

***Doctorate in Professional Educational,
Child and Adolescent Psychology***

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Doctoral Thesis

**“A Happy and Caring School”: Capturing the Voices of
Dyslexic and Non-dyslexic Learners about Their Ideal and
Actual School Experiences**

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Thesis Declaration

I, Chua Yong En Beatrice, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Abstract

The increase in the number of students with special educational needs (SEN) studying in mainstream schools in Singapore has led to growing development in inclusive education practices. However, there are few studies that have explored these students' views about their schooling experiences and the barriers and support that they experience. This present study sought to explore the perspectives of dyslexic learners, their parents and educators on their views on an ideal school environment and actual mainstream primary school experiences. It was hoped that by finding discrepancies between the ideal and actual, the study would raise gaps in the provision and promote positive change in students' mainstream school experience.

Six pairs of dyslexic child-parent dyads, seven pairs of non-dyslexic child-parent dyads and 5 educators who have been in the support of dyslexic individuals in mainstream settings were recruited. All learners had either completed primary education or were in their last few months of completing primary school at the time of research. Semi-structured interviews were conducted and analysed using thematic analysis.

The findings revealed that dyslexic learners had a greater emphasis on their physiological and safety needs to be met. In contrast, non-dyslexic learners placed a greater focus on developing mastery and gaining in-depth knowledge, while considering the physical aesthetic needs of the learning environment. Dyslexic learners sought to have schools that offered a safe and supportive environment where there are no bullies. Their parents sought for provisions that would build their confidence and school engagement. Dyslexic learners who were interviewed generally had a mixed school experience. Regardless of SEN, all dyslexic and non-dyslexic learners faced the cultural pressure to excel academically, and some experienced bullying and peer difficulties. While all learners found a significant adult at school, the overall support offered varied within and across school and was limited. As stressed by all participants (dyslexic and non-dyslexic) groups, joint efforts by parents, teachers, school leaders, the education system and the wider society is needed to improve inclusion and school experience for all learners.

Implications for schools and educational psychologist practice, and recommendations for future research are considered.

Impact Statement

The present study explored the experiences of dyslexic learners within the mainstream school by gathering the voice of learners themselves, their parents and educators. The study sought to find gaps in mainstream provisions by comparing the ideal school described by participants and learners' actual experiences. A comparison was also conducted between dyslexic learners and their non-dyslexic peers.

Findings highlight that establishing a safe and supportive environment was critical for all learners, but particularly raised among dyslexic learners. Consistent with literature, the findings of the present study show that a safe learning environment encompasses not only physical safety, but also includes emotional and psychological safety. It entails keeping students safe from bullying and physical harm, providing safe adults to establish secure relationships and having a learning environment where learners feel comfortable to make mistakes. It calls for educators to view students' emotional needs as paramount in the course of attaining good academic performance.

Peer bullying and managing social interactions were not exclusive experiences of dyslexic children but were also raised by some non-dyslexic learners. As such, the study challenges the unhelpful rhetoric that only specialists can support dyslexic learners. Instead, strengthening teacher-student and peer relationships ought to be a universal provision. Educational psychologists (EPs) have a unique role to promote and advocate this at schools. At a systemic level, EPs can work with principals to review school-wide practices that foster positive relationships. EPs can likewise flexibly offer training to enhance teachers' skills in active listening and responding promptly to non-verbal and verbal cues. EPs can also work with students in student-led projects to promote safe learning.

Another salient finding of the present study lies in building capacities within the learners' context to build support. All participants - learners, parents and educators, regardless of SEN or gender, highlighted that a concerted effort is needed to build an inclusive environment for all.

However, at present, there is a lack of teacher-parent collaboration, teachers lacked confidence to accurately identify SEN learners, and parents tend to feel overwhelmed with diagnostic and transition information. The present study promotes that EPs use Bronfenbrenner's PPCT model to think holistically about the levers of change within the various systems. Some suggestions given by participants included parent training, providing

transition support to learners and parents, and reviewing curriculum and access arrangements. While reviewing curriculum and access arrangements is something to work towards in the long-term, small steps like student engagement and parent involvement are progress that can be actioned in the near future.

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1. Introduction

There have been increasing international efforts towards including children with special educational needs (SEN) in mainstream education (Sabapathy, 2014; Strogilos & Lim, 2019). The 1994 Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) was the first pivotal international document that placed significant emphasis on the education of children with SEN (Yeo et al., 2010). It acknowledged that individuals with SEN have a right to participate in common learning activities within the ordinary school system, regardless of gender, ethnicity, culture and social background (Opertti, Walker & Zhang, 2014). In more recent efforts, the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), in particular Article 24, gave legally binding status to the right to inclusive education (UNCRPD, 2006). Article 24 of the convention stipulated that reasonable accommodations and individualised supports must be provided for students with disabilities.

The ideals and intentions of an inclusive education promises social justice and equal educational rights for all. However, the practical implementation of inclusive education is more complex and difficult. International systematic reviews have noted cross-cultural differences in how inclusion is implemented (Ainscow & César, 2006; Fergusson, 2008; Hehir et al., 2016; Schwab, Sharma & Loreman, 2018). This is due to the varied cultural contexts, conceptualisation, interpretation and operationalisation of inclusion (Haug, 2017; Makoelle, 2014; Wong et al., 2013). Countries, like the United States, United Kingdom, Canada, Australia, Japan, China and South Korea, have enacted policies and/or legislations to promote inclusion. Yet, countries like South Africa and Singapore have made progress in advocating inclusive education without mandating legislations (Kozleski et al., 2008; Poon et al., 2003). In some states in the United States and Canada, more than 70 percentage of their students with disabilities are supported within mainstream classrooms (Fergusson, 2008). Yet, across Europe, separate schooling of children with disabilities remains a widespread practice (Council of Europe, 2017). Consequently, to effectively support and address the barriers that prevent the inclusion of SEN children, Strogilos and Avramidis (2017) have called for researchers and practitioners to be sensitive to the social and cultural factors that impact inclusion and understand the historical development of SEN services within each context.

1.1. Educational system in Singapore

The present study was carried out in Singapore between September 2019 and September 2020. Compulsory education in Singapore requires Singaporean children to

complete six years of primary education in national schools before they turn 15 (Ministry of Education, 2020). In 2019, the Compulsory Education Act (2019) was extended to include children with moderate to severe special needs.

In Singapore, approximately 2.1% of the total student population, aged between 7 and 18 years old, (around 32,000 pupils) have special needs (Enabling Masterplan 2017-2021 Steering Committee, 2016). To meet the educational needs of SEN learners, Singapore has adopted a dual education system (Walker & Musti-Rao, 2016). Most of the SEN learners (80% of the total SEN student population or 25,000 students) who have the cognitive ability to cope with the curriculum and the adaptive skills to learn in large group settings are typically integrated in mainstream schools (Choo, 2019; Disabled People's Association Singapore, 2016). They include students diagnosed with dyslexia, mild Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder. The remaining 20% of SEN student population, who need more intensive specialised support, are enrolled into Special education (SPED) schools. As of 2020, there are a total of 19 government-funded SPED schools run by 12 social service agencies (Ministry of Education, 2020).

Singapore is considered to still be in her infancy in inclusive education (Poon et al., 2012). Inclusion was only first referenced in 2004, during the Prime Minister's inauguration speech with a vision for an inclusive society (Poon, Musti-Ra & Wettasinghe, 2013). Since then, the Singapore government has made strides by firstly, equipping every mainstream primary and secondary schools with SEN-trained staff (Walker & Musti-Rao, 2016). Secondly, compulsory screening tests are conducted for all students in the first year of formalized schooling to ensure early identification of students who are at-risk of literacy and numeracy difficulties. Thirdly, systemic interventions are also offered in all primary schools to support identified children, such as the Learning Support Programme (LSP) and School-based Dyslexia Remediation (SDR) programme. Fourthly, new initiatives like the Satellite Partnership programme have been introduced where SEN learners in specialist settings and their non-SEN peers are given opportunities to interact and co-participate in school activities. Many of these SEN initiatives have been spearheaded by Educational Psychologists within the Psychology Service Branch (PSB), Ministry of Education.

Yet, despite these positive intentions and efforts, Singapore continues to face challenges and barriers to inclusion. Existing studies have identified three significant societal forces that have worked against inclusion. First, Poon and colleagues (2014) posited that the structure of the Singapore education system – characterised by a series of high stakes examinations and streaming contributes to the struggles faced by many SEN students to

cope within the mainstream setting. The first national examination for all Singaporeans occurs as early as the age of 11 to 12 years old, at the end of their six-year primary education - the Primary Six Leaving Examination (PSLE). Students have to pass the PSLE in order to progress onto secondary education. Learners who fail the PSLE have the options of re-taking the PSLE or advancing to a vocational school. For learners who pass PSLE, they are streamed according to their academic performance at the PSLE, from higher-ability to lower-ability streams – the Express, Normal (Academic) and Normal (Technical) Stream. While the admission criterion into secondary school and streaming were intended to cater to the different learning paces of students, it has further entrenched the stigmatization of learners who are academically disadvantaged (Chong, 2014). To grapple with the trade-off between customisation in education and the downside of stigmatization, the Singapore government has decided to phase out streaming across all secondary schools by 2024 and instead introduced Subject-Based Banding (SBB) (Ong, 2019). SBB promises to offer learners the flexibility to learn subjects at different standards according to their strengths. Anecdotally, SBB has been largely welcomed by academics, parents and teachers (Chua, 2019). However, some are also sceptical if this move alone is sufficient to counter the effects of students being labelled and stigmatised.

Second, Lim and Tan (2010) raised that inclusion is hindered by the marketisation of education in Singapore. Two key features of marketization within the Singaporean education system is the increased autonomy for schools and increased competition among schools. While the intention of these initiatives was to foster educational excellence, it has regrettably been perceived to have cultivated an achievement-focused and highly stressful educational system in Singapore too (Pang & Lim, 2017; Teng & Yang, 2016). Academic problems have been cited as a common and constant source of stress for adolescents in Singapore (Huan, See, Ang, & Har, 2008; Wong, 2019). In the latest PISA (2019), Singaporean learners were found to rank highest among the 79 participating countries in the fear of failure (OECD, 2019). Around 72 per cent of Singaporean students said they worry about what others would think of them if they failed and approximately 78 per cent said they would have doubts about their future if they were failing subjects (OECD, 2019; Wong, 2019). Schools are likewise under increasing pressure to attract students who can contribute to higher rankings in school league tables and thus perceive inclusion as a negative impact on league tables (Wong et al., 2014). As noted by Walker and Musti-Rao (2016), the narrow definition of success focused on maximising students' academic achievements within the Singapore culture goes against the ethos of an inclusive education where the diverse and unique needs of all learners ought to be met (Heng, 2013; O'Conner, 2007; Tan & Dimmock, 2015).

Third, Walker and Musti-Rao (2016) noted that the knowledge and training of mainstream schoolteachers and special educators remains to be limited and insufficient. This is evidenced by other local studies where primary and secondary mainstream teachers self-reported a lack of knowledge and experience with disability and an overall low confidence in supporting students with SEN (Poon et al., 2016; Thaver & Lim, 2014).

1.2. Gaps in literature

1.2.1. Lack of SEN learners' voice in inclusion studies in Singapore

Yet, despite the preliminary studies that have evidenced the challenges within the Singapore system to establish an inclusive education, few studies have sought the views of SEN learners to understand inclusion from their perspective (Ab Kadir, 2019). As poignantly expressed by Strogilos and Lim (2019), if the intent of an inclusive education is to transform schools to cater for all children, the perspectives of SEN learners matter as this ensures that appropriate provision is provided to meet their needs and wants. Studies have shown that when learners are consulted it has benefited their sense of connectedness, engagement in their learning, self-efficacy, social skills of children along with curriculum and assessment improvements and an overall positive attitudes towards school (Mitra & Gross, 2009; Rose & Doveston, 2008; Weare, 2015). Practitioners were also more likely to adopt these child-centred practices which in term improved relationships and outcomes (Flynn, 2018).

1.2.2. Limited studies in exploring the school experiences of Dyslexic learners

It would be ambitious and unhelpful for this current study to investigate SEN support across all SEN groups and educational levels. International studies on inclusion have urged for researchers to investigate disability-specific needs (Mawene & Bal, 2018). Combining views from parents and their children across a wide range of disabilities has often led to overgeneralizations about learners' needs and decision-making considerations (McNerney et al., 2015).

As such, the present study narrowed its focus to collaborate with dyslexic learners. Dyslexic learners form the largest group of SEN students taught in Singaporean mainstream schools (Ang, 2020), and yet their views have been overlooked. It has been estimated that the prevalence of dyslexia amongst school-aged population is between four to ten percent (Sandhu, 2017). Of the limited studies that have interviewed SEN learners, they have mainly focused on students with visual impairments and autism (West, Houghton, Taylor and Phua, 2004; Poon et al., 2012).

Local quantitative studies indicated that dyslexic learners faced greater challenges within the mainstream school than their non-SEN peers. Singaporean dyslexic learners were more susceptible to anxiety, depression and low self-esteem, particularly as they progressed onto higher levels of education (Ang, 2014; Lee, 2017; Tam & Hawkins, 2012). Yet more encouragingly, the two known qualitative studies that have interviewed dyslexic children offered a more balanced perspective that indicated that dyslexic learners experienced both positive and negative experiences (Daud, 2019; Zheng, 2018). There were also variations between individuals in how dyslexic learners interacted with teachers, and the availability of academic and peer support at school. While the two qualitative studies offered keen insight to the lived experiences of dyslexic learners, they were small scaled, consisting of three primary school-aged students, and three secondary school-aged students respectively. These studies also included only participants who were receiving literacy support from the Dyslexia Association of Singapore (DAS). Thus, the findings could be unrepresentative of dyslexic learners who are not receiving external support or are unidentified within the school system.

1.3. Personal motivations behind the research

The desire to bridge the gaps in inclusion practice and research within Singapore are the key drivers for the current research. In my three-year doctoral journey towards becoming an educational psychologist, I was privileged to learn about how mainstream SEN students were supported in the United Kingdom (UK). My first two years on placements was spent at two Educational Psychology Services in London, before returning to Singapore for my final year placement.

Unlike Singapore, the field of SEN has a long history within the UK (National Association of Schoolmaster Union of Women Teachers, 2008). In the past 30 years, the practice of inclusion in the UK has faced multiple reforms (Lauchlan & Greig, 2015). The educational rights of children with SEN are protected by legislation and statutory guidance like the Children and Families Act (2014) and the SEN Code of Practice (2015). Historically, political pressure from disability groups and parental advocacy have served as strong influences in shaping societal values, with consequent effects on SEN legislation (Boyle & Topping, 2012).

It would be unrealistic and presumptuous of me to endorse the UK legislative and SEN frameworks and implement them in Singapore. There should be keen consideration of the Singaporean context and the limitations of the UK inclusion practices. However, what is generalizable and transferrable to the Singapore context are the principles of inclusive

education which I have developed through practice and hold strongly to. First, inclusive education as noted in the SEN Code of Practice (2014) advocates for children and young people to be active social actors in the decision-making process about their education, health and social care (Palikara et al., 2018). The voice of children and parents need to be captured in assessment and intervention (Castro & Palikara, 2016). Second, effective inclusion requires a multi-agency effort to develop an integrated and holistic assessment and intervention support for children and young people (Tichá et al., 2019). This ensures that strengths and needs are considered in all areas and aspects of life, from physical and cognitive development to individuals' social and emotional well-being.

As such, the overall aim of this research was to explore the mainstream school experiences of dyslexic learners by seeking their views. As noted by Daud (2019), dyslexic participants may require more scaffolding to elaborate and structure their answers. Thus, alternative mediums such as drawing (Williams & Hanke, 2007), and the use of scaling questions were incorporated during the interview to help participants articulate their views (Cook-Sather, 2018; Yu, 2019). To extend the existing literature, the study also recruited dyslexic learners who had varied levels of in-school and external support.

It was also imperative to also include the team around the learners – their parents and educators who have been supporting dyslexic learners at school or in private contexts, to gain a holistic perspective of how we can build an inclusive school for everyone (Jindal-Snape et al., 2019).

I saw the importance of also comparing the school experiences of dyslexic learners against their non-SEN peers. A previous study by Allodi (2002) indicated that children with learning difficulties, similar to their peers without disabilities, perceived school as a place for learning and instructions but also to build social relations. However, children with learning disabilities also raised distinctive concerns that were separate from their non-SEN peers. Children with learning disabilities raised that while they expected to feel safe at school and believed that they had a right to protection, their school did not always provide the security they needed. Other studies also found that learners with learning disabilities perceived less participation in school activities compared to their non-SEN peers. More positively, learners with learning disabilities had better and more frequent interactions with teachers than their non-SEN peers (Eriksson & Granlund, 2004; Ianes, Cappello & Demo, 2017; Skär & Tamm, 2002). By identifying the commonalities and differences in needs raised, the study hoped to assist policymakers and school leaders in improving the universal and the targeted supports. Singapore adopts a multi-tiered system of support in her provision of interventions at

schools. At Tier 1, schools are to implement universal support for all children. Shared views from dyslexic learners and non-SEN learners could support planning at this stage. At Tier 2 and 3, more targeted and individualised intervention are required. It is at this stage, where the unique perspectives of dyslexic learners could help schools better address the dyslexia-associated needs.

1.4. Theoretical frameworks

Three theoretical frameworks were applied to conceptualise the school experiences of learners – the person-environment fit theory (Lewin, 1941), Maslow's (1943) hierarchy of needs and Bronfenbrenner's (1979) bioecological theory of human development. These theories considered the reciprocal interactions between the learner and his/her environment.

1.4.1. Person-environment fit theory

The person-environment fit theory focuses on the two-way interaction between the characteristics of the individual and the environment (Lewin, 1951; Holmbeck et al., 2008). It proposes that given the variations in personal attributes across individuals, with respect to their needs, abilities and values, people have an innate need to seek out environments that fit their own attributes (van Vianen, 2018). When personal and environmental attributes are compatible, outcomes are most optimal. Yet, when there are misfits between personal and environmental attributes it reduces positive outcomes (Harrison, 2007).

The fit theory has been applied to education research (Pijl et al., 2014; Thompson, Wehmeyer & Hughes, 2010; Vagi, 2017; Yngves et al., 2018). According to the fit theory, each student's unique abilities needs to be considered alongside the social and learning demands of the school environment. This ought to form the basis for adjustments to ensure students with different needs have the equal opportunities for participation in education (Lidström et al., 2020). Studies have found that when demands in the environment do not match the abilities of the student, the risk of school failure is higher and classroom participation among SEN learners is reduced (Jitendra et al., 2008; Schultz et al., 2011; Hemmingsoon & Borell, 2002).

1.4.2. Maslow's hierarchy of needs

Maslow (1943) hierarchy of needs supplements the fit theory and adds understanding of the individual needs people might be seeking to fulfil within their environment. Maslow (1943) proposes that there are eight types of basic human needs. If these needs are unmet, it motivates and drives people to fulfil them (Maddi, 1977; Maslow, 1970; Rouse, 2004). These needs are also organised in a hierarchy according to their level

of importance. Needs at the bottom of the list must be fulfilled before motivation can be derived from the needs at the top of the hierarchy.

Maslow's theory has been adapted to provide a framework to understand how educators can motivate students of all learning abilities to participate and learn. These studies presume that regardless of disability, all students strive to meet their full potential for learning (Bedon & Dundis, 2003; Kunc, 1992; McLeod, 2014). The higher up in the hierarchy a student is, the more needs are met, the better the motivation and therefore the more learning that the student will experience (Lutz, 2014). The progress for most SEN learners however is often disrupted due to failure to meet lower level needs such as curriculum design accessibility, structural environmental barriers, and the lack of belongingness (Singh, 2017). Thus, to influence the lives of SEN learners and reduce the barriers to learning, school leaders need to provide opportunities and necessary training and skills to meet learners' needs. Studies have found that when SEN learners experienced enhanced feelings of belongingness, it has promoted respect and friendship and thus increase their motivation to learn, and academic performance (Anders, 2015; Singh, 2017).

1.4.3. Bronfenbrenner's bioecological theory of human development

Bronfenbrenner's bioecological model contributes to the study by detailing the environment factors that can be shifted to meet personal needs and motivate change. Bronfenbrenner outlined that the environment consists of a series of nested contexts which centres around the individual. Starting from the proximal to more distal environments – 1. microsystems (i.e. family, peer group and school), 2. mesosystems (the connections and interactions between the elements in the microsystem), 3. exosystems (i.e. community, mass media), and 4. macrosystems (i.e. cultural values, political processes) (Bronfenbrenner & Morris, 1998; Humphrey & Ainscow, 2006). This process of development occurs over time (Rosa & Tudge, 2013). To ensure the transferability of the bioecological theory to practical implementation in social policy, Bronfenbrenner introduced the Process-Person-Context-Time (PPCT) model to serve as a complementary research framework to the theory (Waugh & Guhn, 2014).

Existing inclusion literature have applied Bronfenbrenner's PPCT model to develop systems of supports around SEN learners to encourage active social participation and more inclusive instructional practices (Hayes, O'Toole & Halpenny, 2017; Martin, Sperling & Newton, 2020; Smit, Preston & Hay, 2020). The PPCT model accommodates the wide range of evidence-based strategies, from child-centred behavioural strategies, to strengthening capacities in the social contexts (Blatchford & Webster, 2018; Mitchell & Sutherland, 2020).

These recommendations include building parents' and teachers' SEN knowledge, improving classroom climate for learning, building peers support, and re-examining systemic school and legislative support.

1.5. Aims of the Study

Bringing together the three theoretical frameworks used, the present study aimed to first identify how dyslexic and non-dyslexic learners and parents perceived a person-environment fit school environment. This was operationalised by having learners and their parents describe their ideal school. By comparing the 'ideal school' of both dyslexic and non-dyslexic groups, the study hoped to better understand the needs and preferences of dyslexic and non-dyslexic groups. Views of dyslexic and non-SEN learners were elicited using the "Drawing the ideal-school" technique (Williams & Hanke, 2007), while parents were asked to envision an ideal school for their dyslexic or non-SEN child.

Second, the study aimed to identify the person-environment discrepancies experienced by dyslexic and non-dyslexic learners in their actual school environment, as recounted by learners, parents and educators working with dyslexic learners. Dyslexic and non-dyslexic learners, and their parents were guided to compare their ideal school and actual primary school experiences (Lee, Statuto, & Kedar-Voivodas, 1983). Educational professionals who have worked with dyslexic learners were asked to comment about the strengths and improvements in school provisions for dyslexic learners within the primary school context. The study hoped that by revealing the discrepancies, it will improve both universal and targeted support for all learners.

1.6. Structure of thesis

The thesis consists of nine chapters. Chapter 2 details how this current study defines dyslexia and the dyslexia-specific support within the Singapore context.

Chapter 3 begins by introducing the Person-environment fit theory, followed by Maslow's hierarchy of needs and addresses the challenges faced by dyslexic learners within the mainstream setting. Using Bronfenbrenner's PPCT model, the chapter will also explore findings from existing literature that would shed light on the risk and protective factors that impact their school experience. The macrosystemic - social and cultural factors unique to the Singapore context will be highlighted to provide readers greater understanding of the pertinent challenges, risk and protective factors faced by Singaporean dyslexic learners in the local mainstream setting

In Chapter 4, the methodology employed to address the research aims is described and justified. Sampling methods are outlined, ethical conditions for each group of participants are discussed in line with relevant legislation, and interview procedures are detailed.

Chapters 5 and 6 detail the ideal school constructs expressed by dyslexic and non-dyslexic learners and their parents. Chapter 5 lists each group's perceptions of an ideal school. These perceptions and learners' needs identified are compared in Chapter 6.

Chapter 7 and 8 detail the discrepancies in person-environment fit, using a needs-supplies lens. Chapter 7 details the actual primary school experiences of learners as recounted by dyslexic and non-dyslexic learners and their parents. Chapter 8 then proceeds to cross-examine the needs and supplies within each group and identifies need-supplies discrepancies within and between group. The need-supplies discrepancies universal to all learners, and those unique to dyslexic learners are discussed.

Chapter 9 presents the interview findings with educators – the challenges and barriers faced by dyslexic learners, as identified by educators.

Chapters 10 and 11 consist of a discussion of the findings where the views of learners, parents and educational professionals are brought together. The thesis concludes by addressing the limitations of the study and recommendations for practice and future research.

2. Literature Review

Dyslexia

2.1. Chapter Overview

The study begins by first stating the definition of dyslexia used in the current study. Second, it describes the scene on dyslexia in Singapore - the assessment process and support available for dyslexic learners between the schooling age of aged 2 to 16. The study acknowledges the debate around the use of the dyslexia terminology and concludes the chapter by stating the approach it has taken to navigate around the controversies.

2.2. Dyslexia defined

Despite the rich dyslexia literature accrued over the past 130 years and its rising international recognition as a special education need, dyslexia remains a highly contentious concept. While the field has reached a consensus that persistent difficulties in reading difficulties do exist (Protopapas, 2019), the field remains divided about the definition and validity of the 'dyslexia' term (Elliott & Nicholson, 2016). See Appendix 1 for a more detailed account of the controversies that surround dyslexia.

Elliott and Grigorenko (2014) who sparked the debate argued that firstly, the characteristics and aetiology of dyslexia remain poorly defined. A wide range of terms have been associated with dyslexia. These include 'reading difficulties', 'reading disorder', 'specific reading difficulties', 'specific learning difficulties', 'learning disability', 'word-level reading disability' and 'specific reading disability' (Gibbs & Elliott, 2020). The lack of a clear distinction or agreement on what each terminology mean has led to some researchers using the terms interchangeably, while others arguing that the terms are distinct and should be differentiated (Cutting et al., 2013; Gibbs & Elliott, 2020).

Secondly, Elliot and Grigorenko (2014) stated that because of the varied practices in diagnosing dyslexia, the 'dyslexia' label fails to accurately differentiate dyslexics from other poor readers, whose poor reading abilities are associated with other factors such as poor schooling experience or low cognitive abilities (Hammill & Allen, 2020). The previously used IQ-achievement discrepancy diagnostic criterion has been evidenced to be inadequate to differentiate between the two groups (Harrison, 2017). However, even then studies still continue to accept the discrepancy-based definition in diagnosing and recruiting participants. In a recent systematic review conducted by Gibby-Leversuch and colleagues (2019), which included studies conducted between 2000 and 2017, at least half of the 19 studies utilised the discrepancy-based definition, and most of the remaining papers did not specify whether

a discrepancy-based definition had been used or not. Altogether, the inconsistent use of terminologies, definitions and diagnostic criterion across dyslexia studies have made it difficult for academics to draw conclusive findings within field of dyslexia (Gibby-Leversuch, Hartwell & Wright, 2019; Lopes et al., 2020).

To address these conceptual and methodological confusions, the researcher ensured that the dyslexia definition, terminology and diagnostic criterion used in the present study were clearly specified. The researcher also adopted the terminology and definition used in the Singapore context so that conclusions derived from this study is consistent and reflects accurately the socio-political context that the study was conducted in.

In Singapore, the Professional Practice Guideline (PPG, 2018) sets the standard for professional practice in the psycho-educational assessment and placement decisions of SEN learners between aged six to 18. When the PPG was developed, professionals from the health, education and social service sectors were equally represented within the committee and international sources such as the American Psychological Association (APA) and British Psychological Society (BPS) were referenced. This made certain that the definitions, assessments and recommendations adopted locally in clinical practices, policies and research are in accordance to international guidelines like the DSM-V, ICD-10.

As defined by the PPG (2018), and henceforth defined in this study:

‘The term “Dyslexia” is used to describe a type of specific learning difficulty identifiable as a neurodevelopmental disorder. It primarily affects the skills involved in accurate and fluent reading and spelling.’

(MOE, 2018, p. 37)

In Singapore, phonological deficit is determined to be the core characteristic of dyslexia. Aside from evidence of phonological awareness deficits, the PPG’s dyslexia diagnostic criterion also requires that deficits in one or more of the following areas need to be present - reading accuracy, reading fluency, and spelling.

In Singapore, dyslexia is largely assessed and diagnosed based on the learners’ performance in the English language (Shen & Liu, 2013). Although Singapore has four official languages – English, Chinese, Malay and Indian, English is the most common language used in school, at work and at home (Lee, 2016). Even so, this does not discount that learners can be dyslexic in other languages but not in English. Preliminary studies

conducted in China (McBride-Chang et al., 2013) and Hong Kong (Tong et al., 2015) have found that the co-occurrence rate of a poor Chinese reader (L1) showing difficulties in English (L2) is between 36 to 57%. This depends on the age of the child - with primary school learners reporting a smaller occurrence rate of between 36 to 40% compared to secondary school aged learners, reporting an occurrence rate of 57%. These early findings are pertinent especially in the Singapore education system since the bilingual education policy stipulates the study of a second language is compulsory in primary and secondary school education. It has stirred actions from the Singapore government and Dyslexia Association of Singapore to develop assessment tools and intervention strategies for dyslexic learners who struggle with languages aside from English (Shanmugaratnam, 2012). Till present, this remains to be a work in progress. There is no established and accepted assessment tool or intervention strategies used within the Singapore context to support dyslexic learners in other languages (Tan et al., 2018). Discussion of assessment process and support in sections 2.3.1 and 2.3.2 is based solely on the dyslexia present in the English language.

2.3. Dyslexia assessment process and support in Singapore

2.3.1. Assessment of Dyslexia

It is stipulated in the PPG that a diagnosis of dyslexia can only be made by a qualified educational and/or clinical psychologist in Singapore. Typically, children can access educational psychologists (EPs) through three main channels – 1. school referrals to access MOE EPs; 2. direct access to the EPs at Dyslexia Association of Singapore (DAS); and 3. other organizations and private clinics. However, in this review, the assessment provisions offered by MOE and DAS will be mainly considered as they are the main organisations that deal specifically with dyslexia in Singapore.

To delineate dyslexics from other poor readers, Singapore adopts a two-pronged approach to ensure accurate diagnosis. First prong – an exclusionary criterion is applied. The observed reading and spelling difficulties are not to be explained by intellectual disability; visual hearing or motor difficulties; emotional disturbance; environmental or economic disadvantage; or inadequate exposure to the English Language. Second prong – Singapore has implemented the Response to Intervention (RTI) approach (Björn et al., 2018; USDOE, 2011). The RTI approach advocates a school-wide multitiered system of support. Fundamentally, quality instruction is provided for all students (Tier 1), with regular monitoring of students' progress. Screening processes are put in place to offer children at risk of dyslexia to receive more intensive, small-group support at Tier 2 and this does not lead to

diagnosis immediately (Wong & Shakthi, 2018). If interventions are still inadequate, students will receive Tier 3 support that includes further assessment and possible diagnosis.

Children as young as aged four can be referred to the DAS to receive early literacy support at the Tier 2 level. At the end of a two-year Preschool Early Literacy Intervention Programme (ELIP), if persistent literacy abilities are still observed, children are eligible for formal dyslexia assessment. Another formal identification process begins when students enter compulsory education at aged 6 (Primary 1). Upon school entry, all students are screened to identify students who are generally weak in English and/or Mathematics. Students with weak literacy skills will be supported under the Learning Support Programme (LSP) at the Primary 1 and 2 levels (MOE, 2019). At the end of two years of LSP support, students who demonstrate persistent literacy difficulties based on progress monitoring scores in the LSP will be identified by MOE for further psycho-educational assessments to confirm if these students have dyslexia (Landulfo, Chandy & Wong, 2015). On an ad-hoc basis, teachers may also identify and refer students for the dyslexia assessment.

