
هل يملك طفلك الامكانية لاستعمال تقنيات مساعدة في الصف ؟- يشمل ذلك الاجهزة اللوحية و اللابتوب و اجهزة ببرامج و تطبيقات مثل النص الى كلام، التعرف على الكلام ، و ادوات رسم هل يعطى طفلك التعديلات المعقولة لامتحانات و التقييمات في الصف ؟
الامثلة تشمل :وقت اضافي مكان خاص فترات راحة طرق بديلة تقنيات مساعدة توفير قارئ
اشرح مستوى رضاك العام في مستوى الدعم المقدم لطفلك في الصف ؟ غير راضي تماماً - غير راضي - طيبعي - راضي - راضي جداً. اذكر الاسباب
هل يمكنك ان تخبرني بالتحديات التي تواجه طفلك في تعامله مع حسن القراءة في الصف ؟
ما هي اقتراحاتك لتقديم دعم افضل و لتجهيز طلبة المرحلة الثانوية الذين يعانون من حسن قراءة على نحو فعال في الصفوف ؟-