Professionals and parents have reported gaps within the identification process. First, the means of identifying students at risk of dyslexia is limited and largely dependent on the progress monitoring under the LSP and teachers' ability to identify the symptoms (Landulfo, Chandy & Wong, 2015). Second, Singaporean parents who participated in Landulfo and colleagues' (2015) study noted that teachers had poor knowledge to identify children accurately. Even if teachers were able to identify dyslexic learners accurately, teachers were unsure of who to refer parents to for further assessment. Third, due to the limited number of MOE EPs, primary-school aged pupils are placed on a waiting list to obtain free diagnostic tests, and MOE EP assessment services are not offered to secondary schools (Poon et al., 2013; Walker & Musti-Rao, 2016). This may pose as added inequity for families who lack the financial capacity to afford for a private psychologist assessment. Lastly, parents noted a lack of standardised methodology and guideline used to assess children for dyslexia. *'For one of the parents in the focus group, it took three years and multiple visits to different psychologists, before she obtained a formal psychological assessment that her child has dyslexia.'* (p. 254). It is to note that Landulfo and colleagues' study took place in 2015 before the PPG were reviewed in 2018. The operationalization of the dyslexia diagnosis has yet to be reviewed since then.

2.3.2. Dyslexia Support

Singapore positions its dyslexia provision towards integrating dyslexic learners in mainstream schools, regardless of the severity of dyslexia (PPG, 2018). While there are

good efforts by the government and DAS to increase provisions for dyslexic learners, resources have been mainly directed at the primary school level. Current provisions at the preschool, secondary and post-secondary level are mainly offered by DAS and private organizations.

To note, for learners to enrol into Tier 3 dyslexia interventions listed in sections 2.3.2.1 and 2.3.2.2 a dyslexia diagnosis is required. This could put families who cannot afford the diagnosis process, or learners who narrowly miss the dyslexia diagnostic criterion at a disadvantage and loss.

2.3.2.1. Provisions by MOE

Intervention Programme. Within mainstream primary schools, MOE provides a two-year school-based Dyslexia Remediation (SDR) programme for dyslexic learners between primary 3 and 4. It is an after-school programme in class sizes of four to six, four times a week, by specially trained teachers. Students who require further support post-SDR will be enrolled into the Main Literacy Programme (MLP) offered by DAS (Toh, 2018). The SDR has been criticized to be an overly ambitious attempt to help dyslexic learners read at the same level as their peers by the end of the two-year programme (Sim, 2012). Literature indicates that long-term support from pre-school through tertiary education is required to ensure sustainable outcomes are achieved for dyslexic learners (Mawene & Bal, 2018). DAS recognised this gap and have since expanded their service delivery to include pre-schoolers and post-secondary learners.

Curriculum Support. To offer a differentiated needs-specific curriculum for all learners, including dyslexic learners, MOE introduced subject-based banding (SBB) in primary schools since 2008. This has allowed Primary 5 and 6 students to take any examinable academic subjects at a foundational level (MOE, 2019). This approach acknowledges that learners have strengths and weaknesses and thus allows learners to take combinations of subjects at different levels according to their abilities (Elangovan, 2020). The positive response towards SBB in primary school contributed to the move within the Singapore government to extend the SBB curriculum approach to secondary schools.

Accommodations and Access Arrangements. In Singapore, access arrangements in national examinations are granted not solely based on the learner's diagnosis. The student's specific needs and their familiarity with the specific arrangement are weighed heavier by authorities (PPG, 2018). Thus, unlike countries such as the UK, Singapore has not published a full and detailed list of access arrangements which are offered to dyslexic

learners (Landulfo, Chandy & Wong, 2015). The provision of assistive technology to support dyslexic learners remains lacking within the Singapore context. This is compared to the UK where speech recognition technology or examination reading pens are available access arrangements for students with significant learning needs (Joint Council for Qualifications, 2019).

Professional Development. In Singapore, since 2005, all mainstream schoolteachers are provided with a basic awareness of special educational needs during their pre-service training (Landulfo, Chandy & Wong, 2015). However, these sessions do not appear to be sufficient. When surveyed, a majority of newly-trained and also experienced teachers felt that they had little or no knowledge about SEN, and lacked the confidence in supporting student with SEN (Nonis & Tan, 2011; Poon et al., 2016; Thaver & Lim, 2014).

At a more specialist level, MOE has also developed teachers trained in special needs (TSNs) to support students with special needs (NIE, 2019). In 2019, ten percent of teachers in primary schools and 20 percent of teachers in secondary schools have undergone the TSN programme. While TSNs may not directly support students with disabilities in schools, some of them are involved in establishing and maintaining school support structures such as case management teams and special committees or mentoring other teachers and school professionals (Poon et al., 2013). Presently, there are no available research data with regard to TSNs' role in the schools and the effectiveness of their work (Strogilos & Lim, 2019).

Placed within all primary schools and some secondary schools are also allied educators [AEDs(LBS)] who provide structured and systematic support to students with mild SEN in mainstream schools and enable them to integrate better in the mainstream schools (MOE, 2020). AEDs(LBS) have an all-encompassing role of working across the diverse range of SEN. They offer in-class and individual/small group withdrawal support, and collaborate with parents, teachers and also with school management teams to look into whole-school support. These multiple roles can lead to identity confusion for some newly qualified AEDs. With time, however, it is reported that AED(LBS)s subsequently grew into their roles and learnt to work with student diversity (Lim et al., 2014).

2.3.2.2. Provisions by Dyslexia Association of Singapore

DAS offers support to all dyslexic learners at the primary and secondary level through the Main Literacy Programme (MLP) (Ram et al., 2019). Similar to the SDR programme, a dyslexia diagnosis is also required for enrolment. While the SDR programme offered in-school is free for students, the MLP at DAS is part-funded by MOE. The financial

cost of the programme can still be substantial for low-income families (Landolfo, Chandy & Wong, 2015). Hence, DAS offers bursaries for learners from disadvantaged backgrounds.

The DAS has also broadened its scope to offer dyslexic learners mathematics and Chinese language support at the primary level. A local study by Muhamad and colleagues (2016) found that understanding word problems and the language of maths was a significant source of challenge for Singaporean primary school-aged dyslexic learners. Given their literacy difficulties, many learners struggled with fatigue and low self-esteem to persevere with completing mathematics tasks. To better support dyslexic learners, the study recognized that instructions need to be explicit and teaching strategies to be more diverse and wide-ranging.

2.4. Conclusion

In Singapore there is little debate among academics and practitioners around the theorizing of dyslexia (Chan, 2015). Tim Bunn (2015), consulting educational psychologist at the DAS, commented that the Dyslexia debate appears irrelevant within the Singapore context. "Parents and the Singapore government seem committed to arranging help for children with reading and spelling difficulties, using the dyslexia construct" (Bunn, 2015; p414). Processes are put in place to identify all learners who need help early and support are given without differentiating between dyslexic and non-dyslexic poor readers. The gap in practice and research, however, is in understanding the social experiences of dyslexic individuals (Bunn, 2015). If Singapore hopes to include all dyslexic learners within the mainstream provision, regardless of the severity of the learners' needs, more research needs to be done to evaluate the adequacies of these provisions. This study thus, hopes to contribute to this endeavour by exploring the schooling experiences of dyslexic learners within the primary setting. It purposes to understand the support available to these learners and their perceptions of fits and misfits in supports provided with their personal needs and wants.

3. Literature Review

Challenges of Dyslexic learners in Mainstream schools

3.1. Introduction

The current chapter begins by examining the three broad areas of challenges faced by dyslexic learners – in the academic, emotional and social domain. It is acknowledged that not all dyslexic learners would experience these challenges nor to the same extent. As such, the chapter follows by carefully considering the risk and protective factors that impact dyslexic learners' school experiences across all three domains. In view of the evidence presented, three theoretical frameworks were adopted to guide the present study. The three theories are the Person-environment fit theory, Maslow's hierarchy of needs and Bronfenbrenner's Process-Person-Context-Time (PPCT) model. These frameworks collectively contribute to the study's understanding of both the individual needs and the socio-cultural and environmental influences that contribute to the development of dyslexic learners at school. The study adopts the perspective that dyslexic learners can have needs which vary and to different extent. To ensure optimal school experience and development, the environmental supports provided need to be adjusted to meet the individual needs.

To note, for the purpose of the review, studies were screened for two inclusion criteria: (a) the term 'dyslexia' was used to refer to learners with reading and spelling difficulties, (b) dyslexic learners who participated in the studies must be formally diagnosed with dyslexia in English. The English language contrasts with transparent languages, such as Spanish and Italian, which can be read accurately using the letter-sound rules. The non-transparency of English makes it harder to learn to read, making reading failure more severe and obvious (Seymour et al., 2003; Reis, Araújo, Morais & Faísca, 2020). Thus, the impact of dyslexia on academic, emotional and social develop may vary across language (McArthur et al., 2020). The literature review thus focused on dyslexic learners who spoke English as their first or secondary language which are typical of dyslexic learners with the Singapore context. Studies that used terms like 'specific learning difficulties' or 'literacy difficulties' were also excluded. This was to omit poor readers who may not have dyslexia but demonstrated reading and spelling difficulties due to a lack of environmental opportunities or other disorders such as language and cognitive disorder. Even then, the present review acknowledges that it was difficult to ascertain if the studies included all used a diagnostic criterion similar to the Singapore system since some studies did not disclose information of diagnostic criterion used. The use of the invalid IQ-achievement discrepancy criterion could have still been used by included studies.

3.2. Challenges faced by Dyslexic learners in Mainstream settings

This section explores the challenges dyslexic learners face within the mainstream setting across three areas – academic achievement, emotional development and social development.

3.2.1. Academic domain

Dyslexic learners, by definition, have core deficits in phonological skills which can present as poor phonological awareness, and/or poor phonological memory (Hatcher, Snowling & Griffiths, 2002; Kramer, Knee & Delis, 2000; Simmons & Singleton, 2000). Their difficulties in foundational phonological skills have been found to lead to difficulties in word recognition, reading and spelling (Deacon, Tong & Mimeau, 2019). Studies among college dyslexic learners showed that poorer phonological awareness skills predicted lower word-reading abilities (Landerl et al., 2018; Nelson, 2015). Interventions targeted to improve phonological awareness not only improved reading accuracy but also had transfer effects on spelling accuracy (Galuschka et al., 2014).

Aside from phonological deficits, the double-deficit theory holds that dyslexic learners also face deficits in serial rapid automatization naming (RAN). RAN relates to the speed with which one can name aloud a series of high frequency items, such as letters, digits, colors or objects (Wolf & Bowers, 1999). This ability appears to mirror the word retrieval process (DeMann, 2011). A meta-analysis by Araújo and Faísca (2019) demonstrated strong support for substantial RAN difficulties among dyslexic learners aged between aged seven to 36, when compared to their similar-aged peers. Araújo (2019) noted an unpublished study by Reis (2017) which indicated preliminary cross-sectional results that, even though RAN skills continue to lag behind, the deficit is less severe for adults than for children with dyslexia compared with controls. Dyslexic learners have abnormally long response times across all stimulus types (alphanumeric and nonalphanumeric) when compared with age-matched controls but a similar performance when they are compared with reading-level-matched controls (Landerl et al., 2013). Recent research suggests that RAN makes significant contribution to reading development that is relatively independent from phonological awareness. It has been associated to reading fluency rather than reading or spelling accuracy (Tilanus, 2019). Similar findings were evidenced in Galuschka and colleagues' (2014) study which found that RAN-specific intervention among dyslexic college students enhanced RAN abilities but not phonemic awareness skills and this had transfer effects on improving reading fluency but not spelling accuracy.

Though research appears to suggest that phonological deficits impact reading and spelling accuracy and RAN-deficits specifically impact reading fluency, there is a lack of evidence indicating subtypes differences in academic performances. None of the studies explored in this review had categorised dyslexic learners into subtypes and studied the differences in academic achievement. Given that RAN skills have been theorized to be foundational to maths performance, it is possible that dyslexic learners with RAN-deficits would perform poorer in arithmetic tasks than dyslexic learners with phonological awareness deficits-only subtype (Koponen et al., 2017).

Nonetheless, the reality for many dyslexic learners is that they face significant academic challenges (Forrest-Bank & Jenson, 2015). This has been reported consistently across international studies in Canada (Kirby et al., 2008), Malaysia (Oga & Haron, 2012), UK (Mortimore & Crozier, 2006) and Singapore (Zheng, 2018). Family members and teachers reported that dyslexia learners have lower academic performance and are slower in learning and responding to teachers' spoken instructions than their non-dyslexic peers (Livingston, Siegel & Ribary, 2018; Oga & Haron, 2012). Academic achievements have been largely assessed and compared using rating scales or through verbal accounts by parents and professionals. Even though objective grade results were not necessarily collected by researchers, it does not discount the intense effort and struggles often raised by parents, teachers and dyslexic learners themselves in qualitative studies to have to keep up or maintain the same grades as their non-dyslexic peers (Delany, 2017; Rapus-Pavel et al., 2018).

These academic difficulties have been reported among dyslexic learners in secondary education (Rapus-Pavel et al., 2018; Zheng, 2018) and post-secondary education settings (Kirby et al., 2008; Mortimore & Crozier, 2006; Oga & Haron, 2012). Based on retrospective accounts from dyslexic learners in post-secondary or higher education, the literacy difficulties and the accompanied academic challenges have been present since their early education and persist into adulthood. However, in adulthood learners are more apt in masking these difficulties by developing strengths and compensatory strategies or being careful in disclosing their diagnosis (Dobson, 2019; Ofiesh & Mather, 2012; Shaywitz, Morris & Shaywitz, 2008). Moojen and colleagues (2020) compared literacy skills of dyslexic adults against control participants. Results showed that dyslexic adults performed worse than control subject at all levels in phonological awareness, passage reading and spelling despite having developed compensatory mechanisms that aided their reading comprehension (Cavalli et al., 2016).

Among secondary school-aged dyslexic learners in Singapore, all dyslexic learners interviewed described dyslexia as impacting their academic attainment (Ang, 2014; Zheng, 2018). However, rather than a general low performance across all subjects, parents and dyslexic learners interviewed in Zheng's (2018) study reported that they struggled predominantly with writing or language-based tasks in English, Humanities and additional languages. Basu and colleagues (2014) and Cline and Fredrickson (2009) likewise noted subject-based challenges among dyslexic learners in India and UK respectively. In these studies, dyslexic learners reported to struggle more in curriculum areas such as literacy and numeracy skills. Interestingly, among the three Singaporean dyslexic learners Zheng (2018) interviewed, it appeared that they were struggling more with the Chinese language than with the English language. Since primary school, two pupils received exemptions from Mother Tongue, while the remaining pupil took Mother Tongue at a foundational level. Singapore's mandatory bilingual education policy has put many ethnically Chinese learners in a unique environment to learn at least two languages of different orthographies and sound-symbol mapping system (Shen & Liu, 2013). Understanding the nature of literacy difficulties in the Chinese languages is at the infancy stage and would require more research to advance intervention strategies in teaching English-Chinese bilinguals who are learning both languages concurrently (Shen & Liu, 2013; Tso et al., 2018).

3.2.2. Emotional Domain

Another emerging line of dyslexia research involves investigating the emotional consequence of dyslexia. Studies have sought to determine the associations between dyslexia and internalizing symptoms such as anxiety and depression, and also of dyslexic learners' self-perception such as self-concept and self-esteem.

3.2.2.1. Anxiety

Contradictory findings about the association between dyslexia and anxiety and depression have however surfaced (Novita, 2016). The two local studies that have sought to examine the emotional difficulties among primary school-aged dyslexic learners offered mixed findings. Yang and Dunsmuir (2011) reported that dyslexic learners aged between eight and nine had higher levels of anxiety and depression compared to their similar aged non-dyslexic peers (in Lee, 2017). However, Tam and Hawkins (2012) found no significant differences in depressive symptoms between dyslexia and non-dyslexic learners – both groups aged between eight to 13 years old. The difference in findings could firstly be attributed to the differences in demographic characteristics of control groups used. In Yang's (2011) study, dyslexic learners were compared to same-aged Singaporean non-dyslexic learners. However, Tam's (2012) study compared Singaporean dyslexic learners against

American normative samples derived from the Children's Depression Inventory. The use of a cross-cultural normative sample added confound to Tam's study and sacrificed the credibility of the conclusion. Secondly, the level of support offered to participants in both studies differed. All participants in Tam's study (2012) were receiving specialist dyslexia intervention from DAS, whereas participants in Yang and Dunsmuir's (2011) study had varied levels of support. Dyslexic learners who had received support in Tam's study (2012) would understandably feel less anxious than other learners who may not have received adequate support. Lastly, Yang and Dunsmuir (2011) involved a larger sample size, with 99 Primary 3 students with dyslexia, and 99 matched peers, compared to the smaller sample size of 30 dyslexic pupils in Tam and Hawkins' (2012) study. A criticism of the sample used in Yang and Dunsmuir's (2011) study was the small age range of the dyslexic participants included – aged between eight to nine years. This can limit the generalizability of the findings to an older population.

When both studies were compared to findings from international studies, Yang and Dunsmuir's (2011) findings were more consistent with the majority of international studies. Carroll and Iles' (2006) study reported higher levels of general trait anxiety among a group of 16 UK dyslexic learners in higher education than their non-dyslexic peers. Carroll and Iles' (2006) study added further depth in the understanding of anxiety among dyslexic learners by differentiating between trait anxiety and state anxiety in their conceptualisation. Trait anxiety refers to an underlying, stable personal characteristic. Both Yang (2011) and Tam (2012) measured trait anxiety and their findings differed. State anxiety, on the other hand, refers to changeable apprehensive moods often in response to anxiety-provoking stimuli (Jordan, McGladdery & Dyer, 2014). Carroll and Iles (2006) found that only certain aspects of anxiety were higher among dyslexic learners in the higher education. Specifically, academic anxiety and social anxiety were higher, but no differences on appearance anxiety. This was partially supported by Piechurska-Kuciel's (2010) finding which found higher levels of reading and writing anxiety among secondary school-aged Polish dyslexic learners who were learning English as a second language, compared to their non-dyslexic peers. The reading anxiety scale and secondary language writing anxiety inventory used in Piechurska-Kuciel's (2010) study were found to be appropriate as they were developed for learners who were learning English as a second language. Other domains of anxiety that have been explored is mathematics anxiety. Jordan and colleagues (2014) took interest in examining mathematics and statistics anxiety and noted higher levels of mathematics anxiety, but not statistical anxiety among undergraduate dyslexic learners in Ireland when compared to their non-dyslexic peers. While having a dyslexia diagnosis predicted higher mathematics anxiety,

greater levels of worrying, denial, seeking instrumental support and less use of the positive reinterpretation coping strategy also contributed.

Together, existing studies do provide more consistent evidence that dyslexic learners are susceptible to higher levels of domain-specific anxiety especially academic-related anxiety. The findings regarding state anxiety are less strong and perhaps require more consideration of other predictive factors such as attributional and coping styles (Abbott-Jones, 2019). Qualitative methodologies can complement existing quantitative measures to offer greater insight to understanding the feelings associated with having dyslexia. Although there are other studies which suggested an association between anxiety and primary school-aged and younger dyslexic learners, these studies were not included in the current review as they involved a wider group of learners with literacy difficulties, and not specifically dyslexic learners (Bilcher et al., 2016; Carroll, 2015; Willcutt & Pennington, 2000). It would be of value to replicate the studies and examine anxiety levels among primary school-aged dyslexic learners specifically and study the changes across time.

3.2.2.2. Self-concept

Like anxiety, the study of self-perception among dyslexic learners also acknowledged the multidimensionality of concepts like self-concept and self-esteem. Burden (2000, 2005, 2008) emphasised that 'self-concept' and 'self-esteem' represent distinctive aspects of one's sense of identity. A person's self-concept is generally assumed to be a measure of how individuals perceive themselves, specifically in relation to a task or activity; whereas a person's self-esteem relates to their feelings about those perceptions (Burden, 2008). Low self-esteem may occur when there is a discrepancy between a person's expectations and his or her perception of adequacy – self-concept (Augestad, 2017). Burden (2008) also called for researchers to distinguish between global and specific domains of self-esteem and self-concepts.

Zelege (2004) was a crucial meta-analysis study within the dyslexia field which took on a rigorous approach to distinguish between global self-concept and the different aspects of self-concept. Zelege (2004) and subsequent meta-analyses by Burden (2008) and Gibby-Lebersuch and colleagues (2019) noted inconclusive findings regarding global self-concept. Stronger and more consistent evidence was found regarding academic self-concept. Dyslexic learners had lower academic self-concepts than their non-dyslexic peers. Polychroni and colleagues (2006) compared the academic self-concept of 32 dyslexic learners, aged between 10 to 12 years, and 210 similar-aged non-dyslexic learners in the US. The study utilised the students' perception of ability scale (SPAS; Boersma & Chapman,

1992) to measure learners' self-perceptions of their academic abilities across seven subscales - General ability, Maths ability, Reading/spelling, Penmanship/neatness, School satisfaction, Confidence in academic ability and Practical ability. Findings indicated that dyslexic learners consistently displayed more negative perceptions about their abilities in their academic domains than their high- and average/low-performing peers who were divided according to teachers' rating of learners' performance in reading accuracy, speed and spelling. Compared to the high-performing group, dyslexic learners displayed more negative perceptions across all other domains except practical ability. When compared to the average/low- performing group, dyslexic learners displayed more negative perceptions in arithmetic ability, school satisfaction and penmanship/neatness. While the study's finding supports the general trend of findings regarding the academic difficulties noted among dyslexic learners, it also suggested that dyslexic learners may share common perceptions about their competencies in reading and spelling as the average-/low-performing non-dyslexic peers, and universal provisions could be provided for learners based on their learning needs rather than labels. Alternatively, it could also be plausible that the SPAS measure has poor sensitivity in differentiating ratings between dyslexic learners and the average/low-performing group given that it only permits a dichotomous response – Yes or No answer to each item.

Fredrickson and Jacobs (2001) utilised another measure to assess academic self-concept. The authors measured self-concept using Harters' (1985) Self-perception profile for Children. It measures learners according to five specific domains of competence: scholastic competence, social acceptance, athletic competence, physical appearance and behavioural conduct, and also a global self-worth subscale. On the Self-perception profile for Children, learners self-rated based on a four-point Likert Scale. This variability in response offers greater sensitivity to responses compared to the SPAS. Fredrickson and Jacobs compared the levels of self-concept between 20 dyslexic learners aged between eight to eleven and 20 similar-aged non-dyslexic peers. The study indicated that dyslexic learners only had significantly lower ratings on the scholastic competence subscales but not on other self-perception subscales nor the global self-worth. Of further interest is that Fredrickson and Jacobs (2001) found that learners who attributed success and failures to uncontrollable factors had significantly lower perceived scholastic competence than learners with controllable attributions, even when actual reading attainment was taken into account and regardless of diagnosis. The authors suggested that interventions focused on changing learners' attributional styles in the mainstream classroom may benefit all learners, regardless of diagnosis.

3.2.2.3. Self-esteem

Self-esteem as defined earlier refers to how an individual feels about his/her own perception of his/her ability. Low self-esteem can lead to the development of a poor or negative self-image and a self-fulfilling prophecy of expecting to fail (Riddick, 1996). According to Riddick and colleagues (1999) and Burden (2005), dyslexic learners with high self-esteem display more confidence and will volunteer answers or try out new subjects/tasks than lower self-esteem dyslexic learners. These high self-esteem learners expect to succeed and attribute success to their skill/ability (Alexander-Passe, 2006).

In comparison to studies around self-concept, there were fewer comparative studies conducted to investigate the difference between self-esteem among dyslexic learners and their non-dyslexic peers. Taylor, Hume and Welsh (2009) compared the self-esteem scores across three groups of UK learners aged between eight and 15 years – (1) dyslexic group, (2) general SEN learners with non-specific learning SEN with reading age significantly lower than their biological age, and (3) non-dyslexic learners with no reported learning difficulties. The authors found that when reading abilities were controlled for, the general SEN group had significantly lower general self-esteem scores than the dyslexic and non-dyslexic group. There was no significant difference in general self-esteem scores between the dyslexic and non-dyslexic group. Although the study had used the Culture-free Self-esteem Inventory (CFSEI; Battle, 1992) which provides self-esteem scores across 4 domains - Academic, General, Parental/Home, and Social, the findings did not specify which self-esteem scores were compared nor the findings from other self-esteem subdomains.

Alexander-Passe (2006) similarly used the CFSEI and compared the self-esteem scores of 19 UK sixth-form dyslexic learners against the norm, non-dyslexic samples from Battle (1992). It was found that dyslexic learners had lower self-esteem scores across all domains except the social self-esteem domain. The dyslexic group had higher social self-esteem scores than the norm, non-dyslexic sample. While the CFSEI was developed to be culture-free, there is insufficient evidence to justify the claim that the measurements is 'culture-free' (Brunsman, 2003). Thus, the use of a US-based sample norm group in Alexander-Passe's UK-based dyslexic group needs to be evaluated with caution. Unfortunately, there is a lack of evidence to offer clarity to the mixed finding reported by Taylor and colleagues (2009) and Alexander-Passe (2006).

Other studies have used a qualitative approach to examine self-esteem among dyslexic learners. For example, Ingesson (2007) incorporated rating scales into the interview schedule to examine self-esteem among dyslexic learners. Ingesson (2007) included 75

dyslexic learners from a wide spectrum of educational levels - from secondary school to university. Participants were asked to rate on a five-point scale of 'not much at all' to 'very much' on two questions, which also served as prompts during the interview. The questions were 'To which degree have your reading and writing difficulties influenced your self-esteem in a negative way?' and 'Do you feel different because of your dyslexic problems?'. Of the 75 subjects in the study, 40 percent felt that dyslexia had influenced their self-esteem negatively 'quite a lot' or 'very much'. In response to the question, many dyslexic learners commented feeling inferior to their peers. Though some noted that their self-esteem did improve with age, they still often felt uncertain or embarrassed when confronted with demands involving reading or writing. While the statement offers evidence support to the conceptual differentiation between 'self-esteem' and 'self-concept', it cannot be assumed that all participants have the same understanding of the difference. Qualitative assessments often do not clarify terms (Ingesson, 2007). Researchers also often used terms like 'self-concept' and 'confidence' interchangeably to describe themes (Burden, 2005; O'Brien, 2019). Thus, it is difficult to delineate the findings between 'self-concept' and 'self-esteem'.

Aside from determining the self-esteem levels among dyslexic learners, existing studies have also sought to understand the predictive factors that impact self-esteem among dyslexic learners. Alexander-Passe (2006) found strong evidence suggesting gender differences in self-esteem among dyslexic learners. Females in this sample generally scored lower than their male counterparts in all sub-scales of self-esteem, with general and academic self-esteem in particular. A plausible contribution to the finding can be attributed to gender differences in coping styles. Females from the UK teenage dyslexic sample were found to use significantly more emotional and avoidance-based coping, favouring social diversion over distraction avoidance, than their male counterparts.

Navalany and colleagues (2011) argued that educational settings can impact learners' self-esteem. The findings revealed that dyslexic adults who attended specialist schools tended to have higher general self-esteem than those who attended mainstream schools, even when gender, age, a current diagnosis of attention deficit disorder, attention-deficit hyperactivity disorder, anxiety/depression, and perceived family support were taken into account. Additionally, Navalany and colleagues (2011) found that school type moderated the relationship between emotional experience of dyslexia and self-esteem. Specialist schools tend to significantly buffer the effect of distressing emotional experience with dyslexia, resulting in higher self-esteem. Conversely, mainstream settings tend to significantly exacerbate the effects of emotional experience with dyslexia resulting in significantly lower levels of self-esteem. The authors posited that alongside other accounts

of dyslexic learners positive experience in specialist schools (Gibson & Kendall, 2010; McNulty, 2003), specialist settings include teachers adequately trained to meet the academic and emotional needs of students with dyslexia, together with a community of peer support. These situational factors appear to have a direct influence on positive emotional experiences of dyslexia well into adulthood.

3.2.3. Social domain

Examining quantitative studies, it remains inconclusive if dyslexic learners face greater social difficulties than their non-dyslexic peers. While Carroll and Iles (2016) identified higher social anxiety among dyslexic learners aged between 19 to 24, Alexander-Passe (2006) did not notice differences in social self-esteem between sixth-form dyslexic learners and their peers. Qualitative findings offer greater insight to understanding the varied quantitative responses. Firstly, interpersonal factors can contribute to the social difficulties faced by dyslexic learners. Recounting their school year experiences, several dyslexic postsecondary learners in Doikou-Avliadou's (2015) study admitted that making friends was sometimes difficult. The insecurity they felt because of their learning disabilities and the rejection they had experienced led them to become withdrawn at school and inhibited them from taking the initiative to make new friends, persisting beyond formal education. The formation or the maintenance of friendships was also hindered by the students' impulsivity and poor social skills, consistently reported in previous studies among preschool and adult dyslexic learners (De Beer et al., 2014; Kempe, Gustafson & Samuelson, 2011; Parhiala et al., 2014). A study by Whiting and Robinson (2001) found preliminary findings suggesting that dyslexic learners face difficulties in facial affect recognition resulting in poor processing of social information. Observed difficulties in verbal receptive and expressive language among dyslexic pupils can likewise exacerbate their social difficulties. One third of the 37 educators who participated in Basu and Beniwal's study (2018) in Delhi noted that dyslexic pupils struggled with understanding spoken utterances. They required extra time to understand spoken messages, had difficulties in finding words, and spoke in halting phrases.

Secondly, the interpersonal factors such as others' perception and attitudes towards them can also contribute to the social difficulties faced by dyslexic learners. Primary school-aged dyslexic learners in Johnston's (2004) study recounted being singled out or shouted at by teachers which triggered feelings of embarrassment and shame (Coffield et al., 2008). Dyslexic learners were also nearly twice as likely as their non-dyslexic peers to perceive teachers as being more likely to get upset if they brought the wrong equipment to lessons. In Retrospective accounts of dyslexic adults voiced being bullied, ridiculed and teased by their

classmates for their poor performance in reading and writing (Anderson & Meier-Hedde, 2017; Humphrey, 2002; Leseyane et al., 2018; Mishna, 2003; Riddick, 2010; Singer, 2007). Due to these difficulties encountered in their social interaction with teachers and peers at school, these impact their sense of psychological safety and belongingness at school (Lithari, 2019).

Yet, it is important to highlight that amidst these unfortunate encounters, some dyslexic learners also shared positive experiences. The three Singaporean primary school-aged dyslexic pupils in Daud's (2019) study described positive experiences with teachers and friends. Teachers and friends were 'kind' and 'understanding' and offered academic support. Likewise, the three secondary-aged dyslexic participants in Zheng's (2018) study reported generally positive experiences. These pupils had received academic support from teachers and gained new positive friendships at school.

3.2.4. Summary of challenges faced by dyslexic learners

The studies examined indicated that dyslexic learners present primary difficulties within the academic domain. They struggle with reading and spelling due to their core deficits in phonological and/or RAN skills, but it can also extend to impact their arithmetic skills. The recurrent struggles with managing academic demands has been associated to the lower academic self-concept and self-esteem found among dyslexic learners, compared to their non-dyslexic peers. Findings from comparative studies regarding dyslexic learners' general self-esteem, self-concept and social difficulties are more inconclusive and are indicative that other social-environmental factors and learners' characteristics have to be considered to understand the variability in findings (González et al., 2018; Norton, Beach & Gabrieli, 2015). Additionally, more rigorous methodologies have to be conducted in future research, especially in considering cultural differences in comparison studies and the use of valid and appropriate measures.

The variability in findings led the current study to further explore and identify protective and risk factors that can impact the development and school experiences for dyslexic learners. It is hoped that upon identification, intervention efforts can strive to encourage protective factors and alleviate the risks.

3.3. Risk and Protective factors that impact experiences for Dyslexic learners in mainstream setting

The current literature review drew attention to the systemic factors relevant to the Singapore education context to ensure that the school experience of Singaporean

mainstream dyslexic learners was highlighted and studied. Given the limited studies conducted in Singapore with dyslexic learners, literature from international studies were also included to offer possible evidence.

3.3.1. School Factors

3.3.1.1. School setting

Reid (2019) described a dyslexia-friendly school as one which encourages open communication between staff, parents, pupils, and external agencies where appropriate. Whole-school approaches that include training of staff at all levels, parent engagement, and individualised target-setting, ensure that policies are translated into action and dyslexic learners are enabled to develop strengths and address their weaknesses. These recommendations were consistent with the findings from a project funded by the Department of Education in UK which studied four exemplar dyslexia-friendly institutions and identified dyslexia-friendly classroom and whole-school approaches (Griffiths & Kelly, 2017). While there have been ongoing discussions with the Singapore government to open dyslexia-specific schools, the government remains to hold its position that the provisions of dyslexic learners ought to be held in mainstream settings (PPG, 2019). This would require school leaders to play a key role in the initiation and maintenance of support for inclusion (Poon et al., 2016). They reform systems, manage and coordinate resources, and supervise and guide educators in the process of change (Angelides, Antoniou, & Charalambous, 2010; Horrocks, White, & Roberts, 2008).

3.3.1.2. SEN arrangements.

In Singapore, secondary mainstream schools tend to provide support through pull-out or remedial classes (Daud, 2019). There are currently no studies that have examined dyslexic learner's attitude towards these provision in Singapore.

According to international literature, specialised SEN support within international settings are typically offered within-class or in 'pull-out' classes (Reid, 2015). There has been longstanding discussion around which mode of support is best for all students. Presently, evidence remain inconclusive. On one end, the aim of withdrawal support is to target the student's individual learning needs that might not be effectively addressed in the regular mainstream classroom (Daud, 2019). Yet, withdrawal support can lead to SEN pupils feeling stigmatised (Brien, 2019; Slee, 2011), and classroom teachers having limited opportunities to develop inclusive pedagogy (Horne & Timmons, 2009). Qualitative data revealed that children with dyslexia who attended 'pull-out' lessons felt isolated and excluded in their schools, and most were regularly teased or bullied (Nugent, 2008; Egan,

2013; Humphrey, 2002). The withdrawal approach appears to also perpetuate the unhelpful rhetoric that the support for SEN pupils fall within the remit of specialist teachers rather than a whole-school responsibility (McGhie-Richmond et al., 2013). It is also acknowledged that inclusive classrooms can be challenging to implement (Rose & Shevlin, 2019). SENCOs that participated in Whalley's (2018) study listed having difficulties managing policy changes, changing mindsets of school staff towards inclusive education, and most of all, the lack of time to juggle the various supporting, teaching and administrative demands. To reconcile this tension, teachers in Casserly and Padden's (2017) study indicated preference for a combination of withdrawal and in-class support as opposed to choosing one approach over the other.

3.3.2. Teacher-student relationships

Teachers have been frequently cited to play a strong influential role in the school experience of dyslexic learners (Brien, 2019; Livingston, Siegel & Ribary, 2018). This relationship, whether positive or negative, has the potential to lead children to internalise opinions teachers have of them, which impacts the formation of children's identity and self-concept, their motivations, behaviours and learning outcomes (Glazzard, 2010; Brien, 2019; Singer, 2007; Turner, 2013; Woodcock & Jiang, 2016).

3.3.2.1. Teachers' attitudes and perception towards dyslexic learners.

Accounts by dyslexic learners have underscored the importance of examining teachers' attitudes and perceptions towards dyslexic learners. International studies found that negative comments from teachers have generally made dyslexic learners feel bad about themselves (Gibson & Kendall, 2010; Glazzard, 2010; Singer, 2008). Dyslexic children who perceived rejection from teachers were more likely to develop anxiety feelings towards interpersonal relationships (Habib & Naz, 2015). Teachers can also have a positive influence on the learners' self-esteem and coping abilities (Riddick, 2010). Retrospective recounts by dyslexic adults and parents of dyslexic learners identified that having a teacher who cared and believed in their capabilities helped them to develop more positive self-perception, higher sense of self-worth and resilience - among other contributing factors like praise and encouragement and tangible academic progress (Casserly, 2013; Harðardóttir et al., 2015; Riddick, 2002).

Singapore studies have yet investigated the impact of teachers' attitudes on learning and school experience. The two existing studies that have examined teachers' attitudes have sought to understand mainstream teachers' attitude towards inclusion. Yeo and colleagues (2014) interviewed 200 primary school educators - 60.6% were allied educators,

39.4% were mainstream teachers and 27.2% teachers did not indicate their designation. Transcripts were coded and broadly categorised into positive and negative experience with inclusion. Teachers reported more negative (60%) than positive (40%) personal experiences with inclusion. Positive attitudes arose when they had exposure to teaching pupils with SEN and in the process acquired a variety of strategies they could use to good effect in the inclusive classroom. With a growing sense of competence came greater receptivity to inclusion. These findings were similarly noted among Singaporean mainstream secondary school teachers (Poon et al., 2016). An overall neutral attitude towards inclusion was reported by 131 teachers and school professionals from two mainstream secondary schools in Singapore. Teachers' self-rated confidence in supporting SEN children was the single important factor found to predict staff's perception towards inclusion. Poon and colleagues (2016) reasoned that since, at the point of study, both schools had less than four years of experience in the formal support process, school staff were understandably still apprehensive and feeling inadequate about their competency towards supporting SEN students. Both of these studies demonstrated that to improve teachers' positive attitudes towards inclusion, efforts need to be made to increase the confidence of teachers. This can be done through training but also assisting them to encounter more successful classroom experience (Yeo et al., 2014).

3.3.2.2. *Intervention support*

To address the primary difficulties in reading among dyslexic learners, reading interventions have focused on building phonologically-based word-level skills and strategies (Aylward et al., 2003; Shaywitz et al., 2004; Simos et al., 2007), alongside reading fluency, vocabulary, and comprehension (Gersten et al., 2008; Odegard et al., 2009).

The two main programmes offered to dyslexic learners in Singapore – the SDR programme offered in all mainstream schools for those aged 8 to 10 and the MOE-aided DAS Literacy Programme (MAP) offered to primary and secondary school-aged dyslexic learners at DAS centres, were similarly designed to skill dyslexic learners across five main areas. They are phonics/phonemic awareness, reading, comprehension, spelling and writing. DAS conducted an evaluative study of the MAP in 2014 and found that dyslexic learners across all age groups had significant gains in reading and spelling skills one-year after intervention (Oei, Lim & Ram, 2014). However, the paper was lacking in offering more details about the reading and spelling measures used nor the demographic characteristics of the non-dyslexic control group. Nonetheless, a meta-analysis of neuroimaging studies conducted by Ylinen and Kujala's (2015) found strong evidence demonstrating that when phonological interventions were conducted with poor readers mostly below the age of 12,

the activation of hypoactive inferior frontal and occipito-temporal areas were strengthened. These areas are critical for phonological representations and processes (Barquero, Davis & Cutting, 2014). Additionally, Ylinen (2015) found long-lasting gains one year after phonological intervention. the activation pattern of previously hypoactive areas continued to increase.

Aside from absolute gains in reading and spelling abilities, the effectiveness of the MAP programme was found to vary depending on the age and developmental stage at which dyslexic learners received the intervention. The younger the students were at admission into MAP, the better their progress in both reading and spelling. In particular, it appears that the greatest gains were made by those who started in Primary 1, aged six to seven. This finding is consistent with literature. Reading interventions were reported to be most effective during early childhood, a period of heightened plasticity (Wanzek & Vaughn, 2007), and their effectiveness decreases throughout childhood years (Blachman et al., 2004; Yu, Zuk & Gaab, 2018). Studies suggest that older dyslexic learners would benefit from continual reading comprehension and spelling intervention support (Connelly et al., 2010; Kim et al., 2017; Wong et al., 2017). Bazen and colleagues (2020) have urged studies to develop intervention supports for older dyslexic students. Most intervention studies have emphasised on basic literacy skills, but more advanced skills such as silent reading (Gagliano et al., 2015), foreign language learning and advanced spelling remain to be neglected areas of research.

At a more general level, Witzel and Mize (2018) identified four empirically validated teaching strategies that can be transferred across the teaching of all subjects. They proposed that in increasing intensity they are 1. task analysis (Browder, Jimenez & Trela, 2011), 2. Explicit instructions (Fletcher et al., 2019), 3. multisensory teaching and 4. Field-dependent approaches (read details in Witzel & Mize, 2018). As proposed by Lum, Ullman and Ramsden (2013), these various strategies have been found effective as they support the procedural deficits among dyslexic learners (West et al., 2019).

Reid (2019) encouraged educators to incorporate the use of Information Communications Technology (ICT) resources during lessons. A Singapore study by Murbak (2017) introduced the use of interactive whiteboards in selected primary and secondary school-aged classes at the DAS. Most teachers and dyslexic learners responded positively to the use of interactive whiteboards during teaching, with the biggest gains reported in increasing pupil engagement. Teachers, however, noted challenges in the initial setting up of

the interactive whiteboard and integrating the use of technology in lessons plan which deterred some from future adoption of the technology.

3.3.2.3. Teachers' knowledge on Dyslexia

And while interventions have benefited dyslexic learners, research also warns against underestimating the abilities of learners. Qualitative studies noted that when unsuitably placed in lower curriculum sets or inaptly given reductive texts, dyslexic learners perceived a lack of challenge in learning and lost their motivation to perform (Anderson, 2009; Gibson & Kendall, 2010). Neither should tasks feel overwhelming that resulted in learned helplessness and frustration for the dyslexic learner (Rappolt-Schlichtmann, Boucher & Evan, 2018).

As such, the successful implementation of a tailored education plan hinges on the assumption that teachers are first, able to identify accurately the needs of students and second, possess the knowledge and self-efficacy to flexibly implement academic accommodations and modifications. Yet, in reality, most studies reveal that mainstream educators have low confidence in supporting SEN students and a lack of accurate knowledge about dyslexia and intervention strategies (Knight, 2018; Nascimento et al., 2018; Ryder & Norwich, 2018). Protective factors like teacher training opportunities and resource allocation can thus interact with classroom demands to build teachers' awareness and self-efficacy to consequently improve students' school experiences (Abbott, 2007; Avramidis & Norwich, 2002; Walker & Musti-Rao, 2016).

While little is known about teachers' specific knowledge about dyslexia in Singapore, studies investigating Singaporean teachers' awareness towards broader SEN inclusion reflect a similar picture consistent with international studies. In Yeo and colleagues' (2014) study, Singaporean mainstream teachers reported that the largest barrier to inclusion in primary school classrooms pertained to service quality difficulties, such as insufficient training to prepare teachers for inclusion, large class sizes and having too many SEN students in a class. These barriers were likewise identified within mainstream preschool settings (Yeo et al., 2011). Cited most frequently by all preschool principals and alluded to by both parents and teachers was the large class size (according to teachers' report, about 30 children per class at the kindergarten level). Also, manpower constraints translated into one teacher per classroom with no teacher aide. As reiterated in both studies, teacher workshops alone are insufficient to strengthen teachers' self-efficacy and allay their anxieties towards helping SEN children adequately (Avramidis & Kalyva, 2007; Chong et al., 2007; Poon et al., 2004). Instead, experiential trainings via demonstrations and modelling of

intervention strategies and classroom management were more valued by teachers as they scaffolded teachers' experiences of success. The achievements gained convinced teachers of the usability of inclusive practices. The findings highlight the importance for therapists and educational psychologists to give considerations of the classroom context and acknowledge the feelings and constraints teachers face during training to ensure that instructions become readily implementable knowledge for educators (Rosenfield, 2000).

3.3.2.4. Socio-Emotional Support

Aside from learning support, dyslexic individuals and professionals have emphasised the importance of providing socio-emotional support (Leitao et al., 2019). The emotional elements of learning must work in tandem with the academic elements to help dyslexic learners fully access the curriculum (Casserly, 2012). Singer (2007) examined the purpose and types of coping strategies used by 60 dyslexic children. For many of these students, coping strategies served to protect their self-esteem. Self-talk - adaptive (e.g. to preserve the students' belief in their own academic capacities) and maladaptive (e.g. to devalue the importance of learning) emerged as a commonly used coping strategy. Singer (2007) stressed that teachers can play a role to help students develop adaptive self-talk, through drawing their attention to small progresses and helping them develop awareness of their strengths, recognising that academics are only a component of one's self-concept. The words offered by teachers can serve as scripts for students to develop their own adaptive self-talk.

3.3.3. Peer relationships

Studies show that peer relationships can serve as a risk and/or protective factor to impact dyslexic learners' sense of belonging and love needs. This interacts with other microsystemic factors such as the school culture, and person's dispositions (Nelson & Liebel, 2017). At present, few studies both in Singapore and internationally have explored peer relationships among dyslexic learners and how that impacts their experience of dyslexia and school in general.

Several studies conducted among non-dyslexic learners evidenced that peer relationships can moderate the effects of children's low maths and verbal self-concepts, anxiety and aggression on their behavioural difficulties at school (Dodge & Pettit, 2003; Gazelle & Ladd, 2003; Ladd & Troop-Gordon, 2003). An increase in peer acceptance and peer support reduced feelings of loneliness and social isolation among dyslexic learners (Catts & Petscher, 2018). Passiatore and colleagues (2017) reasoned that the low peer rejection and positive peer reputation create greater opportunities for social interactions, and

with peer support children learn how to better cope with difficult situations they encounter. For these same reasons, Blackman (2010) and Kiuru and colleagues (2013) reported better learning outcomes with peer acceptance. In Blackman's (2010) study, dyslexic learners demonstrated greater ease in sharing their ideas and were more comfortable when doing group work with their friends which facilitated learning.

Given the protective nature of peer relationships, studies have sought to explore the variables that can influence friendship development among dyslexic individuals (Doikou-Avolidou, 2015; Mugnaini et al., 2009). These factors as reflected by researchers through interviews with dyslexic learners included proximity, similarity, personal characteristics, opportunities to socialise and social skills abilities. Sharing a common experience could be reassuring for dyslexia students and promotes cooperation and mutual help (Roer-Strier, 2002).

3.3.4. Family factors

Parents constitute an important source of support for dyslexic pupils and can affect the development of children's adaptive coping strategies, self-esteem and their acceptance of the dyslexia diagnosis (Doikou-Avolidou, 2015; Stampoltzis & Polychronopoulou, 2009). Children whose parents responded negatively to their emotions about dyslexia were found more likely to experience shame, hide their feelings and develop internalising or externalising coping strategies to conceal their shame and protect their self-esteem (Singer, 2005). Contrastingly, children who described their parents as academically and emotionally supportive reported fewer negative emotions and showed greater desire for self-improvement.

3.3.4.1. Parents' perception of Dyslexia

Dyslexia, like other SEN, has impact on family relationships (Livingston, Siegel & Ribbary, 2018). It has been associated with increased parental distress, particularly due to the perception of having a child with specific needs and difficult parent-child interactions among studies conducted in Italy (Bonifacci et al., 2014; Carotenuto et al., 2017). In the UK, parents of dyslexic children have reported feeling guilty for their influence in genetically passing on dyslexia or for having wrongly assumed their child was not trying (Earey, 2013). Other worries included their child's inaccessibility to programs, or inadequate support, in addition to personal stress and frustration (Serry et al., 2016).

The perceptions that parents hold – positive or negative, and their socio-emotional wellbeing have a reciprocal interaction with their dyslexic children's development (Bonifacci

et al., 2020). Terras and colleagues' (2009) study in the United States of 68 children with dyslexia, aged 7 to 16, concluded that parents who had more positive attitudes towards reading disabilities perceived their child to be less hyperactive, more pro-social, and with fewer peer and emotional conduct problems. This positive outlook facilitated positive emotional support and served as a protective factor to children's global self-worth (Terras et al., 2009).

Existing studies noted that Singaporean parents of SEN children appeared to have varying degrees of understanding and acceptance of their child's diagnosis and needs (Poon et al., 2013; Wong et al., 2013). Parents with little knowledge often sought input from schools on important decisions as they believed that knowledge gives educators authority to make decisions about their child's education. The chase for academic excellence exacerbated some parents' expectations of 'normality'. They pressurized their children to conform at the expense of dismissing their need, leading to inappropriate provision of support.

3.3.4.2. Financial circumstance

Access to government-aided interventions in Singapore require a proof of the dyslexia diagnosis. And to do so, this assessment process, and subsequent intervention support, can put a strain on the family's income (Zheng, 2018). Already among non-dyslexic children, families are who more financially able have greater financial and social capital to help their children succeed (Lee, 2016). Private tuition has been used by many parents to help their children keep up with the academic competition and is commonly perceived by the Singapore society to be a necessity (Seah, 2019). Singapore households spent S\$1.4 billion on tuition in 2017, compared to S\$650 fifteen years ago (Department of Statistics, 2018). The same survey also indicated that higher-income families were spending more on tuition, with graduate parents spending up to four times as much on tuition as their counterparts with only primary school education (Teng, 2015). The academic struggles that result from dyslexia may further compound the social inequity faced by families who struggle financially (Livingston, Siegel & Ribrary, 2018).

3.3.4.3. Parental attitude towards accommodations

Progress has been made in the introduction of accommodations for examinations in Singapore (extra time, larger font, use of keyboards, etc.). However, there is a stigma associated with using these accommodations. In Singapore as notations are made in students' transcripts stating that results on the exam were obtained under special conditions

(Poon et al., 2013). As such, anecdotally some parents have been reluctant to grant their child's access to accommodations even if learners can benefit from the use of it.

3.3.5. Home- School partnership

Positive home-school collaborations are widely promoted for the positive impact they can have on students' motivation, academic and social outcome (Cook et al., 2018; Dufour & Fullan, 2013), and on parents' perceived self-efficacy in decision-making and being a change agent for their children (Murray et al., 2013). To strengthen partnerships between home, school and the community, the Singapore government has introduced various initiatives and programmes to engage parents and keep them informed about their children's educational needs (Manzon, et al., 2015). More than 95% of our schools have set up Parent-Teacher Associations (PTAs) or Parent Support Groups (PSGs) (MOE, 2012).

However, in actuality, a Singapore study by Wong and colleagues (2015) found that interviewed parents of secondary-aged SEN children were not actively involved in volunteering activities or decision-making processes. This finding was consistent with other studies by Khong and Ng (2005) and Zheng (2018). Some parents saw parental involvement as largely unnecessary interference in school governance and policy matters in Singapore (Khong & Ng, 2005), while others hoped to have more regular updates from the school about her child's learning (Zheng, 2018).

3.3.6. Dyslexic learners' characteristics

A variety of dispositional and demand characteristics has been evidenced to impact dyslexic learners' ability to adapt to the mainstream setting. These include level of anxiety, depression and self-esteem (Gibbs, 2020; Giovagnoli et al., 2020), coping strategies adopted (Nair, Ram & Purusamy, 2018) and students' understanding and perception towards their dyslexia diagnosis (Cipolla, 2018; Claessen, 2020).

3.3.6.1. Self-advocacy

An often overlooked but critical factor that contribute to the educational make of successful dyslexic learners is self-advocacy (Fishman & Nickerson, 2015; Shaywitz & Shaywitz, 2016). This has been endorsed by dyslexic adults (Cipolla, 2018; Nalavany et al., 2011). Dyslexic individuals highlighted that with greater understanding and a willingness to disclose their diagnosis they were able to inform teachers when they need help and therefore effective and prompt support could be delivered, eventually contributing to their academic success (Cipolla, 2018).

Despite its benefits, not all dyslexic learners practice self-advocacy. Some learners fear the stigma of labelling (Riddick, 2010). Others do not because of poor self-acceptance of the diagnosis, or a lack of awareness about dyslexia and its associated impact on emotional well-being (Carawan et al., 2015; Lithari, 2019). These findings have practical implications for professionals. Professionals must take care to be sensitive when explaining the diagnosis of dyslexia, as poor explanations can cause individuals to feel anxious and inferior (Doikou-Avlidou, 2015), or negatively influence student expectations (Shifrer, 2013).

3.3.6.2. Age of Diagnosis

The time of diagnosis has been found to influence dyslexic learners' perceived competence and understanding of the diagnosis. Early-diagnosed adolescents were found to hold a more adequate understanding of their dyslexia and higher academic and general competency perceptions (Battistutta, Commissaire & Steffgan, 2018; Stampoltzis & Polychronopoulou, 2009). Pavey and colleagues (2010) discussed the issues of late identification and suggested that although diagnosis comes with benefits of understanding the characteristics of dyslexia, the adjustment to the new-found knowledge, and reaction of friends and family can too impact upon self-perception.

3.4. Unique Systemic factors within the Singapore education system

3.4.1. Inclusion practices within mainstream

While Singapore does not have any legislation on the inclusion or provision for SEN children in mainstream education, the government has been responsive to the rising numbers of SEN children in mainstream schools (Poon, Musti-Rao, & Wettasinghe, 2013; Enabling Masterplan Steering Committee, 2016). The MOE has implemented several initiatives to build capacities in mainstream schools and foster an inclusive education system for all students, especially those with SEN (Daud, 2019). These included increased funding to redevelop school infrastructure and professional development of mainstream teachers (Poon, Musti-Ra and Wettasinghe, 2013). The National Institute of Education was contracted to introduce pre-service training in SEN for all beginning teachers and conduct both the Teachers Trained in Special Needs (TSN) and the Allied Educator-Learning and Behavioral Support (AED-LBS) programs to develop specialised manpower (Poon et al., 2013). The role of educational psychologists in schools have evolved to not only offer case-specific support but an increased focus in providing systemic intervention (Kit, Garces-Bacsal & Burgetova, 2016). These additional supports have enabled in-school dyslexic interventions at the primary level, though such systemic structured intervention support remain lacking in the pre-school and secondary settings.

3.4.2. Merit- and Choice-based selection process

Singapore policies are guided by her meritocratic values (Kim & Choi, 2017). This is based on the notion that individuals are given equal opportunities. Success and rewards are then allocated based on merit. This merit-driven society has perpetuated the notion that high academic achievement is a valuable asset. Students' achievements on national exams, as early as the Primary Six Leaving Examination (PSLE), determine school choices and educational pathways. Students also face immense peer pressure to excel academically. Findings from an Organisation for Economic Cooperation and Development (OECD, 2017) study emerged that 82 percent of the students surveyed wanted to be the best students in class, compared to the OECD average of 60 percent. This greatly demerits dyslexic learners who may be educationally disadvantaged (Kwek et al., 2019; Walker & Musti-Rao, 2016). The conventional paradigm of meritocracy has little room to incentivise values such as best effort or ethics because the outcome is measured by performance (Chow, 2019). A study conducted by Matthews and colleagues (2017) reported that while Singaporean parents deemed of high importance to choose a primary school that emphasises on character and values compared to one that is results-achievement driven, they were inevitably pressured to also balance their school choice with one that still produces good academic results. For children with SEN that are academically disadvantaged, their lower scores channel them to schools which require a lower entrance score, deemed to be a more 'appropriate' setting for them, but what is appropriate is debatable (Wong et al., 2013).

In theory, meritocracy promises learners from lower socioeconomic groups upward mobility as it provides equal opportunity by offering standardised testing. Education fees are affordable, with numerous grants provided for lower-income families, and rigorous standards enforced by the MOE on every school. The reality, however, reflects class advantage particularly evident in higher-ranking schools. Ong and Cheung (2016) conducted a study among 601 Singaporean primary- and secondary-aged students and found that children from higher socio-economic backgrounds were more likely to attend secondary schools, that were attended by the top-scoring pupils at the Primary-school leaving examinations.

The Singapore government does acknowledge the problems with social equity entrenched within the education system and has adopted strategies recommended by international research to enhance equity and uplift the disadvantaged (Kwek, Miller & Manzon, 2019). Such strategies are:-

1. Equalise the quality of educational service provided by schools (such as financial grants or loans).

2. Eliminate or weaken various kinds of hierarchical differentiation in schools (such as the removal of streaming from year 2021).
3. Extend pre-school education.

3.4.3. Ability-based provision

Since 1978, streaming has been used to tailor education to ensure that learners can cope with the academic rigour and pace of learning (Ng, 2019). PSLE grades are used to gauge students' academic abilities. In descending order of PSLE scores, secondary school-aged students are assigned to Express, Normal (Academic) (N(A)) and Normal (Technical) (N(T)) streams. Schools differ in the range of the streams offered – in combinations of Express only, a mixture of two streams, or all three.

The N(T) course aims to offer technically inclined students the opportunity to develop technical and occupational skills. Since the implementation of the N(T) course, attrition rates have significantly reduced from 29 percent to eight percent among the first batch of pupils who underwent streaming, to the current one percent (Loo, 2017). In recent years, specialised schools were established for students who did not pass PSLE and/or were catered solely for learners within the N(T) pathway.

There have been growing parliamentary concerns that the hierarchical nature of streaming which used to serve Singapore well, is now a cause of widening social stratifications too (Lee et al., 2008; Ong, 2019). From 2014 to 2018, 69 percent of secondary school students who received financial assistance from MOE were from the N(A) and N(T) streams (collectively, the Normal stream) (Ng, 2019). While the system permitted learners to progress up-stream, there was a low chance of upward mobility between streams (Ng, 2019). Of the 530 N(T) students who were transferred to the N(A) stream, only 10 to 20 pupils moved onto Express stream. Statistics also indicated that streaming choices also served as barriers for future job prospects (Kwek, Miller & Manzon, 2018). Students in the Express stream were likely to receive university degrees and polytechnic diplomas (Ong & Cheung, 2016). On the contrary, Normal-stream students often worked as non-professionals with only certificates of vocational training and had lower income (MOE, 2019).

Inevitably, this reality has created negative perceptions among parents and teachers towards the N(T) streams (Kwek, Miller & Manzon, 2018). Parents viewed poorly of the prospects of students in weaker academic streams. This is unlike Germany where vocational and technical training is held in high esteem (Cedefop, 2018). Likewise, in Switzerland, 35 per cent of youths go to universities, while two-thirds of youths enrol in upper-secondary

vocational and apprenticeship training (Goh & Gopinathan, 2008). In these two countries, children, together with their parents, make those choices at a fairly young age, based on their talents and interests, with little or no stigma associated with any of the choices (Ong, 2018b).

Teachers have also been found to hold negative perceptions towards students' abilities in the N(T) track (Heng & Atencio, 2016). Hence, teachers were likely to spend less time on lesson-planning for Normal stream students than for the Express stream. They are also less likely to engage in cross-pedagogical consultation. This can lead dyslexic and poor achieving learners on a self-fulfilling vicious cycle, and a downward spiral of low self-esteem (Kwek, Millier & Mazon, 2018). Despite its good intention of providing an alternate educational pathway for those who are technically inclined, these studies reflect the stigma associated with the N(T) stream and can deter parents from accepting the N(T) stream even if they could benefit the child (Poon et al., 2014).

3.4.4. Summary of protective and risk factors

The literature review offered a brief overview of the various protective and risk factors that impact the learning and school experience of dyslexic learners. The review reflected that these factors can occur at several levels. Studies indicate that there are levers of change and also risks within the child's immediate environment, and also wider political and cultural influences that can be modified or encouraged to ensure the positive development and progress of these already vulnerable children. The impact of dyslexia on the individual learner's school experience and overall well-being is best to be understood in a multi-faceted fashion.

3.5. Theoretical framework used in the present study

To accurately reflect the individual variations among dyslexic learners and the multi-faceted influences, the present study incorporated three theoretical frameworks to guide how the study would better understand the school experiences of dyslexic learners within the Singapore context. The three frameworks are the person-environment fit theory, Maslow's hierarchy of needs and Bronfenbrenner's bio-ecological model of development. The three theories complement each other to present that both person and environmental factors are crucial in understanding social phenomenon. The study holds the perspective that optimal learning and experience occurs when there is the environmental support and provisions offered complements the needs and abilities of the individual.

3.5.1. Person-Environment Fit Theory

The person-environment fit theory is rooted in Lewin's (1943) field theory that behaviour (B) is a function of the person (P) and the environment (E), expressed as $B = f(P, E)$. Lewin (1943) studied the influence of the environment on people's behaviour, specifically children (Noreau & Boschen, 2010) and developed the fit theory based on two core tenets (van Vianen, 2018).

First, he proposed that behaviour is best predicted by examining the fit between the person and the environment rather than the person and the environment characteristics separately (van Vianen, 2018). Personal characteristics include an individual's biological and psychological needs, abilities, values or personality (Zimmerman & Johnson, 2005). Environmental characteristics include intrinsic and extrinsic rewards, demands of a task or role or cultural values.

Second, the fit theory posits that fits between personal and environmental characteristics promote positive outcomes such as satisfaction, good performance and overall well-being (Gilbreath, 2004; Moos, 1988; Riddle, 2017). Conversely, discrepancies are expected to result in negative outcomes such as dissatisfaction, boredom, depression and occurrence of maladaptive behaviours (Edwards & Rothbard, 1999; French et al., 1974; Leyden & Kuk, 1993). The larger the discrepancies between the personal and environmental characteristics, the more detrimental the outcome will be (Harrison, 2007).

3.5.1.1. Applying the Person-Environment Fit theory to inclusive education

Within the field of education research, the person-environment fit theory has been imperative in changing how learners with intellectual and developmental disabilities are viewed and how supports for them are to be offered (Luckasson et al., 2002; Wehmeyer, 2013). The World Health Organization (WHO, 2002) and the American Association of Intellectual and Developmental Disabilities (AAIDD) have adopted the person-environment models in refining how disability is defined.

Changing definition of Intellectual and developmental disability. First, the person-environment fit perspective encourages educators to embrace a more comprehensive understanding of disability. Traditionally, both the medical and social model of disability has been argued to have resulted in a reductive conception of disability (Haegle & Hodge, 2016; Imrie, 2004; Wehmeyer, 2013). The person-environment fit overcomes this by marrying both perspectives and considering the interactions between personal and the environmental factors and its impact on functioning within a person's context.

Based on the person-environment fit model, students with intellectual and developmental disabilities are viewed as learners who experience a poor fit between their personal capabilities and the environmental demands of a mainstream school or classrooms (Silveira-Maia et al., 2012; Tøssebro, 2000). It acknowledges that individuals have underlying medical or biological conditions that need to be attended to, but are also surrounded by a social environment that can impose additional barriers to their functioning (Kostanjsek, 2011; WHO, 2011). The International Classification of Functioning, Disability and Health (ICF) developed by the WHO (2001) extends that disabilities do not solely refer to impairments in body structures or functions, but also activity limitations and/or participation restrictions (WHO, 2002).

Changing the focus of intervention support. Second, by introducing a more comprehensive understanding of disability, the person-environment fit model also challenges educators to expand their approaches to implementing interventions. The supports paradigm (Thompson, 2003) is a framework developed by the AAIDD to conceptualise intervention support. Rather than focusing on fixing a learner's deficiencies or environmental barriers as proposed by the medical and social models respectively, the supports paradigm calls for educators to target both personal and environmental factors (Schalock, Luckasson & Shogren, 2020). The function of supports is to bridge the person-environment gaps and thus maximise fit (Thompson et al., 2017).

The supports paradigm proposes three intervention approaches (Thompson et al., 2017). The first approach is to improve the capacity of learners through developing their skills – either by building on their strengths and developing self-efficacy and/or targeting skills they lack (Shogren et al., 2006). The second approach is to modify environments and activities to make them more accessible. It calls for educators to introduce and implement accommodations, adaptations, and modifications (Thompson et al., 2017). The third and last approach is to provide personalised supports like peer tutors, teaching assistants or assistive technology, that aim to augment and extend the environmental modifications to ensure success for the learner. Thompson (2003) states that the identifying, prioritizing and implementing supports is an ongoing process that the team working around the child has to engage in. Teams need to consider the types, intensity, duration and frequency of supports that would enable learners to maximally participate in school activities decided upon (Shogren, Wehmeyer, Martinis & Blanck, 2018).

The ICF goes further to state that disability is an universal human experience (WHO, 2002). Functioning and disability lie on a continuum (Tomas, Cross & Campbell, 2018). It is

assumed that all persons have support needs which can vary across the lifespan and that everyone experience misfits depending on situations or activities (Arias et al., 2020). As such, interventions need to target the diverse support needs of all learners, beyond those with intellectual or developmental disabilities (Thompson, Wehmeyer, Shogren & Seo, 2017). As such the fit model promotes the use of universal supports and frameworks such as the Multi-Level Systems of Support (MLSS), positive behaviour interventions and supports (PBIS) and the universal design for learning (UDL) framework.

Changing the role of learners in intervention planning. The person-environment fit perspective encourages all students to be active agents in deciding how they want to be engaged. This is in line with guidelines that have advocated for student engagement and student voice in education such as the SEN Code of Practice (2015) and the UNICEF's pupil voice & engagement guidance (Lansdown, 2011). Proponents of the supports paradigm believe that effective support planning and provision occurs when individuals with disabilities have developed self-determination skills and are fully vested in their personal goals and aspirations (Shogren et al., 2018). Their needs and aspirations then form the basis of subsequent intervention planning (Wehmeyer & Shogren, 2017).

3.5.1.2. Applying the Person-Environment fit paradigm in the present study

Defining Person-Environment fit using a Need-Supplies perspective. To adopt the person-environment fit theory, the study had to first establish how person-environment fit is to be defined in the current study. Academics have largely defined person-environment fit as either a need-supplies or demand-abilities fit (Thompson et al., 2009). A needs-supplies fit exists when learners' needs are met by the resources in the environment (Gillbreath et al., 2010). A demands-abilities fit exists when learners' knowledge, skills and abilities meet environmental demands (Shogren et al., 2017).

The present study chose to take on a needs-supplies fit perspective. The psychological needs fulfilment is regarded as the primary influence on outcomes such as attitudes and wellbeing (Gillbreath et al., 2010) and one of the most prominent approach used in education. It is built on Maslow's (1943) need hierarchy to frame both needs and supplies (Hall, Schneider, & Nygren, 1970; Lawler & Hall, 1970; Porter & Lawler, 1968). According to Maslow (1943) all individuals have basic psychological needs that are ranked according to priority. Individuals are motivated to fulfil their lower-level needs before moving onto higher-level needs. Studies have found that learners who perceived their basic psychological needs as being met are intrinsically more motivated, had better academic performance, and higher scores for self-esteem than learners who perceived their needs as

not met (Orsini, Binnie & Tricio, 2018). There is also increasing recognition among schools to take students' basic psychological needs into consideration when designing daily classroom practice (Vermeulen, Castelijns, Kools, & Koster, 2012). Teacher education institutes have placed increasing emphasis on building pre-service teachers' understanding of students' basic psychological needs (Evelein, Korthagen, & Brekelmans, 2008).

Aside from Maslow's (1943) hierarchy of needs, which examines the 'needs' of the need-supplies fit, the present study also referred to Bronfenbrenner's (1979) bioecological system theory to explore the different layers of the socio-environments that can fulfil the 'supplies'. Schalock and colleagues (2020) argued that Lewin's (1943) original formulation was inadequate in capturing the multilevel factors that directly influence functioning outcomes, and the indirect multifactors that impact facilitating conditions and support. Bronfenbrenner (1979) value-adds to the person-environment fit model by identifying and describing the different levels within the environment – the micro-level, meso-level, exo-level and macro-level. Furthermore, Bronfenbrenner's (1979) PPCT model also gave consideration of temporal factors. This includes not only chronological time but also psychological temporal distance to the organization, such as when learners were expected to join the school - in the near or distant future (Cooman et al., 2019). Both Maslow's hierarchy of needs and Bronfenbrenner's PPCT model will be discussed further in sections 3.6 and 3.7.

Measuring Need-Supplies Discrepancies and Fits. The second step lies in operationalising the study's approach to investigate need-supplies fit. The creation of an ideal classroom or an ideal university is one the approaches used by studies to elicit what a fit might be and feel like for learners (Mackay, 2006; Pervin, 1967; Westerman & Vanka, 2005). Mackay (2006; p106) wrote that 'The ideal classroom might be similar to the arena of comfort described by Simmons et al. (1987, p1231), that is an area where the pupil is comfortable, especially with role relationships, and challenged and to which s/he can withdraw to be invigorated.'. Complementary fit occurs when learners' ideal matches the actual situation (Pee, 2012). And by comparing the ideal and the actual classroom or university experience discrepancies in the person-environment fit are identified (Mackay, 2006).

Questionnaires. Typically, questionnaires have been used to measure ideal and actual levels of classroom or school characteristics. These questionnaires include 'My Class Inventory' (Fraser, Malone and Neale, 1989), Organizational Culture Profile (OCP; Chatman, 1989) and the Student-University Match (SUM) Questionnaire (Wintre et al., 2008). The

limitations of using quantitative measures is that firstly these measures have not been replicated by other studies. Gillbreath and colleagues (2011) noted that studies in this area of research has been independent and disconnected in nature. Secondly, the person-environment fit factors within school settings is scarce (Gillbreath et al., 2011). Given that people and education systems also impact school experiences, it is imperative to use a measure that is culturally sensitive to the Singapore education context. At present, no Singapore measure have been developed to measure person-environment within the school context. Thirdly, direct measurement of general characteristics do not offer sufficient information. For example the question in the SUM questionnaire - 'To what extent do you feel there is a match between you and your needs and that of your present university regarding the academic challenges' do not offer the insight if learners are finding the environment too challenging or not challenging enough. Lastly, given that the targeted population - dyslexic learners, have difficulties in reading and comprehension, the use of questionnaires may pose to be an area of challenge for dyslexic learners.

Drawing the Ideal School Technique. Gillbreath and colleagues (2011) found it more fitting to utilise interviews and focus groups to gain perspectives of participants' ideal and actual school experience. The authors noted that interviews enabled them to expand their knowledge of possible factors that can impact student-university fit, and of the process that impact good or poor student-university fit. Even so, Daud (2019) noted that traditional interview approaches need to be adapted for dyslexic learners. Dyslexic learners may require more scaffolding to elaborate and structure their answers given their difficulties in expressive language (Cook-Sather, 2018; Daud, 2019). Though 'Drawing the Ideal-School' technique has not been used with dyslexic learners, previous studies have found the technique successful in eliciting the perspectives of young people on the autism spectrum and non-dyslexic learners in the lower-primary level (Gray, 2018; Pirota, 2016; Williams & Hanke, 2010).

The 'Drawing the Ideal School' is a modified version of Moran's (2001) 'Drawing the Ideal Self' technique first adapted by William and Hanke (2010). William and Hanke (2010) involved fifteen mainstream learners, aged between six and 15, who are on the autism spectrum (ASD) to generate what learners thought would be optimum school provision. Aspects explored with ASD learners included school environment, staff qualities, other pupils, school activities and learners' feelings being in the school.

Similar to the 'Ideal Self' task, learners are guided to think about their ideal school by first defining the negative construct – their non-ideal school, a school which they would not

like. The aim of this activity is to clarify and help them move towards their ideal school. Then, second, learners share their perspectives of their ideal school. Aside from drawing, Frisby (2016) offered primary-aged SEN participants other mediums to describe their non-ideal and ideal school, such as taking photographs and making maps.

Studies that have utilised the 'Ideal School Technique' have raised praises for the technique. Pirotta (2016) noted that the 'Drawing the Ideal school technique' could be a valid option to engage learners who struggle with verbal expression and express themselves better through other non-verbal mechanisms, for example drawings. Eyres and colleagues (2004) add that drawing the adults in the classroom gives children a concrete starting point from which to elaborate. Moreover, Thomas and O'Kane (1998, p. 343) reported that in their research, the 'use of these participatory techniques greatly assisted in breaking down imbalances of power' between adult (interviewer) and child (interviewee). Ultimately the 'Ideal School' technique offers learners to be an expert of their own lives, 'meaning makers' and 'skilful communicators' (Clarke & Moss, 2005; p5).

Regrettably, William and Hanke (2010) and subsequent studies (Kangas, 2010; Pirotta, 2016; Simoes et al., 2019) did not adapt Moran's (2001) 'Drawing the Ideal-self' technique in its entirety. In Moran's version a third section was developed to help clients bridge the gap between their now and the ideal self (Moran, 2006). Using a rating scale between the non-ideal and ideal school perceptions, clients are to rate their actual self. By exploring the discrepancies between the now and ideal ratings, the role of the therapist is to help clients explore ways to achieve the ideal-self.

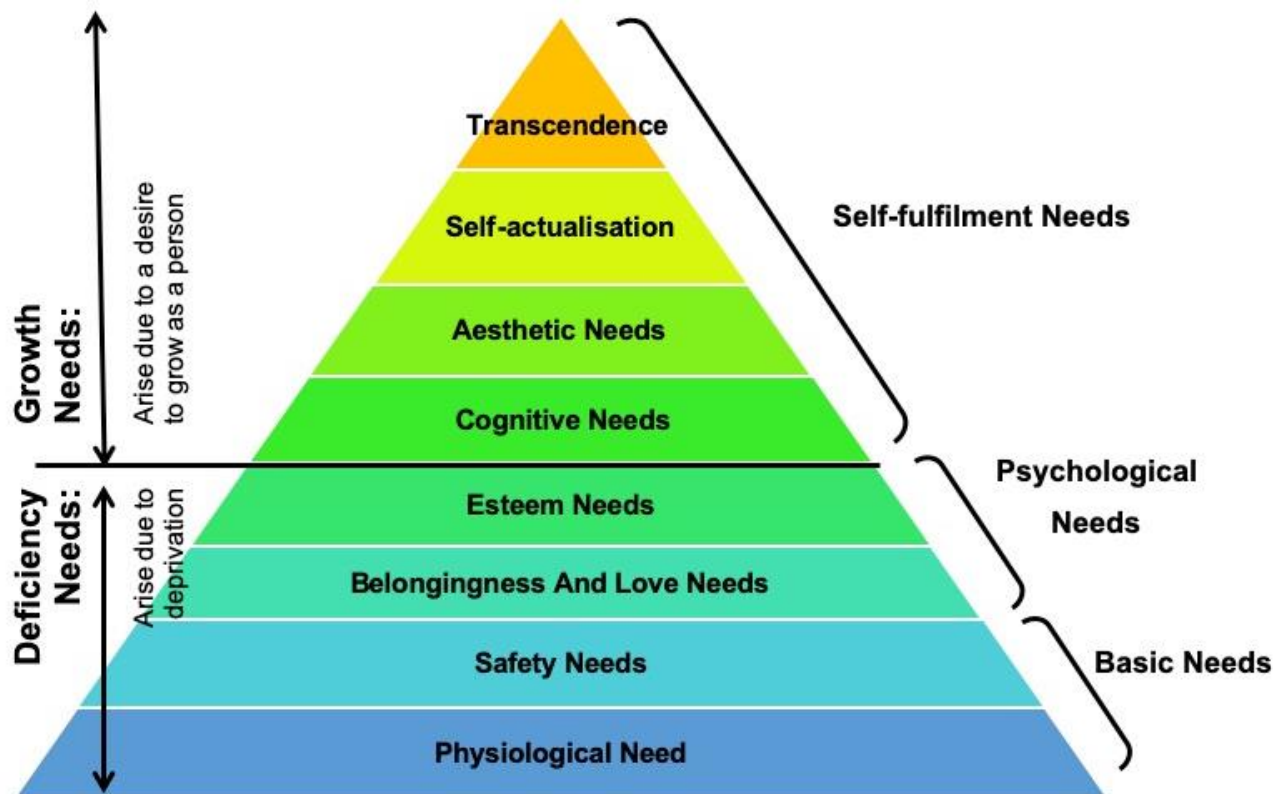
The present study proposed to include the rating scale and adapt Moran's 'Ideal-self' technique fully. In addition to having participants describe their non-ideal and ideal schools, they would be asked to rate the actual school experience on a scale of '0' - non-ideal school to '10' – ideal school. The scale would concretize discrepancies in needs-supplies fits and offer participants the prompt to describe perceived fits and misfits and consider steps that can be taken to bridge the gap between the actual and ideal school.

3.5.2. Maslow's Hierarchy of Needs

Maslow's (1943) hierarchy of needs adds depth to understanding the 'needs' of the need-supplies fit paradigm. Maslow (1943) initially included five motivational needs. He later expanded (Maslow Frager & Cox, 1970) to include eight motivational needs (Figure 1).

Figure 1

Maslow's Hierarchy of Needs



Maslow (1970) categorised the needs into *deficiency needs* and *growth needs*. Deficiency needs are lower levels of needs, essential for a person's well-being and must be satisfied before one is motivated to seek experiences that are related to high-level needs (Noltemeter et al., 2012). The motivation to fulfil deficiency needs reduces when they are fulfilled. On the contrary, growth needs can never be totally satisfied, and may even increase as growth needs are fulfilled (Coulter et al., 2016). Each level of Maslow's hierarchy is described in the Table 1.

Table 1

Description of Maslow's Hierarchy of Needs

Needs	Description
Physiological Needs	Includes the need for food, water, warmth and rest. Entails the physical requirements for human survival, for the body to function
Safety Needs	Emphasises the need for security and a non-threatening environment. A safe learning environment is concerned with ensuring physical, emotional and psychological safety (Reeves, Kanan & Plog, 2010). <ul style="list-style-type: none"> • <i>Physical Safety</i> – Ensures that individuals are safe from bodily harm • <i>Emotional Safety</i> – Ensures that individuals feel safe in relationships (Wang, Wu & Huang, 2018) • <i>Psychological Safety</i> – Ensures that individuals feel safe to take risks and be vulnerable in front of one another (Edmondson, 2016)
Belongingness and Love needs	Indicates that people desire to be accepted and loved by others. This need is fulfilled through forming satisfactory relationships with family, friends, and peers.
Esteem Needs	Maslow (1987) categorised esteem needs into two categories (Noltemeyer et al., 2012). <ol style="list-style-type: none"> 1. Esteem for oneself Dignity, seeking personal achievement, mastery and independence 2. Desire for Reputation and Respect from others
Cognitive Needs	Represents peoples' desire to gain knowledge and to understand (McLeod, 2020). At school, it entails having a curriculum that focuses on in-depth knowledge and application (Jones, 2017)
Aesthetic Needs	Refers to the desire to appreciate beauty, creativity, and artistically pleasing attributes (Coutler et al., 2016). Being in a learning environment that is pleasing and stimulating.
Self-actualisation	Reflects a person's need to realise and use his or her full potential, capacities and talents (Coutler et al., 2016)
Transcendence	This represents the highest level in the hierarchy. It looks at actualization beyond individuals themselves (e.g. altruism, spirituality), and helping others achieve self-actualisation

It is important to highlight that, contrary to popular belief, Maslow (1987) does not assume that the hierarchy of the needs follows a rigid and predictable fashion or that

everyone would prioritize needs in the same hierarchical fashion (Maslow, 2013). The process is dependent on changes in the external circumstances or individual differences that can facilitate or prevent the realisation of more fundamental needs (Burton et al., 2009). Behaviours are also multi-motivated, simultaneously determined by more than one basic need. Hence, while Maslow argues that everyone is capable and desires to move up the hierarchy, not all will experience self-actualisation or transcendence.

Literature indicates that dyslexic learners face difficulties with meeting more fundamental needs like self-esteem and belongingness, directly and indirectly due to their literacy difficulties (Reid, 2019; Ross, 2017). To reduce the gaps in school environment for dyslexic learners, Walton and Goddard (2017) advocate for schools to meet these fundamental needs in order for learners to achieve their optimum capacity for learning.

3.5.3. Bronfenbrenner's Bioecological Theory and Process-Person-Context-Time (PPCT) Model

As exemplified in the literature review, individual needs only form one side of the interaction. Socio-environmental factors occur at different levels in a bi-directional relationship which results in the variability in lived experiences between and within dyslexic learners. Bronfenbrenner's (1979) bioecological theory and its complementary PPCT model (detailed in Appendix 2) offer a comprehensive framework to examine these various factors. Additionally, the PPCT model frames the different levels that shape the environment and studies the developmental changes that occur over time.

The PPCT model consists of four major components – proximal process, person characteristics, context and time, that simultaneously influence developmental outcomes (Bronfenbrenner, 1999; Rosa & Tudge, 2013).

3.5.3.1. Process

Proximal processes are the interactions between the individual and the people and objects within the immediate environment (Ashiabi & O'Neal, 2015; Bronfenbrenner, 1999). Processes are most effective in development if they are consistent and occur over a large period of time in the individual's life (Bronfenbrenner & Morris, 2006).

3.5.3.2. Person

Person factors look at the dispositions, resources and demands the individuals bring to interactions. (Bronfenbrenner & Morris, 2006).

3.5.3.3. Context

Bronfenbrenner outlined four different contexts that can impact each individual's development – the microsystem, mesosystem, exosystem and macrosystem (Bronfenbrenner & Morris, 1998).

3.5.3.4. Time

The final component of the PPCT model – time, highlights that humans develop over time and consideration has to be made regarding the timing of certain events in a child's life (Hayes, O'Toole & Halpenny, 2017).

3.6. Aims of the Study

Altogether, the literature review indicated a paucity of research within the Singapore local context that have sought the voice of dyslexic children to hear their struggles and successes, and facilitators and barriers within the current education system that impact their learning and social-emotional development. The current study thus aimed to add value to existing literature by seeking the voice of dyslexic learners to understand the gaps between the needs of dyslexic learners and the actual provisions offered within mainstream primary schools in Singapore. Using the study's findings, the study offered recommendations to bridge the gaps and improve the inclusion experience for dyslexic learners.

To establish the needs-supplies fits and gaps, the study first explored learners' perceptions of the characteristics of an ideal school. The study hoped that by examining the ideal school, it will reveal the needs of the individual learners. Second, learners' ideal perception is then compared against their actual school learning experience to expose the extent of need-supplies fit. To highlight the possible changes and development in needs-supplies fit over time, learners recounted their actual school experiences retrospectively. The study was conducted with dyslexic learners who were about to or had already completed school.

A multi-informant perspective was adopted by the present study to adequately ascertain the individual and multiple systematic factors as identified by Bronfenbrenner (1986) that impact the needs-supplies fits for dyslexic learners. The ideal school perceptions and actual school experiences of dyslexic learners were compared against those of similar-aged non-dyslexic learners. Dyslexic and non-dyslexic learners' perceptions were triangulated with their parents'. In comparing the perceptions of dyslexic and non-dyslexic groups, the study purposed to uncover possible universal and targeted support to improve the learning experience for all learners. Educators who have worked with dyslexic learners

were also included to offer insight about the dyslexia provisions in school and at a macrosystemic level.

The study adopted an exploratory stance given the paucity in research conducted in Singapore with dyslexic learners. The researcher did not want to assume that the challenges faced by Singaporean dyslexic learners were limited to the three domains highlighted in the literature review. The 'Drawing the ideal school' technique allowed participants – learners and their parents; dyslexic and non-dyslexic groups, to freely discuss across five broad areas of school - school environment, staff qualities, other pupils, school activities and learners' feelings being in the school.

3.7. Research Questions

The research questions are as follows:

1. What are the ideal school constructs expressed by dyslexic learners and their parents?
2. What are the group similarities and differences in identified needs, between dyslexic and non-dyslexic groups?
3. Based on reports by dyslexic and non-dyslexic learners, and their parents, what are needs-supplies discrepancies common to dyslexic and non-dyslexic groups?
4. What are the needs-supplies discrepancies unique to dyslexic learners?
5. From the educators' perspectives, what are the challenges faced by dyslexic learners?

3.8. Professional implications – Educational Psychologists

As with many other countries, EPs in Singapore are mostly involved in assessment and placement of SEN children (Kit et al., 2016). However, preliminary study by Kit and colleagues (2016) revealed an growing recognition within the profession towards the need for a more systemic approach in providing intervention – supporting teachers and parents, and more broadly tending to socioemotional issues that might be hampering the academic progress or successful implementation of intervention plans (Chong et al., 2013).

As noted in the literature review, there is a wealth of work that can be done in schools to support dyslexic children within the mainstream setting to ensure that they are well-supported and given opportunities to develop their strengths (Sedgwick & Stothard, 2019). EPs are well positioned to understand the individual needs of all students and support schools in the implementation of effective systems (Pellegrini, 2009), including the development of whole school processes from identification of dyslexic learners to teacher training and parent support (Cameron, 2006). EPs' systemic thinking approaches have also

been argued to be a unique contribution and set them apart from other stakeholders in multi-agency work (Ashton & Roberts, 2006).

A strong theme of social equality surfaced in the literature review. Under the British Psychological Society guidelines (BPS, 2019), educational psychologists are ethnically required to 'take appropriate professional action to redress power imbalances and to embed principles of anti-discriminatory and anti-oppressive practice in all professional actions'. This course of research hopes to uncover how the SEN population, particularly the dyslexic community, cope within the mainstream setting and if there are social inequality experienced that need to be identified and addressed. This study hoped to be a stepping board for other research and government bodies to build upon the findings.

4. Methodology

4.1. Introduction

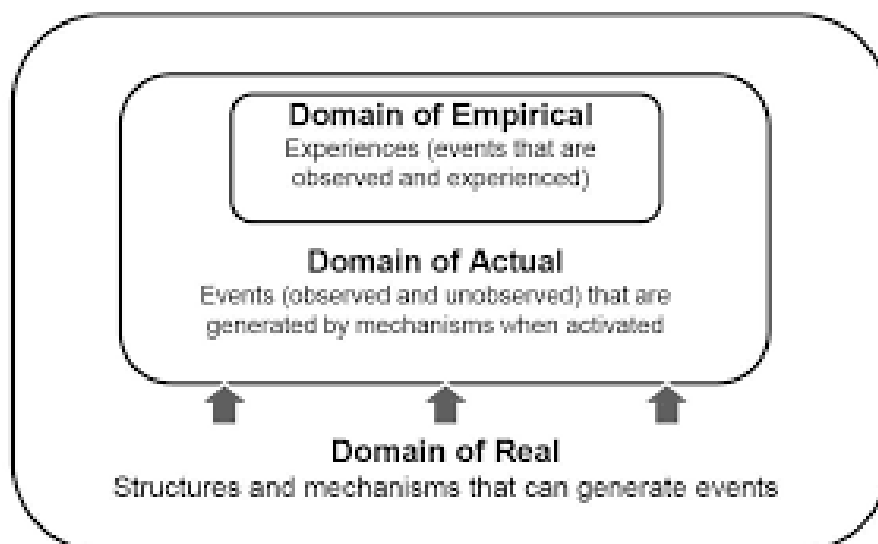
This chapter outlines the methodology and epistemological positioning of the research project. It provides a rationale for the research design and methodological approach used. Information regarding the recruitment of participants, the research context and ethical considerations are detailed.

4.2. Research Paradigm – Critical Realism

As Moon and Blackman (2014) advocate, when undertaking research, the research paradigm needs to be clearly defined (details in Appendix 3). The critical realism paradigm (Collier, Lawson & Norrie, 1998) was chosen as the foundation for this research. Critical realism (CR), associated with the work of Roy Bhaskar (1978), combines a realist ontology with constructionism epistemology. The double recognition of both an independent reality and subjective interpretations makes CR distinctive from other paradigms (Edwards, O'Mahoney & Vincent, 2014). CR acknowledges social phenomena are complex and that individuals cannot access reality in its entirety, only in partial fragments (Braun & Clarke, 2006). CR makes this balanced claim by assuming that there are three interrelated domains of reality: the empirical, actual and real (Figure 2).

Figure 2

Three Overlapping domains of Reality in the Critical Realist Paradigm



Adapted from Radulescu & Vessey, 2009

The *empirical* domain consists of human experience of the world (of the actual and real domains) - obtained through human actors' observation, perceptions and sensations of reality (Leca and Naccache, 2006). The *actual* domain refers to social events which are investigated by the researcher (Wynn & Williams, 2012). In this study, inclusion within the mainstream setting is the social event investigated. The domain of the real refers to the organization structures, the social structures, communication structures, linguistic structures, personality (Danemark et al., 2002) that impacts inclusion.

Critical Realism was found to be compatible with the exploratory stance taken by the current research. The current research sees students as capable of shaping and changing wider social phenomena such as inclusion and sets out to access their voices (Clark, 2008). Yet concurrently, CR also recognizes the importance of interactions between the agent and broader structural, social and cultural context. The perceptions of other stakeholders (parents and educators) are needed which would ensure findings are generalisable and holistic to promote social change (Mertens, 2014; Hu, 2018).

4.3. Reflexivity

As Sayer (2000) elaborates, depending on the social background of the researcher (gender, race, personality, or personal values), the knowledge acquired is grounded in a particular perspective and worldview. Thus, as noted within the CR paradigm, researchers must avoid the imposition of the researchers' preconceptions or ideology on reality (Willig & Rogers, 2017). This could compromise quality of the understanding accrued from the research. In order to provide transparency to the reader, I have outlined my experiences and beliefs that can serve as both resources and biases towards the research.

Prior to commencing my EP training, I was a teacher in an autism-specific specialist school for two years. The school served students with a profile of moderate to severe intellectual disability, who were mostly non-verbal. Most of my students relied on supportive adults to develop their independent living skills – from self-care to purchasing skills. In working with them, I came to see the vulnerability of children with additional needs and how they needed others to believe in them, to offer them opportunities to develop their potential – no matter how small the progress may be. This shaped how I wanted to practice as an EP. I strive to be one that advocates for SEN learners, to recognise their strengths alongside their needs, and empower parents and teachers to support the child.

When I first commenced my doctoral course, supporting SEN children within the mainstream school setting was unfamiliar for me. I was also immersed in a different social,

cultural and legislative context as I moved from Singapore to the UK to embark on my EP doctoral journey. From what I knew from my university lectures early on the course it appeared the UK was progressive (or at least I perceived to be more inclusive than Singapore) in its provision for SEN children within mainstream settings. I was curious to understand how UK practiced inclusive practice in mainstream settings and what facilitated and hindered the implementation. When I came back to Singapore for my last year of placement, the stark contrast in provisions and school environment left me wondering what could be improved within Singapore mainstream schools. The doctoral training has developed my skills in championing for SEN children. I adopted therapeutic techniques to elicit child's voice about their strengths, needs and co-planned interventions with them. Together, the current study provided a platform to allow me to incorporate child-centred approaches to gain deeper understanding of the lived experience of mainstream dyslexic learners.

During the interviews with research participants, I explicitly explained my primary role as a doctoral student researcher. I avoided sharing my placement experiences at the Ministry of Education, for fear that it may bias findings of perceived authority.

4.4. Methodology Approach

4.4.1. Participants

Dyslexic Children and Parents. Six pairs of Singaporean dyslexic child-parent dyads were recruited to participate in the study. Dyslexic children were verified to have received a formal clinical diagnosis of dyslexia by a certified Educational Psychologist. Additionally, they (1) needed to have completed their Primary six education in a mainstream primary school, and (2) were either in their last month of completing school or had already completed primary education within the past 3 months from the time of interview. Participants' details are listed in Tables 2 and 3. Additional background information was provided, including learners' verbal and non-verbal abilities as indicated by VCI and PCI scores respectively and their anxiety profile. Pseudo-names have been used to maintain participants' anonymity.

Table 2*Learners' Profile*

Group	Name	Gender	Age (Y:M)	Age of Diagnosis	Ethnicity	Family Structure	Academic Stream	Verbal Composite Score (VCI)	Perceptual Reasoning Composite Score (PCI)	Parent who co- participated
Dyslexic	Zoe	Female	12:5	5	Chinese	Single- Parent	N(A)	-	-	Mother
	Sandra	Female	12:8	7	Chinese	Nuclear	N(T)	-	-	Mother
	Nathan	Male	14:0	Unsure	Chinese (Indian Foster Family)	Foster Family	N(T)	Extremely Low	Borderline	Foster Mother
	Sophie	Female	12:1	9	Chinese	Nuclear	Express	Average	High Average	Mother
	Sam	Male	12:7	5	Chinese	Nuclear	Express	-	-	Mother
	Colin	Male	12:9	11	Chinese	Nuclear	N(A)	Average	High Average	Mother
Non- Dyslexic	Jason	Male	12:8	-	Chinese	Nuclear	Express	Average	Superior	Mother
	Sasha	Female	12:9	-	Chinese	Nuclear	Express	Average	High Average	Mother
	Evan	Male	12:1	-	Chinese	Nuclear	Express	Superior	Very Superior	Father
	Chad	Male	12:6	-	Chinese	Nuclear	Express	High Average	Very Superior	Mother
	Betty	Female	12:9	-	Chinese	Nuclear	Express	Average	Average	Father
	Lucy	Female	12:9	-	Chinese	Nuclear	N(A)	Borderline	Average	Mother
	Eve	Female	12:8	-	Chinese	Nuclear	Express	Average	Average	Mother

Table 3*Anxiety Profile of participating learners*

	Separation Anxiety		Generalized Anxiety		Panic		Social Phobia		Obsessive/Compulsive		Depression		Total Anxiety		Total Anxiety & Depression	
	Child-rated	Parent-rated	Child-rated	Parent-rated	Child-rated	Parent-rated	Child-rated	Parent-rated	Child-rated	Parent-rated	Child-rated	Parent-rated	Child-rated	Parent-rated	Child-rated	Parent-rated
Zoe												Border-line Clinical				
Sandra	Border-line Clinical	Clinical														
Nathan																
Sophie																
Sam																
Colin		Clinical						Border-line Clinical		Clinical		Clinical		Clinical		Clinical
Jason																
Sasha																
Evan																
Chad																
Betty																
Lucy																
Eve								Border-line Clinical				Clinical				

Three dyslexic participants did not complete the cognitive assessments. Two of the participants were engaged via telephone due to COVID-19 regulations. There was limited access to complete the cognitive assessment virtually. One parent did not want to proceed with the cognitive assessment. Following ethical procedures, the request was acceded. The students' remaining data was kept as it was still deemed meaningful to the study.

Non-dyslexic Children and Parents. Seven pairs of Singaporean non-dyslexic child-parent dyads were recruited. The non-dyslexic children were (1) verified to have no known diagnoses, and (2) were either in their last month of completing school or had already completed primary education within the past 3 months from the time of interview.

Educational professionals. Five educational professionals participated in the study. Details of participants are listed in Table 4.

Table 4

Educators' Profile

Identifier	Gender	Role	First Language
Ms E	Female	Allied Educator (AED(LBS) at a Secondary school, who provides direct SEN support in school	English
Ms C	Female	Private Dyslexia tutor, teaches both primary and secondary aged pupils	English
Mr S	Male	Private Dyslexia tutor, teaches both primary and secondary aged pupils	English
Ms A	Female	Secondary school teacher who was Head of English Department	English
Ms P	Female	Previously worked as an assistant EP at DAS, left the post one year ago to pursue related Master's Degree	English

While the present study sought to understand the primary school experiences of dyslexic learners, two secondary school educators were interviewed. This was to offer insight regarding the transition needs of dyslexic learners as they move from primary to secondary school, and how primary schools can intervene pre-transition.

4.4.2. Research Methodology

Semi-structured interviews were conducted with all participants – learners, their parents and educators; among dyslexic and non-dyslexic groups. Interview questions are presented in Appendix 4. A complementary questionnaire was also administered to dyslexic and non-dyslexic learners and their parents to answer research question about their ideal school and for background information (see Appendix 5).

4.4.2.1. Research question 1 and 2 – Ideal School

Research question one and two were targeted at dyslexic and non-dyslexic learners and their parents, to gain their perspective of what an ideal school would constitute. Both qualitative and quantitative measures were used to address these two questions. The use of qualitative methods is more established among CR-based research as they have been reasoned to be more capable of describing a social phenomenon and producing situated analytical explanations than quantitative approaches (Hu, 2018). Clark (2008) argued that quantitative data can also provide corroboration or further explanation

Drawing the Ideal-School. Only learners were engaged in the 'Ideal School' activity (Williams & Hanke, 2010), adapted from Moran's (2001) 'Drawing the Ideal Self technique'. Learners were offered a range of age-appropriate mediums to express their answers – drawing, photographs and verbal response.

Learners were first asked to describe their non-ideal school across five areas - the physical environment, relationships with staff, relationships with peers, experiences of learning and their feelings. With the same five areas, they were then prompted to describe their ideal school.

Semi-structured interview. To understand parents' perception of an ideal school – dyslexic and non-dyslexic group alike, semi-structured interviews were conducted to gain their insight. Unlike the learners, parents were not asked to describe their non-ideal school. They were only encouraged to describe their ideal schools across the same five areas - identified by Williams and Hanke's (2010). Parents were asked 'What is your ideal school for your child?' and 'What are the considerations you have when choosing a school for your child?'. They were then given the space to talk freely.

Questionnaire – Factors influencing school choices. The questionnaire elicited practical considerations parents and learners had when choosing a secondary school. The questionnaire required parents and children to first rate the importance of predetermined

factors on a scale of one (Very important) to five (Very unimportant), and second, list the five most important selection factors they considered. The predetermined factors and the two-task format utilised were adapted from UK studies that have reviewed factors that parents take into account when choosing secondary schools (Bastow, 1991; Evangelou et al., 2008; Flatley et al., 2001; Glenn-Applegate, Justice & Kaderavek, 2016). The final list of factors was revised and piloted with a Singaporean educator who is also a parent and had previously experienced the transition process. This ensured that the final options provided were comprehensive and suited for the local context.

4.4.2.2. Research Question 3 and 4 – Actual School experiences

Research question three and four were similarly targeted at dyslexic and non-dyslexic learners and their parents, to understand their actual school experience and how that compared with their perception of an ideal school. Learners and parents were asked offer recommendations to reduce the gaps between the ideal and actual school perceptions. Only qualitative data was collected for these two questions.

Drawing the Ideal- School: Rating Scale. Learners and their parents were asked to rate on a scale of 0 to 10 how enjoyable they found their actual primary school experience to be. A rating of '0' being similar to the non-ideal school, while a rating of '10' being similar to the ideal school. Learners and their parents and educators were then asked to describe theirs or their child's experience at primary school, the support available and barriers. Learners and parents were also asked to provide recommendations to reduce the gaps in provisions identified.

4.4.2.3. Research Question 5 – Educational Professional

Semi-structured interviews were conducted with educators to understand the supports and barriers that dyslexic learners face within the mainstream settings. Educators were also asked to identify what has been going well and to make recommendations to improve the school and learning experiences for dyslexic learners.

4.4.2.4. Background information

Family characteristics. Parents' educational level and their financial assistance status (as a gauge of family's financial status) were collected using a background questionnaire. None of the families were on financial assistance scheme.

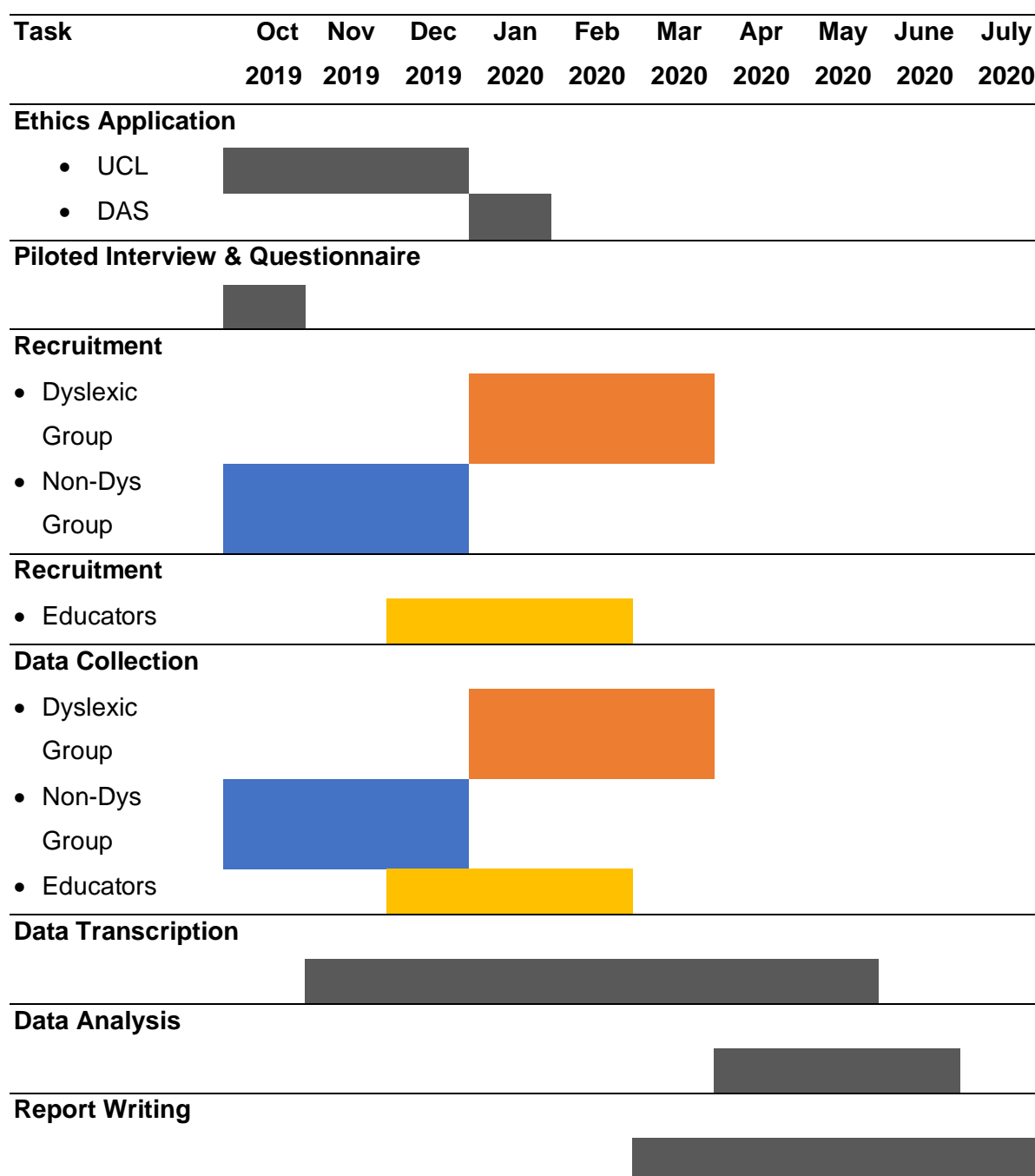
Anxiety. The Revised Child Anxiety and Depression Scale (RCADS; Chorpita et al., 2000) is a 47-item questionnaire which measures DSM-oriented specific anxiety disorder

(separation anxiety disorder, social phobia, generalized anxiety disorder, panic disorder, obsessive compulsive disorder), and low mood (major depressive disorder). It yields a Total Anxiety Scale (sum of the 5 anxiety subscales) and a Total Internalizing Scale (sum of all 6 subscales). The RCADS has two versions – a youth self-reported version, and a parent reported version. The youth-reported version has displayed robust internal consistency reliability in different assessment settings, countries, and languages (Piqueras et al., 2017). The anxiety subscale of the RCADS-youth has demonstrated acceptable internal consistency, ranging from .68 to .85 when administered among eight to eleven years old Singaporean children (Yi, 2017). Although clinical experience indicates that RCADS is too developmentally advanced for use with children with learning disabilities, it has been found to be useful for some CYP with mild learning difficulties (Law & Wolpert, 2014). Compared to similar parent-reported DSM-oriented internalizing scales, namely the SCARED-parent version (Birmaher et al. 1997) and the SCAS-parent version (Nauta et al. 2004), the RCADS-Parent has an added advantage in that it measures major depressive disorder alongside anxiety subscales. The RCADS statements were read for all students during the interview and clarified to ensure understanding.

Wechsler Abbreviated Scale of Intelligence – 2nd Edition (WASI-II). The Wechsler Abbreviated Scale of Intelligence 2nd Edition (WASI-II) (Wechsler, 2011) was administered to describe each child's cognitive profile. The WASI-II strongly correlated to the longer WISC-IV. It generates verbal comprehensive index (VCI) – sum of scores on the Vocabulary and Similarities subtests and perceptual reasoning index (PCI) – sum of scores on Block Design and Matrix Reasoning subtests. An estimated FSIQ score can be generated from the administration of two or four subtests. The WASI-II was standardised on a sample of 2300 individuals, including children with SEN (McCrimmon & Smith, 2013). Among adolescents aged 13 to 16 years, internal consistency reliability coefficients for the VCI and the PRI ranged from .92 to .94, and the internal consistency reliability coefficients for the two- and four-subtest FSIQ scores have been reported as .92 to .93 and .95 to .96, respectively (Wechsler, 2011)

4.5. Research Procedures

The research process followed the timeline depicted in the Gantt chart below (see Figure 3).

Figure 3*Research timeline*

4.5.1. Ethical Considerations

Ethical approval for this study was obtained from UCL Institute of Education Research Ethics Committee and the Dyslexia Association of Singapore (Appendix 6). To note, the UCL ethics application was amended in December 2019 to include the involvement with dyslexic learners recruited from the DAS. A summary of the ethical concerns posed by the study and how these issues were addressed are presented in Table 5.

Table 5*Overview of Ethical Issues and Researcher Actions*

Ethical Issues	Researcher Actions
Informed Consent	<ul style="list-style-type: none"> • Parents and professionals were provided with information sheets (Appendix 4) and consent forms (Appendix 5) prior to participation. • Prior to involvement with children, the researcher explained the purpose of the research and ensured that verbal consent was given before proceeding. • Participants indicated that they understood the outcomes of this research project would be used to inform a doctorate level thesis project and their pseudonymised research data may be used by others for research.
Confidentiality and Anonymity	<ul style="list-style-type: none"> • Participants understood that all personal information will remain confidential unless evidence of wrongdoing or potential harm is uncovered. In such cases the researcher was obliged to contact relevant agencies. • All interview transcripts were anonymised within one month. This includes any names or locations mentioned.
Participant Discomfort	<ul style="list-style-type: none"> • Should the interview sessions feel too long for the participants, they were informed that they could ask for a break / time-out. • Participants were informed that they could omit questions they were uncomfortable answering.
The right to withdraw	<ul style="list-style-type: none"> • Participants were informed that they could withdraw their participation at any point up until the raw data was transcribed, at which point individual data would no longer be identifiable.
Debrief	<ul style="list-style-type: none"> • Participants were given the option to leave their contact details with the researcher should they want to receive the final report of the study. • Participants had the researcher's contact details should they have any questions or concerns.

4.5.2. Recruitment

Parents and children were mostly recruited through three online parent forums targeted at parents who have children that are in Primary 6 in 2019 – Facebook Forums ‘PSLE 2019’ and ‘Singapore Dyslexia Support Parent Group’ and ‘kiasuparents.com’, and through word-of-mouth. The DAS also supported in the recruitment of dyslexic children and their parents. Parents were directed to leave their contact information on a secure online link and were later contacted by the researcher. Parents who indicated interest were emailed a copy of the information sheet to keep.

Educational professionals were recruited via word of mouth and were contacted personally by the researcher via email. All participants were either emailed or given a hard copy of the information sheet and consent form. The researcher ensured that the signed consent form was received before conducting all sessions.

4.5.3. Data collection

The researcher met and interviewed all participants only once. Before the start of the interview session, the researcher attained consent from all participants, including students, to participate in the research. Interviews were recorded on a voice recorder and all interviewees were informed about the recording and gave consent to recording prior to the interview. Participants were also asked not to name specific people or sites so that the data file will already be anonymous to some degree. All participants were told that if they did not wish to participate in the research, they may wish to do so and there will not be any ramifications. For learners, the researcher ensured that explanations were provided using age-appropriate language.

All sessions were conducted in a quiet setting at the convenience of the interviewees at home or in community centres. The sessions lasted from between approximately 25 to 60 minutes.

4.5.3.1. Learners’ and their parents

Learners and their parents were interviewed on the same day, but interview sessions were conducted separately. It was ensured that, where possible, parents were not physically present during their child’s interviews. One dyslexic learner and one non-dyslexic learner requested for their parents to be around during their interview.

The tasks were conducted in this sequence: The ‘Drawing your ideal-school’ task, rating scale, factors influencing school choices questionnaire, background information

questionnaire, and then for learner only, the WASI-II were administered. This was to ensure that survey questions would not prime and influence the responses provided. The researcher completed the questionnaire with the children to ensure that the questions were understood accurately.

To note, learners chose different modes to describe their non-ideal and ideal schools. Most dyslexic and non-dyslexic learners chose to verbalise their answers. One dyslexic learner chose photographs he found online to describe his non-ideal and ideal schools, and another dyslexic learner chose to draw. The two dyslexic learners who could only engage in phone interviews due to COVID-19 restrictions were asked regarding their preference to use pictures or to verbalise their responses. Both participants were comfortable to verbalise their responses.

4.5.3.2. Educators

All educators requested to have the interview schedule prior to the interview. Upon attaining face-to-face consent, educators were interviewed. All educators indicated interest in receiving the research findings upon theses completion.

4.5.4. Data transcription

Immediately after the interview, the audio recordings were transferred and stored onto an encrypted hard-disk and the audio recording on the voice recorder was destroyed. Whilst transcription is laborious and time-consuming, this process was completed by the researcher. The transcription process helps “bring the researcher close to the data” (Denscombe, 2007, p. 183), thus enhancing the quality of data analysis.

4.5.5. Data Analysis - Thematic Analysis

Thematic analysis was chosen to identify key themes arising. This method was selected for a few reasons. First, thematic analysis provides the possibility for both data-driven and theoretically-informed analysis (Braun & Clarke, 2006). As such, a mixture of deductive and inductive, data-driven approach to analysis was employed. The ideal school interview structure served to form the initial structure to analyse students’ data. An inductive approach was then conducted to revisit the data again and examine the unique school experiences of dyslexia children and explore the broad range of systemic factors that can either support or hinder children’s educational experience. It was essential this research remained open to all possible factors raised.

Secondly, thematic analysis allows for themes to be explored across an entire data set, whilst at the same time remaining open to salient idiographic issues emerging and being identified (Braun & Clarke, 2006). One aim of this study was to determine whether any group differences existed between dyslexic and non-dyslexic children and comparative analysis allowed for comparison of themes.

Lastly, thematic analysis allows for both semantic and latent level analysis. A semantic approach involves development of themes derived from the semantic content of the data, what Braun and Clark (2006) describe as ‘surface meanings’. For this research a latent-level approach was also adopted to answer the second research question in order to allow identification of underlying ideas, assumptions and conceptualisations that were shaping and informing the data (Braun & Clarke, 2006). Braun and Clark (2006) highlight that latent thematic analysis fits well with the constructionism epistemology embedded in the CR paradigm since it produces findings not just based on description, but is already theorised (Braun & Clark, 2006).

The interview data from all participants (children, parents and teachers) were analysed using the six-steps process described by Braun and Clarke (2006) (Table 6).

Table 6

The Six Stages of Thematic Analysis

Stage	Process in this study
1. Familiarisation with the data	<ul style="list-style-type: none"> • The interview audio recordings were transcribed. • The transcripts were then read and re-read a number of times, and initial ideas noted.
2. Generating Initial Codes	<ul style="list-style-type: none"> • Each transcript was examined individually to generate individual codes, by identifying and describing features of the data which could be coded in a meaningful way. • This process involved going over the transcripts several times, starting off in some instances by coding broad sections of text and then going back over these, in order to break them down into a series of smaller codes.

	<ul style="list-style-type: none">• NVivo software 12 was used to enable amendment and refinement of my codes and to help me to merge and split my data as I engaged in the analysis process.
3. Searching for Themes	<ul style="list-style-type: none">• Once all codes had been created, they were then collated into potential themes. This involved a consideration of how data could be gathered and grouped to form themes and subthemes, and whether an overarching theme was present.• An initial thematic map was created to help to organise the themes and subthemes.
4. Reviewing Themes	<ul style="list-style-type: none">• The themes were then revised through a process of discarding, merging and splitting themes and re-naming them in order to enhance clarity for the reader, while transcripts were reviewed.• The themes were also reviewed with my peer and supervisors.
5. Defining and Naming Themes	<ul style="list-style-type: none">• Once the coded data had been refined and organised into themes and subthemes, there was a consideration of the overall story presented in each theme, and each was named appropriately.• Supervision was used to discuss and define these.
6. Reporting the Outcome of Analysis	<ul style="list-style-type: none">• Chapter 5 and 6 provide a description of the themes which emerged during the Thematic Analysis, with extracts of data provided to support and illuminate them.• Themes from students' and parents' (and educators' interviews) were compared using steps 4 to 6. These findings are embedded in Chapter 5 and 6.

4.6. Credibility and Trustworthiness of the Research

Qualitative researchers do not claim to produce studies that can be measured as having reliability or generalisability, they acknowledge their subjectivity. However, despite its lack of generalizability, credibility and trustworthiness was ensured (Table 7) (Robson, 2011).

Table 7

Steps Taken to Ensure Credibility and Trustworthiness of the Research

Credibility and Trustworthiness of the Research
1. Researchers' commitment to develop understanding of dyslexia research
<ul style="list-style-type: none">• I was engaged with the literature review around dyslexia – Issues around dyslexia, the challenges and needs within the population, knowledge of effective interventions with children and young people• I personally carried out all the interviews and became immersed in the data through repeated listening of the audio recordings and reading of the transcripts• This commitment to the data is evident of increased descriptive validity (Robson, 2011).
2. Rigour to complete data collection and analysis process (Yardley, 2000)
<ul style="list-style-type: none">• I facilitated the interviews that lasted between 25 and 60 minutes• I sought clarification from participants to determine that interpretations were consistent with participants' intent• This served to strengthen the credibility of the research and is viewed as an important quality control process in qualitative research (Harper and Cole, 2012).
3. Development of an Audit Trail from data collection to analysis
<ul style="list-style-type: none">• I used a peer group and supervisors to ensure the analysis was trustworthy. This minimised risk of research bias that could result from being directly involved with participants.• The use of thematic analysis applies a coding system that identifies themes and patterns that have emerged from the data (Elliott et al., 1999)• Findings were qualified through the use of quotes from the raw data (Yardley, 2008).

-
- Measures have been taken to ensure that there is a clear understanding and rationale that illustrates how the findings have been reached, these include raw data in audio format and transcripts; and details of the coding system and subsequent data analysis process.
-

5. Results

– The Ideal School Constructs identified by Dyslexic learners and their parents

5.1. Introduction

The following two chapters aim to answer research questions one and two - What are the ideal school constructs expressed by dyslexic and non-dyslexic learners and their parents, and the group comparisons in needs identified. The findings incorporate the results of the data gathered from the 'Drawing your Ideal School' task and the 'Factors influencing school choices' questionnaire (Chapter 5). The between-group similarities and differences in the ideal school constructs and needs identified – dyslexic vs non-dyslexic group, will be detailed in Chapter 6.

This first section of the current chapter (Section 5.2) begins by presenting the elements of an ideal school environment identified by the dyslexic group first. The themes describing an 'Ideal school' as identified by dyslexic learners then their parents'. The first section then proceeds by comparing dyslexic learners' and their parents' vision of their ideal school and the underlying needs identified. The section ends with a comparison between dyslexic learners' and parents' ratings on the 'Factors influencing school choices' questionnaire.

The second section of the chapter (Section 5.3) follows the same sequence but examines the ideal school constructs and needs identified by the non-dyslexic group - non-dyslexic learners and their parents.

5.2. Dyslexic learners' Ideal school

Table 8 describes the frequency of coded comments per theme.

Table 8

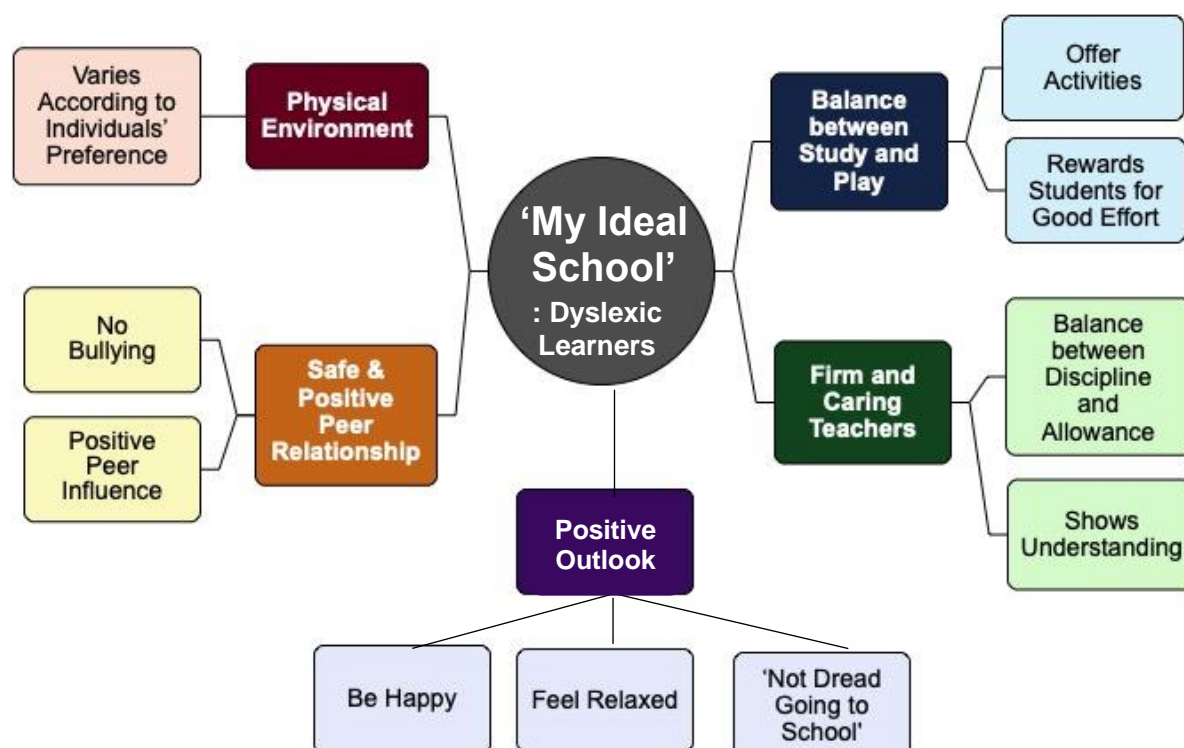
Descriptive statistics of coded segments for Interview data with Dyslexic learners about their Ideal School

Themes	Frequency (N)	Percentage of data coded (%)
Physical Environment		
Varies According to Individuals' Preferences	22	3.84
Balance between Study and Play		
Offer Activities	18	8.08
Rewards Students for Good Effort	5	6.59
Firm and Caring Teachers		
Balance between Discipline and Allowance	18	3.05
Shows understanding	27	5.10
Safe and Positive Peer Relationship		
No Bullying	14	2.78
Positive Peer Influence	24	25.90
Positive Outlook		
Be Happy	7	1.21
Feels Relaxed	1	0.03
Not Dread Going to School'	1	0.05

Five themes were generated according to the 'Ideal School' activity (see Figure 4).

Figure 4

Themes Describing 'An Ideal School' Identified by Dyslexic Learners



5.2.1. Physical Environment

Most dyslexic learners did not elaborate on how they wanted their ideal school to look like. Responses in this domain also greatly varied representing individual's preferences. Zoe shared that she would have a small garden in her school because '*I like greens*', whereas Nathan remarked, '*I don't like plants. Eeee...*'. Sandra and Nathan also wanted a big school compound, but Zoe preferred a small building. More consistently, the remaining three dyslexic learners spoke about keeping the school clean and not having graffiti on walls.

5.2.2. Balance between Study and Play

All dyslexic learners were in favour of having a learning environment that offers activities and sports for students to participate in – '*It's not only about studies*'. Sandra described '*fun learning*' to be when students are involved in activities and going on school trips. The remaining five students spoke about having sports facilities in their ideal school for them to play, relax and develop skills in their interest areas. Some of the sports facilities suggested by dyslexic learners included a swimming pool, field, fitness gym and having a cooking club in school. Sophie also added that physical education teachers would ideally incorporate inter-class games during lessons to make lessons more exciting.

Learner: "We could have like um more facilities to [...] more of help us in the outside world. It's not only about studies."

"More sports facilities? Because I heard that most of my friends [...] like sports so maybe more like... a fitness gym? Or maybe we could actually add in a cooking club because that was also another big interest in my current secondary school".

(Sam, lines 272 – 297)

While these activities were important, most dyslexic learners also acknowledged that school is a place for studying. In their ideal school, four dyslexic learners said that pupils in their ideal school will be attentive in lessons and , *'erm... just studying some stuff.'* Sandra and Sam highlighted that ideally students will know how to balance between play and studies.

Learner: "Whatever students like (to play with will be provided) BUT they have to understand how to do work, not to like rush, and just to concentrate how to do. Those who get all correct will get to play. This is how it will be when I go to this kind of school."

(Sandra, lines 206-208)

Learner: "Technically in a way rowdiness at times would be good ... but then er... students (should) know when to place their priorities on. [...] prioritize more on the learning rather than playing."

(Sam, lines 389-406)

Sandra and Colin also desired for a learning environment that recognised students' efforts with rewards. Sandra (line 197-201) suggested having a relax room. *"Maybe a room that umm those who finish already, those who finish (their) studies and understand already, maybe that room is for them to play."* Colin (lines 315-321) said, *"And maybe sometimes if some of the students get really high score or good scores... maybe... we'll treat them ice-cream tubs like mini tubs. Because that's what my real school does."*

5.2.3. Firm and Caring Teachers

Four of the six dyslexic learners raised the importance for teachers to maintain discipline within the classroom. They described that their ideal teachers will *"be able to calm the class down"*, *"have some kind of techniques to control the class. But yet be able to make up some jokes at times"* and *"(be) happy but little bit of fierce... because if not the students will make fun of the teacher. Afterall they know the teachers are very kind."*

On the other hand, discipline also needs to also be balanced with care. When Sandra was asked what she would do as a Principal should a pupil in her ideal school misbehaves, she responded, *“I will tell them (the teachers) to talk to them (the students) nicely. [...] I would talk to the students and tell them, ‘Can you behave yourself? Because you are studying... you can’t, the teacher already gave you three chances. [...] I will tell them nicely, then I will give them one last chance.’* (Sandra, lines 224-233). Two other dyslexic learners concurred that in this ideal school, there would not be any punishment, and even if there were, teachers would not be *“very strict in punishments”*.

Only two dyslexic learners spoke about teachers in their teaching capacity. Zoe plainly said that in an ideal school, teachers would be teaching, and Sophie described that an ideal teacher *‘will know how to make them understand the questions or answers’*.

5.2.4. Positive and Safe Peer relationships

Half of the dyslexic learners shared that their ideal school would have no bullies. These participants described that in their non-ideal school students will be getting into physical fights and making the school environment unsafe.

“(Talking about students in an non-ideal school) Maybe.. most of them have scars or something...er use the rulers and fight each other... I mean I can’t even imagine that.”

(Colin, line 396-400)

Sandra and Sophie said ideally students would be interacting positively with one another and being friendly.

5.3. Parents of Dyslexic learners – Their Ideal school

Table 9 describes the frequency of coded comments per theme.

Table 9

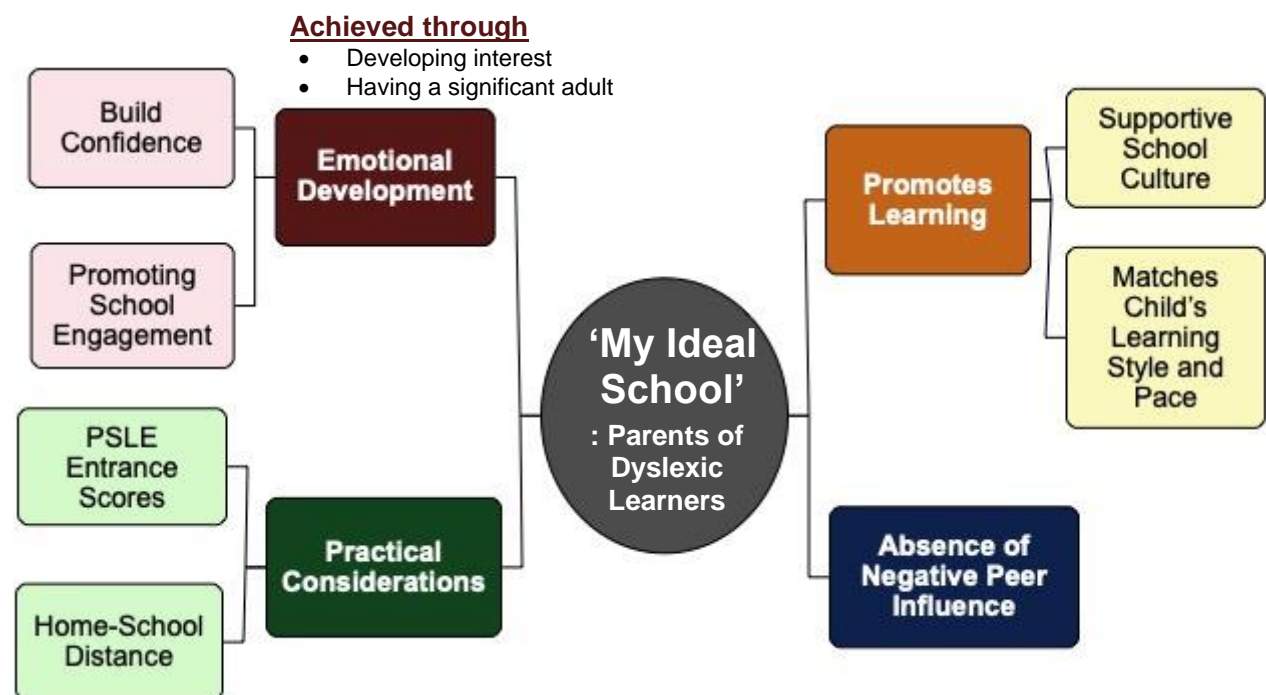
Descriptive statistics of coded segments for Interview data with Parents of Dyslexic learners about their Ideal School

Themes	Frequency (N)	Percentage of data coded (%)
Emotional Development		
Build Confidence	21	4.93
Promoting School Engagement	11	3.05
Promotes Learning		
Supportive School Culture	33	5.59
Matches Child's Learning Style and Pace	33	8.23
Absence of Negative Peer Influence		
Absence of Negative Peer Influence	21	3.73
Practical Consideration		
PSLE Entrance scores	13	3.25
Home-School Distance	28	5.61

Four themes (see Figure 5) were generated by parents of dyslexic learners when asked about their perception of an ideal school and the considerations they have when choosing a school for their child.

Figure 5

Themes Describing 'An Ideal School' Identified by Parents of Dyslexic Children



5.3.1. Emotional Development

5.3.1.1. Build Confidence

Parents of dyslexic children were largely concerned about building confidence and school engagement for their children with dyslexia. Three parents indicated that they wanted *'boost (their child's) confidence'*. Another two parents mentioned about choosing a school that their child would be happy to go to school.

Parent: *"More of wanting a happy environment so, he looks forward to going to school [...] and not dread it [...] I'm sure when the emotional part is taken care of, he will enjoy the academic."*

(Colin's Mother, lines 355-363)

Four parents shared that avenues like co-curricular activities (CCA) (e.g. rock climbing, badminton, art) can boost their child's confidence, especially if CCA activities are in line with their child's interest and strengths. Parents saw CCAs as a protective factor against the loss of friendships – because *"most of her friends will not be going, she will have to find some CCA that she would like to join"*, and against their poorer academic performance to help develop their child's strengths in other areas such as sports.

"I know his standard. He won't go to the high-end schools. So (I'm) looking at more of the CCAs, his interest because I think that would probably give him more confidence. Because in primary school when he started failing his subjects, he got very low self-esteem already. Yeah so... we know that he needs something to boost his confidence which I find CCAs is [...] one of the avenues."

(Colin's Mother, lines 276-285)

Zoe's mother recounted that schoolteachers have also entrusted her child with *"special roles"* to build her confidence, which the parent appreciated. She also hoped that ideally the school would have *"at least someone who understand, they can be more encouraging"*.

5.3.1.2. Promoting School Engagement

All parents of dyslexia learners recognised the importance of involving their child in the imminent secondary school selection process and have engaged them in different degrees. Two parents compiled a list of possible schools based on PSLE aggregate ranges and of reasonable distance to their homes. They then sat down with their child to discuss other factors such as CCAs. One parent brought her child for school visits to get her

opinions. Two parents had a preferred school in mind which they felt suited their child's personality and consulted their child for their opinion. The last child chose a school based on his primary school teachers' recommendation which the parent also agreed.

"So to me it wasn't so much about me anymore. It wasn't ... When we shortlisted (a school), she had a say."

(Sophie's Mother, lines 1019-1022)

5.3.2. Promotes Learning

5.3.2.1. Supportive School Culture

Four of the parents of dyslexic learners indicated that they eventually decided to choose schools with a supportive school culture which they felt would benefit their child's learning and emotional development. Parents acknowledged that since their children are not academically inclined, they would need teachers who are *'committed'* and *'would try their best to build the students' confidence, rather than (focus) on academics.'* Two parents also made reference to school values during the interviews which parents felt suited the needs of their children.

"The school emphasise a lot on self-confidence and public speaking. These are things I think for my child is what he needs most."

(Sam's Mother, lines 300-305)

"So they say it's a happy and caring school. That's exactly. It fits with my son's character. Because he wants something more relaxing [...] He doesn't like that kind of pressure. So, when I heard, that is quite a good fit for you. He (My child) said, "yeah. I want that school"."

(Colin's Mother, lines 316-326)

Sophie's mother highlighted that supportive schools require a whole-school approach – starting from the principal, the school ethos, how curriculum and support is structured, teachers' attitudes and the behaviour of students within the school. The parent shared that in her child's secondary school, students of varying academic streams formed mixed-ability classes. Students were only differentiated during academic subjects.

"So this school practices it a different way. Everyone comes in from zero. For the N(A), N(T) maybe they feel very helped... I thought that was quite encouraging. So you see their hearts."

“Once you step inside there (the school), ‘I don’t care your scores anymore.’ And they keep drilling that.”

“The principal was very enthusiastic, and she’s SO proud of her SBB program. And the kids, they looked like they liked the school. Not like the other few schools that we went.”

“I just felt like the teachers want to help... They know the kind of people they take in and they know the work they have to put in to help them... They gave me a very positive impression.”

(Sophie’s Mother, lines 1079-1083; 1086-1090; 1165-1175; 1444-1446)

5.3.2.2. Matches child’s learning style and pace

Four parents of dyslexic learners raised the importance to choose a curriculum that suited their child’s pace of learning and strengths. Colin’s mother felt that the N(A) curriculum would suit her son’s personality better as he copes better when he learns at his own pace. Nathan’s mother felt that a curriculum which offered skills-based subjects would benefit her son who *‘likes to do something’*. However, to match children to the appropriate support, parents recognised that they needed to first accept their child’s abilities and achievements, and second, manage their expectations and understand their strengths and needs.

“Parents have to take it first. Because I’ve seen a lot of parents, they’re not able to accept that their kid is like that. [...] Some parents also might not opt for their kids to join foundation level due to several reasons. But for me, if you cannot cope, go to foundation. So be it. [...] Nothing to be embarrassed.”

(Sandra’s Mother, lines 324-330; 352-354)

*“I worry. Because she definitely will be disadvantaged. You know but yet this is something we have to come to terms with [...] Of course, I still hope that she can go on, but I will have to manage my expectation. I know that her being dyslexic, there is no way she will be able to do express. So that is something that I have to keep on telling myself. Because where I come from, my own family, we are really very normal students, you know. We are all express stream students that kind of thing. So it *tsk* does make me feel, “Why this happen to my child?””*

(Zoe’s Mother, lines 132-146)

Zoe’s and Sandra’s mothers felt that to cope in the fast paced academic-focused Singapore culture and the constraints within the system to support their child with learning, a separate dyslexia-friendly school in Singapore could be more fitting. Parents felt that firstly,

in a dyslexia-friendly school, teachers will have more specialised skills and since every student has dyslexia, it will reduce stigma teachers and students have towards dyslexia. Secondly, the curriculum can also be more tailored and suited to the needs of dyslexia pupils to impart them with life skills.

Parent: *"I think environment places a part because the teachers will be trained to teach the dyslexic kids because nowadays the teachers are still not aware of those."*
"...I pity the primary school teachers. Everybody is lumped (together) [...] how are teachers going to focus. They are not able to, so they get very impatient. So, I believe a separate school for them will be better. And teaching them life skills. I think these dyslexic kids they may not be able to do normal education but giving them life skills. [...] Life skills are more important than anything. They've still be able to survive out there no matter what."

(Sandra's Mother, lines 250-283)

5.3.3. Absence of Negative Peer Influence

All parents of dyslexic learners were concerned about their children being negatively influenced by their schoolmates. Parents ascertained potential peer influence according to how students conducted themselves outside of school and during school visits, geographic region and word of mouth.

"First, I'm looking at the environment [...] Because I work around the vicinity so I can get to see the student, before and after school. And usually how they behave, that will tell us a lot about the schools' discipline and the students' attitude towards study all this. So... I used this to gauge how good school is in terms of character, values, all these."

(Sam's Mother, lines 236-247)

Sam's mother wished simply for her child to *"get a gang of his friends... friends of his same frequency"*. Whereas Sophie's mother was concerned about her daughter developing romantic relationships in secondary school. As such, she preferred that her daughter went to an all-girls' school.

"I think in these growing up years, you don't get so easily distracted with boys around [...] especially when they're a bit more sensitive, a bit more conscious of themselves, I much prefer a girls' school environment."

(Sophie's Mother, lines 995-1008)

5.3.4. Practical considerations

Practical consideration parents held were the school's PSLE aggregate scores to guarantee their child's allocation into the school. Another consideration was distance between school and home. Four parents of dyslexic learners preferred having schools that were near to their home. A longer travelling time meant that their child had 'less time for revision' and to sleep.

5.4. Comparison between Dyslexic learners' and their parents' perception of an ideal school

5.4.1. Qualitative comparison of Thematic Analysis

The themes and narrative contents describing an Ideal School generated by dyslexic learners and their parents were qualitatively compared. The similarities and differences between these perceptions are listed in Table 10.

Table 10*Qualitative Comparison of Parents' and Dyslexic learners' Description of an Ideal School*

Themes	Dyslexic learners	Parents of Dyslexic learners
Learning Environment	Offers Activities (e.g. CCA, School trips)	Offers CCA Advocates Learning through play
	A balance between study and play	
	Offers rewards for good effort	
		Tailored curriculum (Slower pace, imparts life skills) Specialised teachers
Teacher-Student relationships	Enforces Discipline but also offers allowance	
		Supportive School culture -- Teachers are committed to building learners' confidence, not being academically focused
Peer relationships	No Bullies	
	Positive interactions among students	Group of close friends
		Absence of Negative Peer Influence
Emotional Support		Attuned to building confidence and school engagement for learners (through CCAs, having a significant adult)
Distance		Close distance between home and school

Dyslexic learners and their parents explored similar components of an ideal school - the learning environment, teacher-student relationships and peer relationships. There was a common consensus across both groups that an ideal school ought to meet the social-emotional and learning needs of students. However, the focus and approach to creating an ideal school generally differed. Both dyslexic learners and their parents deemed it important to create a safe and supportive environment. Parents generally saw this as a critical step in order to build children's confidence and esteem needs. Learners' narratives however did not reflect such higher aspirations. Dyslexic learners were also concerned about meeting their physical needs and having the space and time to rest.

5.4.1.1. Safe and Supportive Environment

To promote the social-emotional wellbeing of learners, three dyslexic learners highlighted the need to feel physically and emotionally safe from bullies. And where conflicts and misbehaviour arise in the classroom or at school, four dyslexic learners revealed their reliance on adults to enforce discipline. However, rather than a punitive approach to discipline, most dyslexic children advocated a disciplinary style that offers allowance and one that allows teachers and students to maintain a positive relationship. A teacher that is *“happy yet fierce”, “able to control the class yet make jokes”, “able to calm the class down without using punishment”*.

Parents of dyslexic learners highlighted that being safe also entailed feeling psychologically safe to learn and explore new strengths. Four parents promoted having a learning environment where the curriculum is structured to match the students' pace of learning, where teachers are equipped with knowledge and incorporate more hands-on activities to teach and encourage students of varying needs. For three parents, being psychologically safe also entailed removing barriers of feeling socially compared. In this learning environment, learners are not pressured to keep up with the fast-paced learning nor their peers, but each can learn according to their own capabilities.

Parent also perceived CCAs – sports and arts, as an avenue to boost their child's confidence. As noted by parents, this is particularly pertinent for dyslexic learners who are often discouraged by their poor academic performance.

“I was actually hoping that he can get into this CCA then at least it would boost up his self- confidence.”

(Sam's Mother, lines 155-173)

5.4.1.2. Promotes Physical Well-being

Like parents, dyslexic learners also raised the importance of having sports and activities in their ideal school. However, dyslexic learners saw these sports and activities as play - beneficial to their physical well-being and for learners to engage with their interest.

“I will let students play some games. Play activity, handball all.”

(Sandra, lines 238-241)

Physical well-being also encompassed having an aesthetically pleasing and comfortable building design. However, the physical characteristics of such an environment

was individual dependent. Learners differed in opinion regarding the size of school and having nature within school. Three learners desired having clean and brightly lit classroom.

For convenience and to allow children to have longer sleep hours, parents of dyslexic learners also raised practical consideration of choosing school nearer to home. This criterion was not mentioned by children during the interview.

5.4.2. Quantitative comparison – School selection considerations

Dyslexic children and their parents were given 34 factors and asked how important each factor was in influencing their decision when choosing a secondary school. A rating of '1' indicated 'very unimportant or low priority' while '5' indicated 'most important'. An exact sign test was used to compare the differences between parents and children rated score for each factor. There were no significant median differences between parents and children rating across all factors, $p > .05$ (see Table 11).

Table 11

Dyslexic Learners' and Their Parents' Ratings on How Important Each Factor was in Influencing Their Decision

	Students' Rating		Parents' Rating	
	Mean	SD	Mean	SD
Academic Factors				
CCA offered	4.00	0.63	4.17	0.75
Specialism in Academic subjects	2.50	1.38	3.00	1.41
Specialism in Sports & Art	3.33	1.37	2.80	1.10
PSLE scores	4.50	0.55	4.33	0.82
Sec Sch's O level achievements	2.17	1.84	2.40	0.89
Family Factors				
Child's preference	3.33	1.21	4.00	0.82
Family members attended the school	2.00	1.23	2.50	1.29
My child's friends' want to attend the school	3.33	1.37	3.80	0.84
Religious affiliation	2.83	1.72	2.50	1.00
Siblings attended the school	2.00	1.41	2.75	1.71
Parents have attended the school	3.67	1.03	4.83	0.41
Location				
Convenient route of travel	3.00	1.41	4.50	0.55
Distance	3.67	0.82	4.50	0.55
Safety during travel	3.67	0.82	4.20	0.84

	Students' Rating		Parents' Rating	
	Mean	SD	Mean	SD
Physical Features				
Available quiet spaces	2.33	1.75	3.20	1.48
Class size	2.67	1.03	3.60	1.67
Good facilities for sports	4.00	1.10	3.80	0.84
Good general facilities (e.g. buildings, classrooms)	3.17	1.72	4.17	0.41
Size of school	2.83	1.47	2.00	1.16
Recommendations & Reputation				
Recommended by students already attending the school	2.33	1.51	3.50	1.38
Recommended by others parents	1.67	0.82	3.50	1.38
School's reputation in the community	2.17	1.33	3.83	1.47
School Ethos/ Socio-demographic				
Ethnic composition	1.83	1.17	3.00	1.63
Gives regular homework	3.50	1.38	3.60	1.52
Practices Ability-grouping	3.33	1.21	4.25	0.50
School strives for academic excellence	3.33	0.52	2.80	1.10
School offers a variety of activities	4.00	0.63	4.25	0.96
School's approach to discipline	4.17	0.41	4.75	0.50
Single-sex / Mixed school	2.83	1.17	3.20	1.30
Social composition (Standard of living)	2.00	1.27	2.75	1.26
Therapy / other professionals' input available	3.33	1.03	3.40	1.52
Staff factors				
Teacher's training in Special Needs	4.00	0.63	4.40	0.55
Teachers are caring and responsive to child's individual needs	4.17	0.75	4.67	0.52
Teachers communicate well with families	3.00	1.41	4.60	0.55

Factors were ranked based on their means ratings and the top three ranking factors were compared between groups (Table 12). Findings indicated that dyslexic learners and their parents differed only in their most important ranking factors. Dyslexic learners ranked PSLE scores as the most important factor whereas parents ranked 'You or other family member have attended the school' as the most important consideration. 'School's approach to discipline' and 'Teachers are caring and responsive to child's needs' were second and third ranking across both dyslexic learners' and their parents' rankings.

Table 12

Top 3 rankings in School Considerations Factors Identified by Dyslexic Learners and Their Parents

Ranks	Dyslexic Learners' Ratings		Parents of Dys Learners' Ratings	
	Factor	Mean (SD)	Factor	Mean (SD)
1st	PSLE Scores	4.50 (0.55)	Parents or other family member have attended the school	4.83 (0.41)
2nd	School's approach to discipline	4.17 (0.41)	School's approach to discipline	4.75 (0.50)
3rd	Teachers are caring and responsive to child's needs	4.17 (0.75)	Teachers are caring and responsive to child's needs	4.67 (0.52)

6. Results

– Comparison of needs identified by Dyslexic and Non-dyslexic groups

6.1. Introduction

The current chapter sets out to compare and contrast the needs identified by dyslexic and non-dyslexic groups. The present study first examined the needs identified by non-dyslexic learners and their parents (interview data - section 6.2; quantitative data - section 6.3). Comparisons between group in qualitative data from interviews (section 6.4) and quantitative findings from the 'factors influencing school choices' questionnaire were then conducted (section 6.5). The study established conclusions about the dyslexic group by grouping information offered by dyslexic learners and their parents together. Similarly, conclusions about the non-dyslexic group included only information given by non-dyslexic learners and their parents.

6.2. Needs identified by Non-Dyslexic Group

6.2.1. Non-Dyslexic learners' Ideal school

Table 13 describes the frequency of coded comments per theme.

Table 13

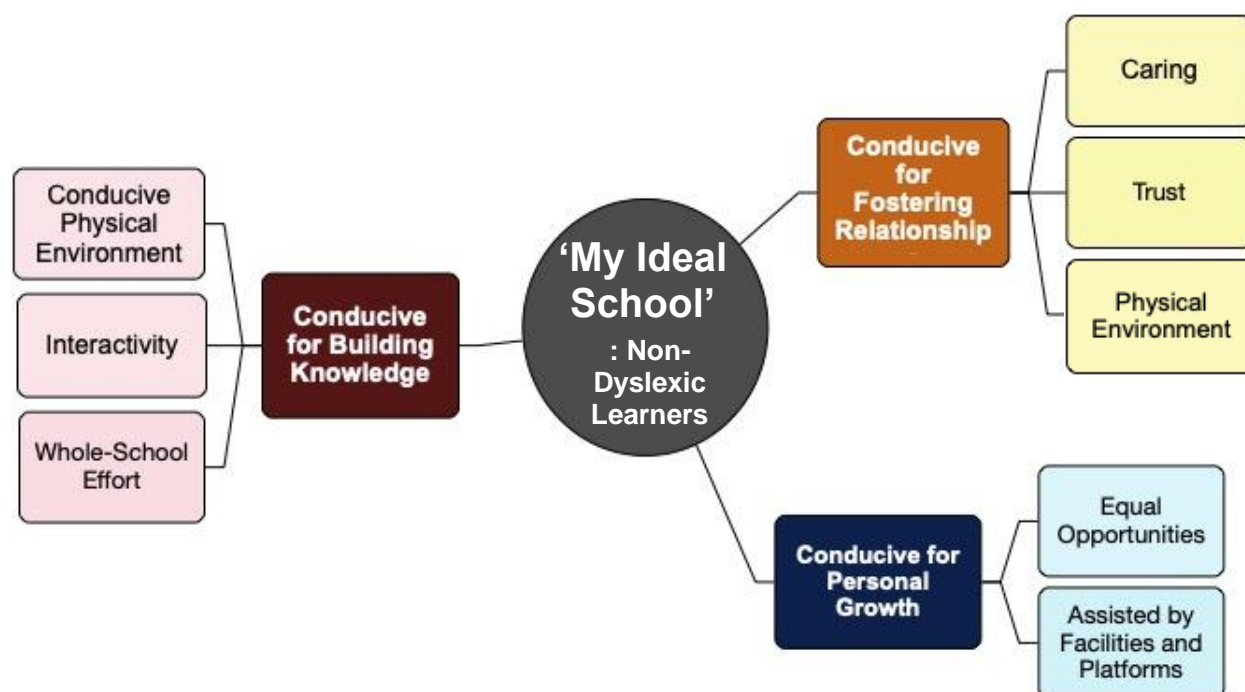
Descriptive statistics of coded segments for Interview data with Non-dyslexic learners about their Ideal School

Themes	Frequency (N)	Percentage of data coded (%)
Conducive for Building Knowledge		
Conducive Physical Environment	44	8.84
Interactivity	11	7.00
Whole-School Effort	12	8.92
Conducive for Fostering Relationship		
Caring	45	12.11
Trust	7	2.14
Physical Environment	10	3.70
Conducive for Personal Growth		
Equal Opportunities	11	4.68
Assisted by Facilities and Platforms	22	6.51

Using the 'Ideal School' activity, three themes and eight subthemes were generated from the seven non-dyslexics learners' responses (Figure 6).

Figure 6

Themes Describing 'An Ideal School' Identified by Non-Dyslexic Learners



Among the accounts of non-dyslexic learners there was a strong sense of how a whole-school effort is needed to build an ideal school. Across all themes, non-dyslexic learners reflected the importance of considering the physical environment and structures – space, building and facilities, alongside the quality of relationships to make school more conducive for students' learning and development.

6.2.1.1. Conductive for Building Knowledge

Non-dyslexic learners viewed school as a place to learn and gain knowledge.

Conductive Physical Environment. All non-dyslexic learners desired to have a spacious and airy classroom, where *'tables are not packed'* and is fitted with air-conditioners. Students noted that when classrooms are too hot, it *'makes people want to fall asleep'*. Having an air-conditioner helps to *'keep the heat away so that you can focus better in your lesson'*. All learners also commented that the wider school environment has to be clean and brightly lit for the comfort of the students.

Interactivity. Most of the non-dyslexic learners (five participants) also mentioned the use of interactive learning strategies to help students become more engaged during lessons. They suggested using hands-on activities, and group discussions to enrich students' learning.

“Teachers will follow the curriculum [...] make the lessons fun, point system, prizes, life demonstrations. They also don’t just stick to the textbook, because that’s boring.”

Chad (lines 332-337)

Three non-dyslexic learners also shared that they would pair students to study with their friends.

“I’m sure you can study better if you sit with your friends as long as you all don’t talk too much.”

Eve (lines 183-185)

Literature evidenced that peer tutoring and peer support arrangements do improve cooperative learning and responsibility (e.g. work completion) amongst the peer-tutoring groups, enhance deep level learning and aid the transfer of theory into practice (Logsdon, Samudre & Kleinert, 2018; Wolfe, 2018). These positive benefits have been noted for both the tutor and tutee, across age-range from primary-aged learners to tertiary students, and also among at-risk readers and students with disabilities (Shegar, 2009; Simpson, 2020; Topping, 2014).

Eve raised that experiential learning, can also be applied beyond the academics and afford opportunities for character education.

“I would let them, let all the students go on like different field trips. Go to like interesting places or maybe like countryside to like see like how the people, like those people living in countryside live and experience the hardship.”

Eve (lines 119-124)

Whole-school effort. Three non-dyslexic learners discussed the importance for all stakeholders in the ideal school to play their part in creating a conducive learning environment. They saw teachers having the primary roles of teaching –‘knowing what they are teaching’, ‘clarifying students’ questions’, and also maintaining order in the classroom and ensuring that students ‘follow the rules’.

“A teacher who has passion in teaching enjoys teaching us and will give us more information on the subjects.”

Eve (lines 13-15)

"I don't like the super strict teachers, but they're the ones that make the class quiet. If you want to learn then that's the best period."

Evan (lines 320-322)

Learners likewise have to play their role and focus on their studies, follow teachers' instructions, 'behave well' and 'respect the teachers'. Jason added that in his ideal school, students would also have the responsibility of 'keeping the school environment clean'.

The principal also has to 'do her work'. Eve remarked that the principal needs to work towards improving the academic standards of the school.

The cleaners in the school likewise have to be committed to keep the environment clean.

"I would like that old kindly school caregiver that has been his job for a billion years."

Evan (lines 313-315)

6.2.1.2. Conducive for Fostering Positive Relationships

The need to build positive relationships with peers and teachers was similarly discussed by all non-dyslexic children. They valued having relationships that were based on care, trust and mutual respect. Some students also highlighted how the physical infrastructure can help to facilitate social interactions.

Caring. The word 'caring' was used by five of the seven non-dyslexic learners when describing interactions within the school – between teacher-student and peers. Non-dyslexic learners desired for teachers to offer academic support (identified by two non-dyslexic learners) but above and beyond, to show care and concern for learners' holistic development (mentioned by six non-dyslexic learners). Participants cited examples of teachers being understanding when students fail to do their homework, interacting with pupils outside of classroom teaching, and giving advice to personal problems. One non-dyslexic learner highlighted that teachers' support and encouragement would be most valuable during the primary-to-secondary transition period as students learn to adapt to the more demanding secondary environment.

"If we have like questions or worries or meet problems we can go and find them (adults in school) and then they will do their best to help us."

(Jason, lines 239-241)

Showing care among peers were illustrated by examples of helping one another with homework tasks when unsure, being friendly with one another and not leaving anyone out (cited by three participants). Two non-dyslexic learners also mentioned about not getting bullied in their ideal school or be pressured by peers to indicate interest in things they may not like.

“Peers in my ideal school won’t influence others a lot because I’m easily influenced by people. [...] I won’t like it if they make me go crazy about some things.”

(Betty, lines 126-129)

Trust. The importance of trust was raised by two non-dyslexic learners. In their ideal school, they wanted to be able to trust their peers and teachers with secrets. For one of the two non-dyslexic learner this also meant not being robbed for personal belonging. The other non-dyslexic learner acknowledged that trust needs to be proven and built over time.

“Like I don’t think I will trust my secondary friends as much as I would trust my primary school friends. That’s now... because I’m very close with them. We’ve been friends since P4. [...] We share a lot of secrets.”

(Betty, lines 69-73)

Physical Environment. Having bigger and comfortable shared spaces within the school environment were mentioned by five non-dyslexic learners. Participants noted this would allow learners to play and ‘hangout’ together, thus facilitating ‘bonding with one another’. One student also proposed timetabling modifications to making break times longer. This would provide children sufficient time to eat and play.

6.2.1.3. Conducive for Personal Growth

Equal opportunities. Three non-dyslexic learners envisioned their ideal school to be a place where they could build on their individual strengths and interests and/or gain new experiences. And to do so, schools will need to provide students with equal opportunities to ‘play’, try out new CCAs, provide their opinions on school matters and be given equal opportunities to take up leadership roles.

“Everyone will have a like chance to express their opinions. [...] I’ve heard that like in mixed schools, normally it’ll be the boys that will be taking all the leadership roles, and the

girls would be left behind. So, if I could open a school, I would like everyone to take on a leadership role and lead a group.”

(Eve, lines 110-117)

School Facilities and platforms. And to support this vision, non-dyslexic learners recognised that their ideal school would need to be equipped with more sports equipment and a wide range of facilities and platforms. Participants introduced activities like soccer, tennis, table-tennis, astronomy in their ideal school, and their accompanying amenities to facilitate students’ access – a field, a tennis court, and equipment for astronomy. For one non-dyslexic learner providing the opportunity to play table-tennis was insufficient, he required that his ideal school excelled in the sports.

“(The school) must have table tennis. Then must win medal. The entire team has to win competitions before. Even if you are the ‘best player’ but lose as a school team, then it is really not that good.”

(Chad, lines 117-122)

To enable readers to have a ‘more up-to-date library’ and ensure that students’ suggestions are heard, one non-dyslexic learner adopted the use of technology and suggested using a school-wide portal to enable students to vote their book preferences.

6.2.2. Parents of Non-dyslexic learners – Their Ideal school

Parents of dyslexic children were similarly asked what their ideal school for their child would look like and the considerations they had when choosing a secondary school for their child. Table 14 describes the frequency of coded comments per theme.

Table 14

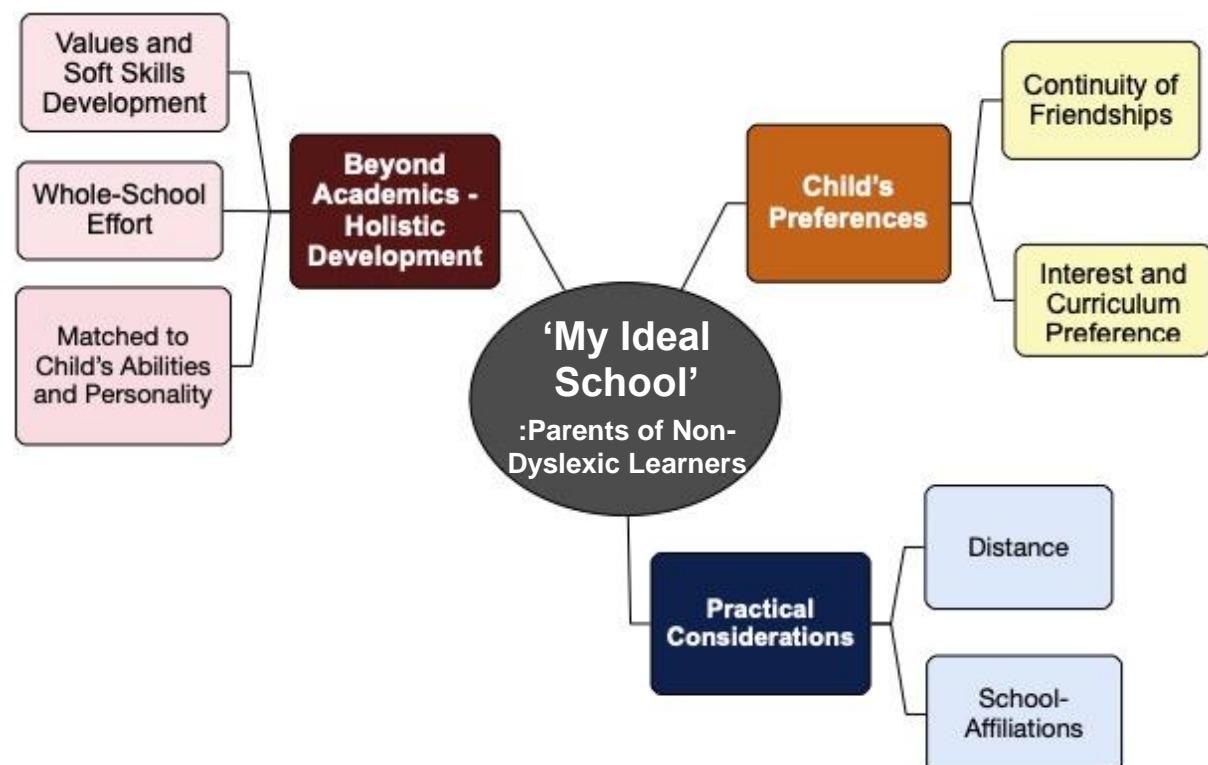
Descriptive statistics of coded segments for Interview data with Parents of Non-dyslexic Learners about their Ideal School

Themes	Frequency (N)	Percentage of data coded (%)
Beyond Academics - Holistic Development		
Values and Soft Skills Development	35	10.35
Whole-School Effort	34	10.81
Matched to Child's Abilities and Personality	32	13.77
Child's Preference		
Continuity of Friendships	13	4.57
Interest and Curriculum Preference	29	12.71
Practical Consideration		
Distance	9	2.33
School-Affiliations	6	4.06

The four themes generated are presented in Figure 7.

Figure 7

Themes Describing 'An Ideal School' Identified by Parents of Non-Dyslexic Learners



6.2.2.1. Developing Beyond Academics – Holistic development

There was a strong sense across all parents' account, that learning has to be holistic. Schools need to adopt a balanced perspective in developing academic skills, alongside teaching character education and life skills.

“There are other ways of development that you can differentiate yourself. It's not all based on academic.”

(Evan's Father, lines 628-631)

Values and Soft Skills Development. Parents of non-dyslexic learners desired to inculcate character values like diligence and humility in their children. Two parents shared that they chose for their child to be placed in schools where learners are from families of different socio-economic background. *“I wanted them to go through something more down-to-earth and interact with children who are less privileged than them. [...] They need to understand that there is a lot of other people who are worse off. And only in a neighbourhood school would you ever see these kinds of things.”* (Sasha's Mother, lines 389-400)

Two parents commented that building soft skills like communication skills and overcoming the fear of failure, were likewise important to help children remain competitive in the current global climate and supports lifelong learning.

“He must have the confidence to project himself [...] able to articulate, must have a bit of knowledge as well which I think, is very important [...] because I don't even know the stuff that we have in the industry now will be applicable to them in 20 years' time.”

(Evan's Father, lines 366-372)

“Life is all about trying so that you can learn lessons [...] they shouldn't be seeking perfection.”

(Betty's Father, lines 1645-1648)

Whole-school effort. Collective views from parents of non-dyslexic learners supported the notion that such holistic development would require a whole-school approach that collaborates with parents and integrates with curriculum.

“(An ideal school consists of) good teachers, good culture, and most important the principal. It’s like a boss that can lead the rest. And maybe the bonding with the parents. [...] and secondly, it’s the student “.

(Eve’s Mother, lines 515-525)

Principal. Two parents noted that principals play a crucial role in leading and setting the balance between academic success and character development. Jason’s mother shared of her experience with two principals. One principal was more academic-driven and thus placed pressure on improving students’ grades. The second principal valued a more *‘holistic education that encouraged students to learn for life’* and thus offered more activities-based learning opportunities, which was more in line with the parents’ views.

Teachers. Within the classroom, two parents described a balanced teaching approach as one that is *“at a pace not so rigorous; where learning is fun.”*. These parents suggested the incorporation of project work, excursions, peer-learning and hands-on activities during lessons. A good teacher is one that provides understanding beyond the exams-oriented learning (mentioned by one parent) and who is *‘able to analyse your child’s character and hidden talent at one glance’*, who is *‘more accommodating, and more patient and sees the best in each child’* (highlighted by another parent).

Peers. Parents of non-dyslexic learners recognised that peers likewise play a significant influence on children’s development and their motivation towards learning. Three parents raised concerns about their child getting negatively influenced by peers. As such, during the school selection process these parents gave considerable thought about the peer culture within the school. They judged it based on their observations of students’ behaviour within the community (2 parents) and through streaming options offered within the school setting (2 parents). Although the two parents admitted it is an overgeneralized stereotype to assume that more misbehaviour and bullying occurs in the lower-ability streams, parents rather choose a school that only offers the express stream for fear of negative peer influence.

“Children who don’t score well not necessarily also have poor characters. But most of the time it seems so. [...] Although they may not be in the same class, but they have CCAs together. I worry that my child would mix with the wrong company in secondary school. [...] I chose School N - they only offer the express track, and not the normal

technical stream. Because of my child's character. He tends to follow others. If he's the kind who can stand alone, I won't be as worried."

(Jason's Mother, lines 338-349)

Contrastingly, Evan's father noted that he would prefer a school where students come from all different social background and with different personalities. The parent spoke about his own personal schooling experience.

"So, you have the people who are double doctorate until the drug pushers, gangsters, tattoo. It's quite a spectrum. So that time it's what make it fun."
"I don't want my kid to be with all those really stoned and studying type. [...] I don't want him to be like this."

(Evan's Father, lines 223-226)

Curriculum. Two parents gave examples of how the curriculum can also be employed to inculcate character values. Evan's father mentioned that while he did not appreciate the academic-driven nature of the Singapore education system, he recognises that it has taught his child to be 'diligent, systematic, and able to perform under pressure'. Chad's mother supplemented that values are better taught through first-hand experiences like through field trips than verbally conveyed in the classroom.

"They went on a 50-km hike. [...] His teacher kept telling them, "If you have time to complain you're tired, it means you're not tired." So, everybody just kept quiet, just walk. And every 500-metre she tells it to you, then you'll externalize it, right? [...] That's why I think it's rather good. it teaches him to have more endurance and patience towards other, other people and other group."

"In the classroom if I just tell you, it'll probably doesn't rub off."

(Chad's Mother, lines 1565-1680)

Parents. Through parents' accounts, it was noted that their previous educational experiences and upbringing have shaped their stance towards a value-based education, and their expectations of success. Five parents shared about their growing up experience at school and how it impacted what they felt was important to their child's development. Sasha's mother who grew up overseas valued the less grades-focused culture she experienced. As such, she preferred a less academic-driven school for her child. Lucy's mother raised that because she is not academically inclined, her child's academic performance has already exceeded hers, to which she is already very satisfied with. Hence,

she would not emphasize on her child's results but rewards values like diligence and obedience.

Matched to Child's Personality and Abilities. Most parents of dyslexic learners narrated that they had used each school's aggregate scores and the school's reputation within the community as a gauge of each school's academic standard. Parents then matched their preferred schools against their child's personality and perceived capabilities. Four parents highlighted that they did not want to unnecessarily stress their child by choosing a school outside of their child's PSLE aggregate bracket. Two parents recounted of stories of children who had gained admission into a higher-ranked secondary school through DSA and found it difficult to cope and ended failing all their subjects.

"It makes the kid's life miserable cause they start failing everything [...] If you can't deliver you feel burdened."

(Chad's Mother, lines 976-979)

Four parents of non-dyslexic learners also noted that they were sensitive to also choose a school culture that matched their child's personality. Betty's father noted that schools which *"have a cliquish culture may not be suitable for her (the child) given her reserved self."* Hence, during the selection period, Betty's father, alongside two other parents, felt it was necessary for the child to go to open houses and have a sense of the *'feel of the school'*.

6.2.2.2. Child's Preference

Similarly, all parents of non-dyslexic learners mentioned that they engaged their children in the school selection process to varying degrees. All parents had verbal discussions with their child about school choices and five parents brought their children to open houses. Of these seven parents, four parents mentioned that their child 'had the final say'.

"Because at the end of the day, they are the one who has to sit through the 4 years or 6 years whichever programme they select. So, they have to be very comfortable."

(Sasha's Mother, lines 128-130)

"Most important is her feelings too. If she like the place, she'll study well. No point forcing."

(Eve's Mother, lines 558-560)

Some parents prioritized going to schools where their child's friends were going to (mentioned by 3 parents), schools which offered their child's preferred CCA (2 parents) and also academic programmes in line with their child's interest (1 parent).

6.2.2.3. Practical Considerations

Practical considerations parents held were predominantly around distance. Five parents preferred having schools that were near to their place of residence. Three parents reasoned that school hours are longer in secondary school and they did not want to add to greater burden onto their child with travelling too. Other considerations also included school affiliations (one parent) and attending a school which they themselves had attended or the child's sibling was attending (two parents).

6.2.3. Comparison between Non-dyslexic learners' and their parents' perception of an ideal school

6.2.3.1. Qualitative comparison of Thematic Analysis

The themes and narrative contents describing an Ideal School generated by non-dyslexic learners and their parents were qualitatively compared using comparative thematic analysis. Findings are noted in Table 15.

Table 15

Qualitative Comparison of Non-Dyslexic Learners' and Their Parents' Description of an Ideal School

	Non-dyslexic Learners' Accounts	Parents of Non-dyslexic learners' account
Conducive for Building Knowledge	Conducive physical environment to study	
	Interactive Learning (Noted by 5 students)	Interactive Learning (Noted by 2 parents)
	Whole-school effort <ul style="list-style-type: none"> - To create a physically conducive environment - Responsible Teaching 	Responsible Teaching
		Matched to child's ability and personality
	Built on trust and care	

Conducive for Fostering relationships	Physical structure to facilitate social interactions	
Conducive for Developing Personal interest	Equal opportunities	
	Facilities and platforms to provide opportunities for growth	Offers CCAs that matches child's interest
Conducive for Inculcating Character and Skill Development	Whole-school effort - Balance between academic success and building character values and life skills	
Practical Considerations	Distance Affiliations	

Whole-School Effort. Both non-dyslexic learners and their parents noted that it would require a concerted effort to create an ideal school. Both groups recognised that it would involve efforts from school principals, teachers, students. Separately, each group also offered supplementary insight to other factors that need to be considered.

Non-dyslexic learners underscored the importance of considering physical environment and infrastructures and considered the aesthetics to provide a conducive learning environment to learn, build social relationships and develop their interests. Comparatively, their parents noted the contribution of curriculum on learners' outcome. Parents of non-dyslexic learners were also sensitive to their child's personality and abilities and recognised their child's autonomy to choose schools that were best-fit for their child.

Different Emphasis on Learners' Outcomes beyond the Academics. Non-dyslexic learners and their parents shared a common understanding that educational outcomes extend beyond building children's academic skills and knowledge. Non-dyslexic learners saw the importance of fostering positive relationship in school – with their teachers and among peers and meeting their belonging needs; while also having equal opportunities to develop their personal interests and developing their esteem needs. Their parents, on the other hand, were more concerned about inculcating values and soft skills.

Fitting these educational outcomes onto Maslow's hierarchy of needs (1970), non-dyslexic learners examined a spectrum of needs from safety (building trust) to self-

actualisation goals (developing their interest and pursuing excellence), while parents mostly attended to higher-order needs - building their competence and self-efficacy, and self-actualisation goals.

6.2.3.2. Quantitative Comparison – School Considerations Questionnaire

Non-dyslexic children and their parents were given the same 34 factors and asked how important each factor was in influencing their decision when choosing a secondary school. An exact sign test was used to compare the differences between parents and children rated score for each factor. There were significant median differences between parents and children rating across two factors – ‘Secondary schools’ O level results’ and ‘General Facilities within the school’, $p > .05$ (Table 16).

Table 16

Non-Dyslexic learners’ and their Parents’ Ratings on How Important Each Factor was in Influencing Their Decision

	Students' Rating		Parents' Rating	
	Mean	SD	Mean	SD
Academic Factors				
CCA offered	4.29	0.49	3.83	0.75
Specialism in Academic subjects	2.57	1.27	3.14	1.07
Specialism in Sports & Art	3.43	1.27	3.43	1.13
PSLE scores	4.43	0.54	4.43	0.54
Sec Sch's O level achievements	1.57 *	0.98	3.14*	1.07
Family Factors				
Child's preference	4.43	0.54	3.71	0.76
Family members attended the school	2.17	1.17	3.17	0.75
My child's friends' want to attend the school	4.14	0.69	2.86	1.07
Religious affiliation	2.43	1.27	3.57	0.98
Siblings attended the school	2.67	1.53	3.00	0.63
Parents have attended the school	4.14	0.90	4.14	1.07
Location				
Convenient route of travel	4.29	0.49	4.14	1.07
Distance	4.14	1.57	4.29	1.11
Safety during travel	2.71	1.70	4.14	0.69

Physical Features				
Available quiet spaces	3.86	1.07	3.14	1.22
Class size	2.86	1.35	3.43	1.40
Good facilities for sports	4.14	0.90	3.14	1.22
Good general facilities (e.g. buildings, classrooms)	4.43*	0.54	3.14*	1.22
Size of school	2.86	1.35	2.86	1.07
Recommendations & Reputation				
Recommended by students already attending the school	3.29	0.49	3.43	1.27
Recommended by other parents	2.86	1.07	3.71	1.38
School's reputation in the community	3.86	1.35	3.86	1.35
School Ethos/ Socio-demographic				
Ethnic composition	2.29	1.25	3.43	0.54
Gives regular homework	4.00	0.82	3.43	0.54
Practices Ability-grouping	3.43	1.13	3.71	0.49
School strives for academic excellence	2.71	1.11	3.29	1.25
School offers a variety of activities	4.14	0.69	3.86	0.38
School's approach to discipline	3.57	1.27	4.43	0.54
Single-sex / Mixed school	2.86	1.35	3.67	0.82
Social composition (Standard of living)	1.71	0.76	3.43	0.79
Therapy / other professionals' input available	3.43	1.40	3.14	0.38
Staff factors				
Teacher's training in Special Needs	4.00	1.41	3.57	0.98
Teachers are caring and responsive to child's individual needs	4.71	0.49	4.00	1.41
Teachers communicate well with families	3.57	1.27	4.57	0.54

* $p < .05$

Parents of Non-dyslexic learners ($M=3.14$, $SD=1.07$) felt that it was important to consider the O level achievements of Secondary schools more than their children ($M=1.57$, $SD=0.98$). Non-dyslexic learners ($M=4.43$, $SD=0.54$) felt that it was important to consider the general facilities offered in the school, more than their parents ($M=3.14$, $SD=1.22$).

Factors were ranked based on their means ratings and the top three ranking factors were compared between the Parents and Non-Dyslexic learners. Findings indicated that parents and children differed across their top three considerations (see Table 17).

Table 17

Top 3 rankings in School Considerations Factors Identified by Non-dyslexic Learners and Their Parents

Ranks	Non-Dyslexic Learners' Ratings		Parents' Ratings	
	Factor	Mean (SD)	Factor	Mean (SD)
1st	Teachers are caring and responsive to child's individual needs	4.71 (0.49)	Teachers communicate well with families	4.57 (0.54)
2nd	Child's preference	4.43 (0.54)	School's approach to discipline	4.43 (0.54)
3rd	Good general facilities (e.g. buildings, classrooms)	4.43 (0.54)	PSLE Scores	4.43 (0.54)

6.3. Comparison of needs between dyslexic and non-dyslexic groups: Qualitative data

A comparative thematic analysis was used to compare the needs identified by the dyslexic and non-dyslexic groups. The themes identified in their interviews are compared and presented in Table 18. The needs are matched according to Maslow's (1976) hierarchy of needs.

Table 18

Comparison of needs identified by Dyslexic and Non-dyslexic group

	Dyslexic Group	Non-dyslexic Group
Deficiency Needs		
Physiological Needs		Sleep
		Hence, preference for shorter home-school distance
		Rest breaks amidst studying
Safety Needs		Safe Physical Environment
		Safe from Bullying (Physical and Cyberbullying)
Belongingness and Love Needs		Positive relationships with teachers and peers
		Adults who are responsive to their needs;
		A listening ear to academic and friendship problems
		Support needed to develop and maintain friendships

	Dyslexic Group	Non-dyslexic Group
Deficiency Needs		
Esteem Needs	Build learners' confidence given their academic difficulties	
Growth Needs		
Cognitive Needs	Tailored curriculum and teaching strategies to match learners' abilities and interest	
	Build Knowledge	
	Interactive Learning through play, excursions and hands-on activities	
	Ensure school engagement	Gain new knowledge
	Greenery	
Aesthetic Needs	Conducive for learning	
	Conducive for building social interaction	
Self-Actualisation Needs	Pursue new interests and further develop skills	
Transcendence Needs	Cultivate character traits	
	Build Life Skills	

The comparative thematic analysis evidenced that firstly, the satisfaction of needs is pursued simultaneously and not necessarily one-by-one. Secondly, that both dyslexic and non-dyslexic groups identified safety and belongingness needs as universal needs. Thirdly, the differences however, is that the dyslexic group focused on deficiency needs, especially the dyslexic learners. Whereas, the non-dyslexic group explored both deficiency and growth needs – non-dyslexic learners and their parents alike. Lastly, most aspect of the school experience can meet multiple needs and be used to satisfy the between-group differences in needs identified.

6.3.1. Simultaneous pursuit of the satisfaction of needs

The comparative thematic analysis evidenced that firstly the satisfaction of needs can be pursued simultaneously. In line with Maslow's (1954) theory of motivation, not all needs must be fully satisfied to proceed to the next level of need (Alfonzo, 2005; Thompson, 2020). Both the dyslexic and non-dyslexic groups considered satisfying more than one type of needs in their ideal school.

6.3.1.1. Similarities in needs identified

Both dyslexic and non-dyslexic groups made mention of the importance of establishing safety and belonging needs at school. This particularly resounded with dyslexic and non-dyslexic learners. Learners established that school will be a safe environment both in regard to the physical structures and environment, but also among peers. In their ideal school, the furniture, fan, staircases for example will be safe for use. Among peers, learners were strict that there will be a no-bullying policy, particularly physical bullying and cyber bullying. Dyslexic learners highlighted that teachers had a role to play in ensuring discipline to make school a safe place to learn.

Feeling belonged in school was also a common theme raised by learners. Both groups shared that in their ideal school, teachers would be attentive to learners' academic and personal problems. Everyone would be included in games and interact positively with one another. Non-dyslexic learners highlighted that trust and care were key ingredients to building a positive school culture.

Parents of dyslexic and non-dyslexic group highlighted the importance of sleep and preferred choosing schools that were closer to home, or more accessible by public transport.

6.3.1.2. Differences in needs identified

The difference, however, was that the dyslexic group was primarily focused on satisfying deficiency needs, whereas the non-dyslexic group explored both deficiency and growth needs. This does not presume that the dyslexic group do not have self-actualisation needs such as autonomy, personal development or transcendence needs. Rather, it could be that these growth needs were not of priority to dyslexic learners. Or that dyslexic group may or may not be able to articulate these needs as conscious considerations (Alfonzo, 2005).

Dyslexic learners were predominantly concerned about creating a safe environment. Dyslexic learners also spoke of the importance of having friends; and teachers who initiated support to encourage them to study harder and attend to their academic and friendship problems. For parents of dyslexic learners, building learner's confidence in themselves was paramount. Parents of dyslexic learners considered meeting academic-related esteem needs by having tailored curriculum and teaching strategies that were matched at learners' abilities, and one that is interactive. But also, meeting esteem needs in other aspects by helping learners discover interest, talents and hobbies. Within the dyslexic group, cognitive

needs were mostly raised by parents of dyslexic learners. Dyslexic learners, themselves, did not elaborate on cognitive needs, except that rewards and teacher support were important.

Contrarily, non-dyslexic learners and their parents spoke across the range of Maslow's needs. Their responses gave insight to growth needs which were less mentioned by the dyslexic group. Non-dyslexic learners and parents sought to have teachers who could minimally teach what is required in the curriculum but would be a bonus if teachers could offer new knowledge beyond the curriculum or engage learners in interactive learning through hands-on activities or excursions. Underlying this, is a drive that non-dyslexic learners displayed towards personal growth. Jason aspired to develop his interest in science and applied to a Science and Maths specialised school. Eve spoke of her interest in cultural studies and would like to join a school that had a bi-cultural programme. Others like Evan and Betty were excited about learning new subjects and developing new interests such as in astronomy or playing a new musical instrument. Parents of non-dyslexic learners supported this drive by highlighting the need for autonomy and giving learners the opportunities to choose what they wanted to pursue. Aside from these, non-dyslexic learners elaborated that the aesthetic of the school environment not only served to beautify the environment but can also be beneficial for learning and fostering social relationships. Transcendence needs, such as building values of empathy, diligence and perseverance, were raised by parents of non-dyslexic learners. Non-dyslexic learners did not verbalise their considerations in this aspect.

6.3.2. The same behaviour or provision is motivated by different needs

The groups considered the same aspects of school living – the physical environment, relationships with staff and peers, and the activities provided. While some provisions were similar, the intent and motivation in offering these provisions differed between group.

While both dyslexic and non-dyslexic learners noted the importance of having a clean and neat environment for safety and hygiene, non-dyslexic learners added that physical environment also plays a critical role to foster positive social interactions and to make learning more conducive.

A tailored curriculum was critical for parents of dyslexic and non-dyslexic learners. Both groups of parents spoke of providing interactive learning activities like hands-on activities and excursions. However, for parents of dyslexic learners, a well-matched curriculum was purposed to build up learners' confidence in their academic abilities and letting them experience more successes in their studies. For parents of dyslexic learners, it appeared that they were more concerned about ensuring school engagement and learners'

emotional development than excelling academically. For parents of non-dyslexic learners, it appeared that developing knowledge and an interest in learning were goals in itself.

6.4. Comparison of group differences on the 'Factors of School Consideration' questionnaire

Two non-parametric Mann-Whitney tests were conducted to compare participants' scores on the 'Factors of school consideration' questionnaire. Firstly, between dyslexic learners and non-dyslexic learners, and secondly, between parents of dyslexic learners and parents of non-dyslexic learners.

6.4.1. Dyslexic learners vs Non-dyslexic learners

Dyslexic learners rated significantly lower than non-dyslexic learners on 'School's reputation in the community' and 'Child's Preference' (Table 19). Dyslexic learners ($Mdn=2.00$) perceived 'School's reputation' as less important than Non-Dyslexic learners ($Mdn=4.00$), $U(N_{dyslexic}=6, N_{nondyslexic}=7)=6.50$, $z = -2.17$, $p<.05$. Dyslexic learners ($Mdn=4.00$) also perceived 'Child's Preference' as less important than Non-Dyslexic learners ($Mdn=4.00$), $U(N_{dyslexic}=6, N_{non-dyslexic}=7)=6.50$, $z = -2.17$, $p<.05$. All other factors were not significantly different.

Table 19

Dyslexic learners' and Non-dyslexic learners' Ratings on How Important Each Factor was in Influencing Their Decision

	Dyslexic Learners' Ratings		Non-dyslexic Learners' Rating	
	Mean	SD	Mean	SD
Academic Factors				
CCA offered	4.00	0.63	4.29	0.49
Specialism in Academic subjects	2.50	1.38	2.57	1.27
Specialism in Sports & Art	3.33	1.37	3.43	1.27
PSLE scores	4.50	0.55	4.43	0.54
Sec Sch's O level achievements	2.17	1.84	1.57	0.98
Family Factors				
Child's preference	3.33	1.21	4.43	0.54
Family members attended the school	2.00	1.23	2.17	1.17
My child's friends' want to attend the school	3.33	1.37	4.14	0.69
Religious affiliation	2.83	1.72	2.43	1.27

	Dyslexic Learners'		Non-dyslexic Learners' Rating	
	Ratings			
	Mean	SD	Mean	SD
Family Factors				
Siblings attended the school	2.00	1.41	2.67	1.53
Parents have attended the school	3.67	1.03	4.14	0.90
Location				
Convenient route of travel	3.00	1.41	4.29	0.49
Distance	3.67	0.82	4.14	1.57
Safety during travel	3.67	0.82	2.71	1.70
Physical Features				
Available quiet spaces	2.33	1.75	3.86	1.07
Class size	2.67	1.03	2.86	1.35
Good facilities for sports	4.00	1.10	4.14	0.90
Good general facilities (e.g. buildings, classrooms)	3.17*	1.72	4.43*	0.54
Size of school	2.83	1.47	2.86	1.35
Recommendations & Reputation				
Recommended by students already attending the school	2.33	1.51	3.29	0.49
Recommended by others parents	1.67	0.82	2.86	1.07
School's reputation in the community	2.17*	1.33	3.86*	1.35
School Ethos/ Socio-demographic				
Ethnic composition	1.83	1.17	2.29	1.25
Gives regular homework	3.50	1.38	4.00	0.82
Practices Ability-grouping	3.33	1.21	3.43	1.13
School strives for academic excellence	3.33	0.52	2.71	1.11
School offers a variety of activities	4.00	0.63	4.14	0.69
School's approach to discipline	4.17	0.41	3.57	1.27
Single-sex / Mixed school	2.83	1.17	2.86	1.35
Social composition (Standard of living)	2.00	1.27	1.71	0.76
Therapy / other professionals' input available	3.33	1.03	3.43	1.40
Staff factors				
Teacher's training in Special Needs	4.00	0.63	4.00	1.41
Teachers are caring and responsive to child's individual needs	4.17	0.75	4.71	0.49
Teachers communicate well with families	3.00	1.41	3.57	1.27

The top three rankings of both dyslexic and non-dyslexic learners are presented in Table 20. Only one factor was common among the top three factors of school considerations between the learner groups – ‘Teachers are caring and responsive to child’s individual’s needs’.

Table 20

Top 3 rankings in School Considerations Factors Identified by Dyslexic Learners and Non-dyslexic Learners

Ranks	Dyslexic Learners’ Ratings		Non-Dyslexic Learners’ Ratings	
	Factor	Mean (SD)	Factor	Mean (SD)
1st	PSLE Scores	4.50 (0.55)	Teachers are caring and responsive to child's individual needs	4.71 (0.49)
2nd	School's approach to discipline	4.17 (0.41)	Child's preference	4.43 (0.54)
3rd	Teachers are caring and responsive to child’s needs	4.17 (0.75)	Good general facilities (e.g. buildings, classrooms)	4.43 (0.54)

6.4.2. Parents of Dyslexic learners vs Parents of Non-dyslexic learners

No significant difference between groups were found across all factors, $p > .05$ (see Table 21).

Table 21

Parents of Dyslexic learners’ and Parents of Non-dyslexic learners’ Ratings on How Important Each Factor was in Influencing Their Decision

	Parents of Dyslexic Learners' Ratings		Parents of Non-dyslexic Learners' Rating	
	Mean	SD	Mean	SD
Academic Factors				
CCA offered	4.00	0.63	4.17	0.75
Specialism in Academic subjects	2.50	1.38	3.00	1.41
Specialism in Sports & Art	3.33	1.37	2.80	1.10
PSLE scores	4.50	0.55	4.33	0.82
Sec Sch's O level achievements	2.17	1.84	2.40	0.89

	Parents of Dyslexic Learners' Ratings		Parents of Non-dyslexic Learners' Rating	
	Mean	SD	Mean	SD
Family Factors				
Child's preference	3.33	1.21	4.00	0.82
Family members attended the school	2.00	1.23	2.50	1.29
My child's friends' want to attend the school	3.33	1.37	3.80	0.84
Religious affiliation	2.83	1.72	2.50	1.00
Siblings attended the school	2.00	1.41	2.75	1.71
Parents have attended the school	3.67	1.03	4.83	0.41
Location				
Convenient route of travel	3.00	1.41	4.50	0.55
Distance	3.67	0.82	4.50	0.55
Safety during travel	3.67	0.82	4.20	0.84
Physical Features				
Available quiet spaces	2.33	1.75	3.20	1.48
Class size	2.67	1.03	3.60	1.67
Good facilities for sports	4.00	1.10	3.80	0.84
Good general facilities (e.g. buildings, classrooms)	3.17	1.72	4.17	0.41
Size of school	2.83	1.47	2.00	1.16
Recommendations & Reputation				
Recommended by students already attending the school	2.33	1.51	3.50	1.38
Recommended by others parents	1.67	0.82	3.50	1.38
School's reputation in the community	2.17	1.33	3.83	1.47
School Ethos/ Socio-demographic				
Ethnic composition	1.83	1.17	3.00	1.63
Gives regular homework	3.50	1.38	3.60	1.52
Practices Ability-grouping	3.33	1.21	4.25	0.50
School strives for academic excellence	3.33	0.52	2.80	1.10
School offers a variety of activities	4.00	0.63	4.25	0.96
School's approach to discipline	4.17	0.41	4.75	0.50
Single-sex / Mixed school	2.83	1.17	3.20	1.30
Social composition (Standard of living)	2.00	1.27	2.75	1.26
Therapy / other professionals' input available	3.33	1.03	3.40	1.52

	Parents of Dyslexic Learners' Ratings		Parents of Non-dyslexic Learners' Rating	
	Mean	SD	Mean	SD
Staff factors				
Teacher's training in Special Needs	4.00	0.63	4.40	0.55
Teachers are caring and responsive to child's individual needs	4.17	0.75	4.67	0.52
Teachers communicate well with families	3.00	1.41	4.60	0.55

The top three rankings of both parent groups - dyslexic and non-dyslexic are presented in Table 22. Only one factor was common among the top three factors of school considerations between the parent groups. 'School's approach to discipline' was ranked the second highest most important factor by both parents of dyslexic and non-dyslexic learners.

Table 22

Top 3 rankings in School Considerations Factors Identified by Parents' of dyslexic learners and Parents of Non-dyslexic learners

Ranks	Non-Dyslexic Learners' Ratings		Parents of Non-dys' Ratings	
	Factor	Mean (SD)	Factor	Mean (SD)
1st	Parents or other family member have attended the school	4.83 (0.41)	Teachers communicate well with families	4.57 (0.54)
2nd	School's approach to discipline	4.75 (0.50)	School's approach to discipline	4.43 (0.54)
3rd	Teachers are caring and responsive to child's needs	4.67 (0.52)	PSLE Scores	4.43 (0.54)

7. Results

– Actual School Experiences expressed by Dyslexic and non-dyslexic learners and their parents

7.1. Introduction

The following two chapters aim to answer research questions three and four – ‘what are the needs-supplies discrepancies unique to dyslexic learners?’ and ‘what are the need-supplies discrepancies common to dyslexic and non-dyslexic groups?’. To answer these questions, findings from both dyslexic and non-dyslexic learners and their parents are examined.

To examine the needs-supplies discrepancies, the study first needed to establish the supplies offered within the actual school environment. The current chapter began by examining the themes that have emerged around the dyslexic learners’ actual school experiences (in section 7.2). Themes from semi-structured interviews with dyslexic learners will be presented first, then their parents. The results from the comparative thematic analysis between dyslexic learners and their parents accounts were then presented. The same analyses were also conducted and presented for the non-dyslexic group (section 7.3).

7.2. Actual School Experiences of Dyslexic Group

7.2.1. Accounts by Dyslexic learners

Table 23 describes the frequency of coded comments per theme.

Table 23

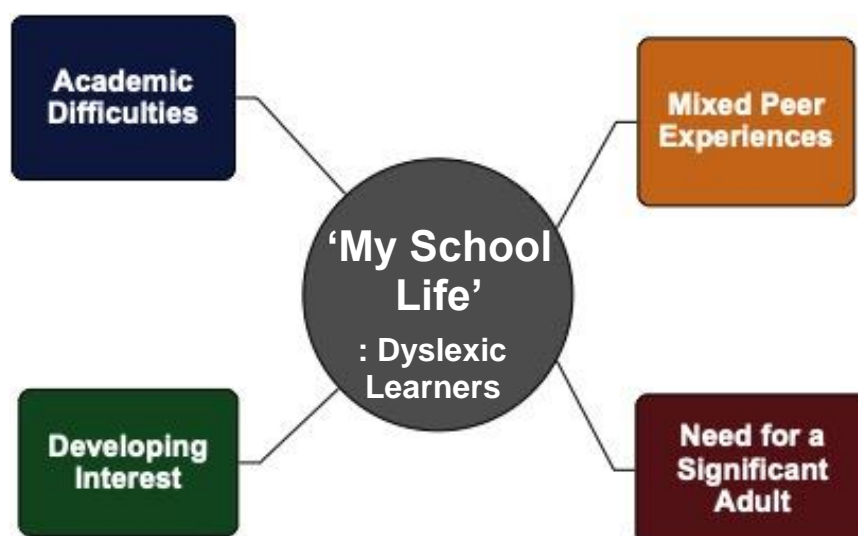
Descriptive statistics of coded segments for Interview data with Dyslexic learners about their Actual School Experience

Themes	Frequency (N)	Percentage of data coded (%)
Academic Difficulties	14	3.11
Mixed Peer Experiences	24	4.48
Need for a Significant Adult	26	5.98
Developing Interest	3	7.59

Themes describing dyslexic learners’ actual primary school experiences are represented in Figure 8.

Figure 8

Themes Describing the Actual School Experience Identified by Dyslexic Learners



7.2.1.1. Academic struggles

Not all students were keen to talk about their academic performance. Four dyslexic learners recounted meeting academic difficulties in primary school. During analysis, it was noticed that dyslexic learners evaluated their performance using various standards.

Sophie appraised her abilities in relation to skills she had or did not have. *“(For Science) sometimes I read and read and read (the questions), but I still don’t understand. Maths Paper 2 [...] I understand the question but it’s just very hard for me to answer.”*

Sam and Colin evaluated their performance based on academic grades received – *“Quite hard. Sometimes, I keep failing all my exams.”; “generally my scores not very good.”*

Dyslexic learners, Sandra and Sophie, evaluated their performance in relation to their peers’ performance – *“Maybe because they were slightly smarter, better than me in academics”; “When I see my friends keep improving, I also keep wanting to improve but I still keep failing.”*

7.2.1.2. Mixed Peer Experiences

While dyslexic learners desired to have positive interactions with peers, all dyslexic learners shared mixed experiences of both positive and also negative encounters (see Figure 7). Three dyslexic learners recounted getting into physical fights with other peers, being teased, treated roughly and/or spoken rudely to. Of these dyslexic learners, only Colin sought help from school staff. The remaining two dealt with the difficult social circumstance in their own stride. Sam approached his mother for support while Zoe remained *“quiet”* about

her situation. One of the reasons for not seeking teachers' support was because learners felt that teachers could not resolve these difficulties for them.

"I would say I would just deal with it on my own I didn't feel like it (asking teachers for help) would be... very... big impact. But rather a... smaller one."

(Sam, lines 98-102)

Even so, despite these negative experiences, all dyslexic learners, except Sam, had developed friendships in primary school. Friends offered companionship – people to play with and talk to, and for Sandra, her friends also offered academic support – *"we want to stay back in school to just to finish our homework together, because some questions we don't know to do"*.

Although Sam did not speak of having friends, he found himself being able to cope better with social situations.

"Compared to Primary 1 and like I just know one way of making friends, but now like I got a few other ways of making friends."

(Sam, lines 144-146)

Friendship conflicts also had to be negotiated. Three students recalled needing to resolve quarrels among friends, which can be *"complicated"* and *"embarrassing to tell teachers"*.

7.2.1.3. Need for a significant adult but adult support was far and few between

Dyslexic learners highlighted the importance of having adult support to listen to their problems. All dyslexic learners, except Zoe, mentioned having a significant adult who supported them in primary school. These significant adults were either their class teachers or AED(LBS). Most significant adults served the role of offering emotional support for these students. Dyslexic learners shared that their teachers initiated to know them at a personal level, spent time to listen to and resolve their problems. Concerns that these dyslexic learners shared with their teachers included friendship conflicts and difficulties concentrating in lessons.

"Every time when we have friendship problem, she (our teacher) will be the one[...] to tell us how to fix it. [...] She's like the only teacher that we don't feel embarrassed

talking to. Other teacher you go then they give you a weird expression and you feel really embarrassed. She will ask us to sit down and go talk about it."

(Sophie, lines 896-928)

For Sam, his teacher offered him only academic support. Sam appreciated that his two class teachers were "*willing to push [him] to go slightly beyond [his] limits*". In conversations with Sam, it appeared that he also wished his teachers could have demonstrated "*caring behaviours*". He described one of his teachers as "*wasn't exactly caring [...] He would usually... just... I don't know he wasn't one of those teachers where like he would... give you a very big reward or like say praise me. But rather, more of a kind of teacher who tells me right and wrong but then in a way also helps me*" (lines 59-71). Sam later compared his primary school teacher with his current secondary school teacher, whom he described as being more caring. His secondary school teacher offered consultation sessions when students could approach her for academic help, and "*(unlike) my primary school - not many teachers would actually sacrifice their time [...] and their effort, but this one (my secondary school teachers) do sacrifice their time a bit (to help us with project work).*" (lines 636-645).

For Sam and Colin, they had only established a close relationship with their teacher within their last year of primary school. For these two students, their recounts indicated a lack of a caring school culture, that extended beyond the classroom.

7.2.1.4. Developing interest

All of the dyslexic boys interviewed shared that the range of CCAs offered was a key consideration in their secondary school selection process and said that they were looking forward to developing their new and current interests in sports in secondary school. The boys shared that they had found secondary schools which offered a wider range of activities than in primary school. In secondary schools, they had opportunities to learn rock climbing, archery and cooking club.

7.2.2. Accounts by Parents of Dyslexic learners

Parents of dyslexic children likewise described their child's actual primary school experiences. Table 24 describes the frequency of coded comments per theme.

Table 24

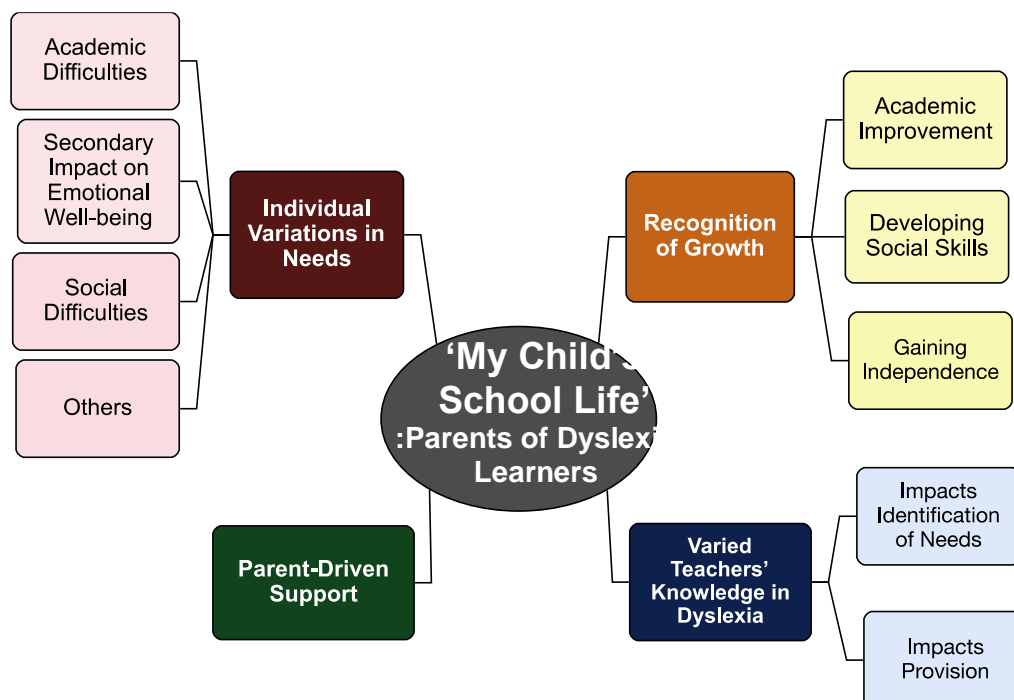
Descriptive Statistics of Coded Segments For Interview Data with Parents' of Dyslexic Learners about their Child's Actual School Experience

Themes	Frequency (M)	Percentage of data coded (%)
Individual Variation in Needs		
Academic Difficulties	56	14.52
Secondary Impact on Emotional Well-being	11	3.33
Social Difficulties	21	5.92
Others	3	1.02
Recognition of Growth		
Academic Improvement	7	2.92
Developing Social Skills	13	2.76
Gaining Independence	5	2.06
Varied Teachers' Knowledge in Dyslexia		
Impacts Identification of Needs	14	2.27
Impacts Provision	24	8.24
Parent-Driven Support	48	12.99

Themes and subthemes identified are represented in Figure 9.

Figure 9

Themes Describing the Actual School Experience Identified by Parents of Dyslexic Learners



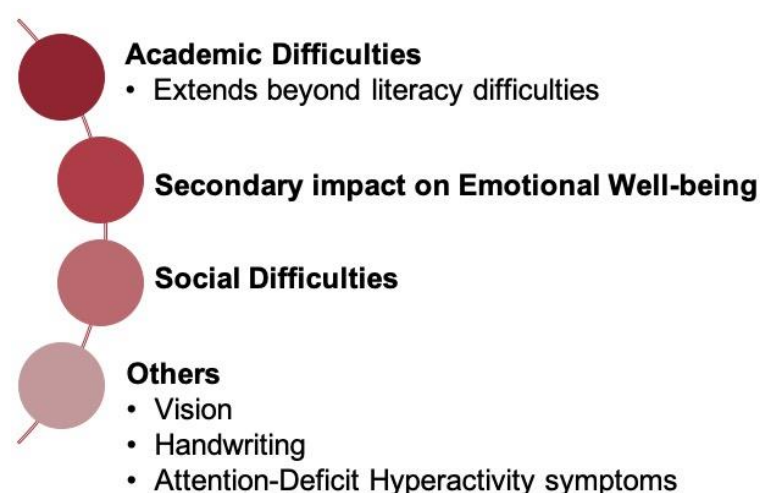
Parents were noticed to offer perspectives on mesosystemic and exosystemic issues that involved teachers' knowledge and home-school collaboration efforts, above their child's individual experience.

7.2.2.1. Individual variations in needs

Comparison across parents' reports revealed that the manifestations of dyslexia varied across children – with different types and degrees of difficulties in their studies, social relationships and conduct (see Figure 10).

Figure 10

Areas of Difficulties for Dyslexic Learners



Academic Difficulties. While not all children were observed by parents to have literacy difficulties in reading and spelling [which are primary difficulties present among dyslexic learners (MOE, 2018)], all parents of dyslexic learners commented about their child's poor academic performance in primary school. Three parents noted that their child did not have difficulties in spelling, which was very puzzling for them. Instead, their children were challenged with higher-level literacy difficulties such as in understanding taught concepts and questions. These children were also only diagnosed later in primary school – one in primary 2, one in primary 4 and one in primary 6. Other literacy difficulties identified by parents were in word finding, and sentence formation.

Parents noted that dyslexia impacted children beyond the English language. Three parents noted that their children performed better in English than in other academic subjects (e.g. Maths, Science and Chinese). Common challenges that children faced in maths and science, as noted by three parents, pertained to understanding word problems and/or

questions posed. Rather than poor content knowledge that impeded children's performance, parents highlighted that the assessment mode was the barrier to better performance.

"Problem sums are a killer because she has problem understanding. She doesn't have problems doing it. But if you don't understand, you cannot do."

(Sophie's Mother, lines 474-479)

"The science questions can be one and a half pages long. That's like for primary school student. And it really takes a lot of understanding. [...] And I wasn't confident of my answer either. Because you don't know even know what's the answer they want, or for whatever subject. And for him, this kind of condition, it's even worse. Because it's a lot of reading."

(Colin's Mother, lines 211-222)

Learning the Chinese language was also a struggle for five learners. All parents noted that it was a challenge for their child to pass Chinese exams at the Standard Level. Their struggles persisted till primary 6 except for Sam who saw improvements in Primary 5 – "He suddenly take up only when he was in P5". Sandra was the only learner whose mother shared her relative strength in Chinese.

Secondary Impact of Academic Struggles on Emotional Well-Being. Four parents noted that the persistently low academic performance their children were confronted with had secondary impact on their emotional well-being. Despite learners putting in effort in their studies, it was not reflected in higher grades. This thus, lowered their self-esteem and self-confidence. Parents of two learners depicted that their child had been failing all subjects since Primary 2 or 3. Not only did their low academic scores lower their self-esteem, their low morale exacerbated the poor academic performance of dyslexic learner. Three parents expressed the same frustration experienced by dyslexic learners.

"They don't see the struggle that the kid needs in order to just maintain a B. It is a lot, a lot of hard work."

(Sophie's Mother, lines 522-525)

Zoe's mother described Zoe as being timid, "in the sense that because um she is very conscious, self-conscious of her so-called disability that it makes her very self-conscious". For a year, Zoe experienced school refusal because "she was demoralized by her results".

Social Difficulties. Five parents noted that while their child desired having friendships and peer relationships, their social interactions were largely confined to a limited social circle. While Zoe's and Sophie's mother associated the small social circle to their child's disposition - *"She's not somebody who needs a lot of people."*, other parents attributed the smaller social interactions to underlying social skills deficits, which varied between children. Sam's mother raised that Sam had expressive language difficulties which could make *"the people around him sometimes, impatient and then just don't enjoy interacting with him"*. Sandra's mother related it to poor concentration and verbal processing skills - *"So they (dyslexic children) keep repeating or they do not concentrate on what the other party is talking about. So, they will ask again and again. So, I think their... her peers sometimes they are not able to take it."* Sandra and Colin were also said to have behavioural regulation difficulties - being *"loud"* or being *"overfriendly"*, which impacted their social interactions.

Other Difficulties. Other difficulties children had, raised by parents, included unreadable handwriting, vision difficulties due to exophoria (a tendency of the eyes to deviate outwards), and Sandra and Colin were identified to exhibit undiagnosed attention-deficit hyperactivity symptoms.

7.2.2.2. Recognition of Growth

Yet despite these needs, all parents noted growth in their children. Four parents spoke of their child's academic progress, which was demonstrated in their better than expected PSLE grades.

"We get quite good grades for PSLE. It's an achievement that he has been proud and happy ever since he got his PSLE results."

(Sam's Mother, lines 91-93)

Sophie's and Sam's mothers shared that their child is now better able to manage social situations. Each child has devised his/her own 'formula' or method to deal with social conflicts. Sophie's mother commended her for being more assertive and daring to present himself in social settings. Sam's mother shared that Sam is now more caring towards people around him.

Other areas of growth parents have identified included increased independence. Sandra's mother shared that she is now able to travel independently from school which was initially a big concern for her. The family had previously considered relocating their home to

stay nearer to Sandra's secondary school. Nathan's mother shared that she is happy to see him now getting ready independently to go to school despite an earlier wake-up time to accommodate the longer travelling time.

Sophie's and Sandra's mother also credited their child for displaying grit and perseverance despite the challenges they faced.

"When the academics kicks in then it became really, really difficult. So, she survived well; she survived very well. But [...] if you don't look at what's behind the scene, you think that she's fine. But actually, she persevered."

(Sophie's Mother, lines 553-559)

7.2.2.3. Varied Levels of Teachers' Knowledge About Dyslexia

Generally, all parents of dyslexic learners shared a positive relationship with teachers. All parents consulted schoolteachers when they first became concerned about their child's academic performance at primary school. Teachers were generally able to advise parents on school processes such as access arrangements (indicated by two parents), mother tongue exemption (indicated by two parents), foundation level options (indicated by one parent) and suitable secondary school choices (indicated by one parent).

However, teachers' level of knowledge about dyslexia specifically were perceived by three parents to be generally poor. Consequently, the success of dyslexic learners receiving early identification and appropriate intervention was felt to be lacking. Among the four pupils who were diagnosed to have dyslexia at primary school-aged, only Sandra was timely identified by school staff when she was in Primary 2. Sandra's mother was appreciative that teachers subsequently actively engaged them in the goal setting process and Sandra to take up subjects at the foundational level.

The remaining three pupils were either diagnosed by a private psychologist (Sophie and Colin) or by a psychologist at DAS (Nathan). Sophie's and Colin's mothers sought assessment at private clinics and recounted that they did not know what was wrong – *"like nobody knew"*. They were eventually referred to a private educational psychologist by their friends who had children with similar difficulties. During the diagnosis sharing session with their child's teachers, teachers were described to be in disbelief when told about the diagnosis given. Parents had to bridge gaps in teachers' knowledge of what dyslexia is and how it manifests in their child. Prior to diagnosis, their child was not identified for remedial

support too. Parents had to advocate for their child to ensure additional support was provided.

“And I sat with all the teachers, my husband and I. Just the teachers and us and we tried to explain to them because all of them didn’t believe that she’s dyslexic. I think that’s something the educational system needs to still work on.”

(Sophie’s Mother, lines 444-450)

“It’s like why didn’t the teacher tell me? Why didn’t... like nobody knew. I think they are not trained, or they think that it’s normal to fail [...] That was only in P6, that was already quite late already. [...] Maybe there are too many cases in school that they don’t even know who has it (dyslexia), who doesn’t have it.”

“They (the researchers) were surprised (when I told them).”

(Colin’s Mother, lines 118-135)

Zoe’s mother felt that the child’s teachers had misconceptions of dyslexia as a behavioural disorder. As a result, the school misplaced support. The school offered behavioural support which was not a significant area of need for the child, instead of strengthening her learning skills, which her parent felt was more required.

“For this school, I realised that, they are aware of this, but they classify it as behavioural. [...] Dyslexic is not behavioural. [...] So, I somehow, I feel they might not really understand what this parent is looking for. So, they say they will try to build her confidence, but this is only if you are referred to the department for behavioural problems. But if she doesn’t have behavioural problems then why would she be referred there, you see.”

(Zoe’s Mother, lines 253-268)

The lack of teachers’ knowledge in identification left Sophie’s and Colin’s mothers raising issues around educational inequality. Three parents noted that their child had classmates who were like them struggling with their academics and could possibly also have dyslexia – *“It’s just that she just got diagnosed”*; *“They may just carry on with life like that. Not knowing”*.

7.2.2.4. Parent-driven Support

As noted earlier, due to an inadequate process of identification at school, two parents felt the need to approach private psychologists. All parents interviewed shared their child's diagnosis with primary school teachers.

Most parents were also actively involved to offer external support for their child. Of the six learners, only Sandra and Sophie were receiving additional support from their primary school that is above and beyond that offered to their non-dyslexic peers. Sandra received small-group support as she was learning all subjects at the foundation-level. Sophie received additional remedial support for science as requested by her parent. External supports which parents have engaged in included dyslexia-specific intervention support through DAS or private tuition (4 students) and speech and language therapy (2 students). Zoe's mother noted that DAS support is 'not cheap' and it had added financial burden for the family.

At the point of interview during the first term of secondary one, only one child was receiving in-school academic remedial support. The remaining five parents shared that they were taking a 'wait-and-see' approach until their child presents with or voiced difficulties. Only then will parents speak with secondary schoolteachers for support. These parents were comfortable with taking this approach.

"For me right now, I'm just looking at his results and just waiting and see as they go... then check if he needs extra help."

(Colin's Mother, lines, 610-621)

7.2.3. Comparative Thematic Analysis: Dyslexic learners and their parents

A comparative thematic analysis was conducted across the themes elicited by dyslexic learners and their parents with regards to the actual school experience of dyslexic learners in mainstream settings (see Table 25).

Table 25

Qualitative Comparison of Dyslexic learners', Parents' and Educators' Description of the Actual School Experience for Dyslexic Learners in Mainstream Settings

		Dyslexic Learners	Parents of Dyslexic Learners
Individual / Microsystemic level	Academic	Experiences and anticipates persistent academic challenge	Academic challenges extend beyond English Language
			Secondary impact of poor academic achievement on emotional well-being
	Peer relationships	Have positive friendships	Limited social circle, attributed to social skills deficits, or personality
		Experienced negative peer interactions	
	Social Demands	Anticipate stricter discipline in secondary school	
		Gaining independence	
	Emotional needs	Having a significant adult to offer emotional support	
		Developing interest	
	Behavioural difficulties		Handwriting difficulties
			Vision
Mesosystemic/ Exosystemic Level			ADHD symptoms
	Temporal changes		Identified growth in children's academic performance
			Identified improvement in coping with social interactions
	Teacher Support		Varied Teachers' knowledge in SEN
Macrosystemic Level	Parent Support		Parent-driven support, raised issues of social inequality
			'Wait and see approach'
Macrosystemic Level	Social equity		Uneven distribution of SEN provision across schools introduces social inequity

Comparison data revealed that dyslexic learners and parents' groups offered understandings at different levels on Bronfenbrenner's eco-systemic model. Dyslexic learners provided personal insights at the individual level, while their parents shared their perspective at a micro-, meso- and exo-level.

7.2.3.1. Individual level

Dyslexic learners appreciated having emotional support offered by their teachers - having an adult to listen to their friendship difficulties and getting to know them at a personal level. In comparison, parents saw a need to address the emotional needs of learners which stemmed from their poor academic performance. These emotional needs were often not explicitly spoke about by dyslexic learners, instead, they were revealed through parents' observations.

And despite the needs faced by dyslexic learners, learners themselves and their parents have noted positive developments in students' outcomes over time. Progress varies across students and domains. For some learners, improvements in academic progress were more pronounced and noticed by all parties. For others, parents observed more subtle development in social interactions and confidence.

Dyslexic learners were found to be more apprehensive and uncertain about progress made. Their parents tend to adopt a 'wait-and-see' approach and did not want to bother teachers unless they felt was 'serious enough' or were approached by teachers.

7.2.3.2. Mesosystemic level

Parents noted that more can be done to improve home-school collaboration. It was noted that parents are largely responsible for informing teachers about their child's diagnosis. Some parents felt the need to share the diagnosis information with their child's new teachers at the start of every school year. Zoe's mother hoped that schools could instead initiate collaboration. In comparison, such positive practice has been experienced by Sandra's and Nathan's mothers who appreciated that teachers engaged them in the intervention planning process.

7.2.3.3. Exosystemic level

Parents noted an uneven distribution in SEN provision within and across schools. Within schools, the support is varied due to variations in teachers' knowledge about SEN, possibly due to variations in teacher training. Parents noted that while teachers were able to offer parents advice about school processes, such as access arrangements, foundation level

options, teachers were less attuned to identifying and providing support for dyslexic learners. Three parents related their experience of having to play the roles of an educator to bridge teachers' knowledge gap about dyslexia, and an advocate for their child to ensure sufficient academic support is provided for.

Parents are critical stakeholders in the educational outcome of dyslexic learners. During the interview some parents echoed that discovering dyslexia was also a journey for them of understanding their child's needs and accepting their abilities. Many parents felt at a loss as to how they can better support their child. Narratives by some parents also raised a theme that transition points may trigger recurring grief in having a dyslexic child. Parents had to accept their child's PSLE scores, and to let go of their ideal 'child' or 'school' for their child. Three parents shared that it has been a struggle to balance between pushing their child and following societal norms of sending their child for tuition and enrichment lessons, but yet at the same time, recognising that their children may not be suited for such fast-paced learning.

"My struggle is always whether I should push you or should I let you go at your pace... Being at peace with yourself versus, because everybody is having a mad rush for tuition. I ask myself if I'm short-changing my kid. Then that's a lot of our own struggle. But unfortunately the kid suffers because of our own struggle."

(Sophie's Mother, lines 1574-1583)

Sophie's mother also identified the lack of clarity around the qualification criterion for foundation subject and its impact on streaming options and educational pathways. She felt the lack of clarity hindered her from making an informed decision.

"I'm not the only one. I don't understand the brochures you know. I don't understand all the mind-maps. [...] I don't know if the kid gets to do 1 foundation subject, does it affect their streaming? Do they still get to go Express. Because that's her only, request. We don't want to already pre-determine that option."

(Sophie's Mother, lines 1597-1606)

7.2.3.4. Macrosystemic level

Given that currently, parents play such a significant role in identification and ensuring the provision of support for their SEN child, parents have identified this as a gap in the current educational provision that may introduce social inequity.

7.3. Non-Dyslexic Group

7.3.1. Accounts by Non-dyslexic learners

Table 26 describes the frequency of coded comments per theme.

Table 26

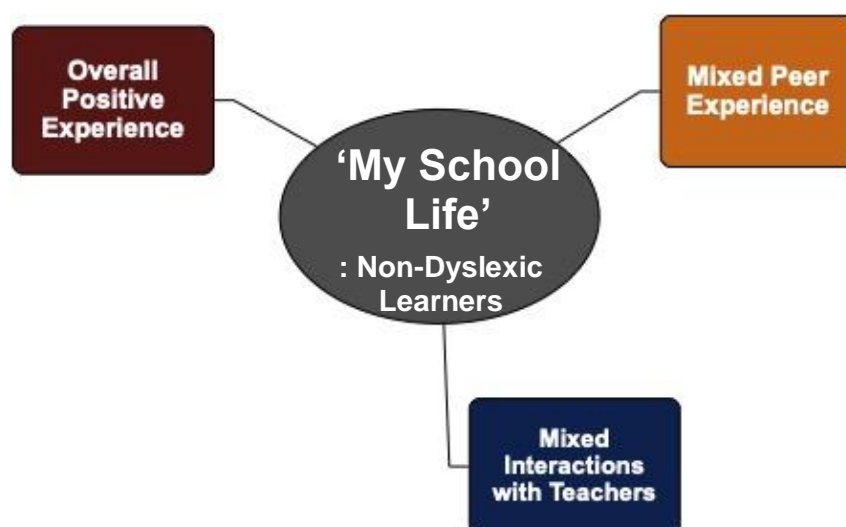
Descriptive statistics of coded segments for Interview data with Non-dyslexic Learners about their Actual School Experience

Themes	Frequency (N)	Percentage of data coded (%)
Overall Positive Experience	28	5.90
Mixed Peer Experience	13	2.31
Mixed Interaction with Teachers	19	5.32

Non-dyslexic learners were interviewed about their actual school experiences in primary school. Themes identified are represented in Figure 11.

Figure 11

Themes Describing Non-Dyslexic Learners' Actual Schooling Experiences



7.3.1.1. Overall Positive Experience

All non-dyslexic learners recalled their primary school experience being a positive one. They used adjectives like 'enjoyable', 'fun', 'memorable' to describe their time in primary school. Five students attributed their positive school experience to the positive friendships they forged in primary school. Other reasons given were related to the activities and facilities provided in school – having an indoor soccer field, and a big library. Three students mentioned having the opportunity to further develop their skills in arts and sports through their CCAs.

Only Eve spoke about having academic difficulties, which was eventually addressed with teachers' support. She was also the only non-dyslexic learner who was concerned about the increased academic demands in secondary school. Other students did not raise difficulties or worries pertaining to their academics.

"There will be a lot of subjects and I'm scared I cannot handle all of it. Then it'll be too stressful for me. And I also scared I fail subjects, because there are like so many new things.

(Eve, lines 98-102)

Contrarily, Betty shared that she was looking forward to specialising in her area of interest at secondary school.

"Having more subjects means you can choose the subjects that you like."

(Betty, lines 83-84)

To note, three students had also experienced transitions mid-way in primary school due to relocation. Their parents chose for them to attend another school nearer home. Of these three students, Jason experienced a seamless transfer across schools, which he attributed to having a supportive school environment – *'teachers were helpful [...] I made friends easily, so I was ok.'* The other two children, Lucy and Eve, faced peer relationship difficulties. However, this problem appeared to resolve by the end of their primary education.

7.3.1.2. Mixed Peer Experience

All non-dyslexic learners had gained positive friendships in primary school. They described their friends to be 'helpful', 'friendly' and 'humorous'. However, there were also three students who shared challenges in managing friendship conflicts. Eve spoke about her experience getting cyberbullied. Things turned for the better when she transferred class the following year in Primary five and gained positive friendships in a supportive classroom environment. This made her last two years of primary school enjoyable. Chad spoke of having rowdy classmates who would damage school property. Evan shared that while he did not experience any negative peer interactions, he had to adapt to the coming and going of friends.

Transitioning into secondary school, coping with the anticipated friendship changes was spoke about by all seven non-dyslexic learners. While all non-dyslexic said that they will miss their friends, three students were noted to have a more positive outlook. These

students perceived the transition as a new opportunity to make new friends and were confident that they could do it. For two of them, transition was also helped by having familiar peers in the new secondary school.

“Going to secondary school is easier than going to Primary one. I will still have some friends. [...] If my friends don’t come, I can still make new friends.”

(Chad, lines 69-75)

7.3.1.3. Mixed Interactions with Teachers

Non-dyslexic learners shared experiences of both positive and negative teacher experience. Four learners shared of their positive experiences with their teachers. These teachers offered learners emotional support when they encountered ‘personal problems’ (3 students), academic support (1 student) and also collaborated with parents to offer joint support (1 student).

However, they had also encountered teachers who made learning a boring experience.

“Just sticking to the textbook and writing useful sums. Yeah, I’ve had enough of that.”

(Evan, lines 338-340)

Other examples cited were of teachers who struggled to control the class and *‘makes people lose interest in the subject’*, and strict teachers who makes unreasonable requests. Chad shared of how his primary school teachers can sometimes have double standards towards girls and boys – *‘when girls talk, the teacher doesn’t scold, but when boys talk, they go out of the classroom.’*

7.3.2. Accounts by Parents of Non-dyslexic Learners

Parents of non-dyslexic children likewise described their child’s actual primary school experiences. Table 27 presents the frequency of coded comments per theme.

Table 27

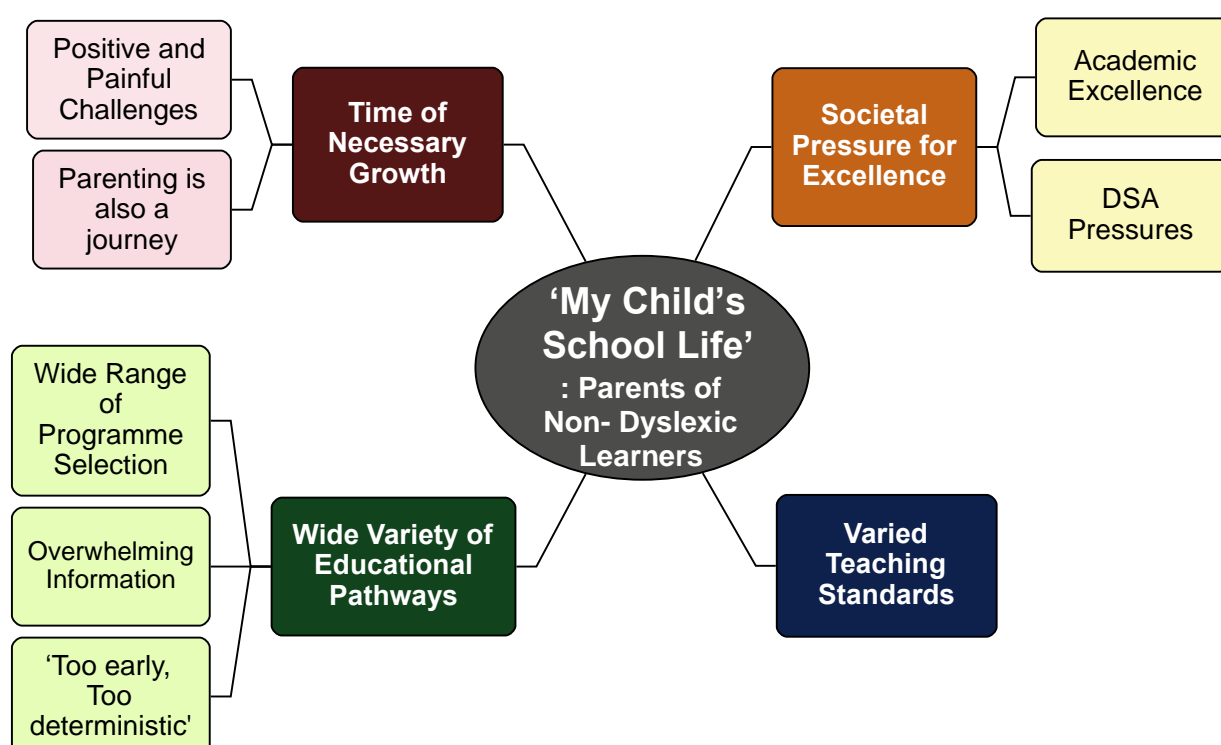
Descriptive Statistics of Coded Segments For Interview Data with Parents' of Non-dyslexic Learners about their Child's Actual School Experience

Themes	Frequency (N)	Percentage of data coded (%)
Time of Necessary Growth		
Positive and Painful Challenges	57	15.46
Parenting is also a journey	8	5.54
Societal Pressure for Excellence		
Academic Excellence	30	11.78
DSA Pressures	13	4.99
Varied Teaching Standards		
Wide Variety of Educational Pathways		
Wide range of Programme Selection	43	8.46
Overwhelming Information	24	10.64
Too early, Too deterministic'	6	3.91

The views of parents of non-dyslexic learners about their child's schooling experience are presented in Figure 12.

Figure 12

Themes Describing Non-Dyslexic Learners Actual Schooling Experiences



7.3.2.1. 'Time of Necessary (Painful) Growth'

Positive and Painful Challenges for Learners. All parents noted that primary school was a period of growth for their children. Some parents noted academic progress (2 parents), others noted greater independence in travelling and self-care (2 parents), and character development in being more self-disciplined and diligent (3 parents).

However, not all these learners' journeys were smooth sailing. Three parents depicted the process to be one that is like a 'roller coaster ride' marked by 'ups and downs' in the academics and social domains. All three parents related that peers had a strong influence on their child's academic achievements. When non-dyslexic learners were bullied or struggled to adapt to new social and friendship circumstances, parents noticed poorer academic performance. Better self-discipline and motivation to study were observed when children left these unhelpful peer groups and gained friends who could offer them academic support and influence them to study harder.

"There's acceptance, there's rejection, there's the feeling of being invisible at the beginning. [...] And in Primary three, he mixed with that not so good gang. [...] So that period of time, because of the company that he was keeping, and because everybody else in that group was failing, he thought he's doing very good, but obviously he's not. So, in terms of academics, he also followed the patterns of his peers."

(Chad's Mother, lines 61-95)

Parents also raised other protective factors. The gravity of the PSLE examinations on children's secondary school choices motivated all three learners to work harder. Eve's mother shared about how a teacher worked with the parent to monitor the child's behaviour and social interactions at school as well as academic support.

Parenting is also a journey. Narratives by parents also surfaced a theme that parents were likewise journeying through primary school together with their child. All parents were actively involved in their child's life - supporting with homework, offering external tuition and guiding children in the school selection process. Three parents spoke about the stress and frustrations they encountered when coaching their child - *"every kid's ability, every kid's attention span differs."* Eve's and Chad's mothers also shared periods of heightened tensions with their children and insights they gained to improve the situation.

"I was a bit harsh. I only focus on his bad company friends and his 8 minutes of revision. [...] His Scout leader saw things in him that I didn't see. With each additional responsibility his eyes light up a little bit.

"I found out that [...] his personality is calmer, he won't panic [...] and that was the start of the journey."

(Eve's Mother, lines 1247-1288)

7.3.2.2. Societal Pressure for Excellence

Most parents of non-dyslexic learners perceived the current Singapore educational system to be stressful and one-dimensional - one that places a strong emphasis on academic excellence. And while five parents voiced a preference to shift away from the academic pursuit, conflicting societal pressures have made it difficult for them to pursue their ideal.

Pursuit of Academic Excellence. Parents listed pressures from other parents who buy in and perpetuate the reliance on tuition; mainstream school teachers who rely on "the silent expectations that supplemental help" will be provided by parents privately; school principals who stress an academic-focused curriculum and the wider Singaporean meritocratic system that narrowly rewards academic merit.

"In more privileged schools, going to tuition is not a privilege it's a given. In fact, it's a must. My neighbours come to me to tell me, "Why is your girl not taking 2 tuition per subject, there's something wrong you know. It's PSLE year. What are you thinking?"
"We haven't totally indulged in academics. You are losing a bit of touch with what is reality."

(Sasha's Mother, lines 428-440)

DSA Pressures. Chad's and Sasha's mother and Betty's father added that this competitive pursuit for excellence extends beyond the academics. They gave examples of parents who have gamed the Direct School Admission (DSA) System by developing their child's skills in Sports and Arts as young as Primary one, in order to secure places at reputable and highly competitive secondary schools. Sasha's mother raised that this usually advantaged the more privileged. Parents can afford private coaching, and *"in a more well-funded independent primary school, CCA options are more interesting"*. *"Compared to a neighbourhood school, your CCA options are more limited and thus, your DSA choices will likewise be limited."*

Chad's mother shared her concerns that from her observation, children who enter schools via DSA have an *"invisible pressure"*, a hidden expectation that they should win competitions.

"But to the poor kid, my friend's daughter actually broke down because when she didn't win the competition."

"Worse so for kids, who don't deliver in the DSA and don't do well in the grades. It's not really benefitting the students because they're now placed in an academic school that they're not suited for."

(Chad's Mother, lines 993-1000)

For Evan's father, this meritocratic, grades-focused Singapore education system had left him disappointed. As such, he has deliberated opting into the International School system, which he perceived encouraged more holistic development – *"offering learning at a pace not as rigorous and the learning is fun there as well"*. However, Evan's father also recognised that while other parents may like him desire a holistic education for their child, they may not have the financial means to choose the International Education system for their children.

7.3.2.3. Varied Teaching Standards

From four parents' accounts, it appeared that teaching standards varied across and within schools. All four parents gave accounts of effective teachers whom they have encountered who are *"understanding", 'caring' towards their child and rewarded the efforts of students"*. Yet, parents also spoke of teachers who would not care and did not minimally meet their expectations and prepare their students adequately for exams. *"She would tell you to search online if you have any questions."*

In Eve's and Chad's mothers' reports, the matter was raised to the principal. However, only one principal addressed the issue, while the other principal excused the teacher.

"The principal didn't listen to us. [...] It was so near the exams and the children didn't know anything. I had no choice but to search for tuition teacher."

(Eve's Mother, lines 309-321)

These two parents also acknowledged that teachers too are humans. They noted that like students, teachers' needs also have to be met in order for them to be able to *"invest*

time and energy in their class". These needs encompass their salary, emotional and social needs.

"They might be getting burnt out from family commitments thus don't have time and energy to invest in the class."

"If teachers are unsatisfied with the pay, and they don't have the support, it reflects on the way they deal with the children. Very impatient, and probably just fault you for everything and see the worse in you."

(Chad's Mother, lines 599-603)

7.3.2.4. Wide Variety of Programmes offered

Wide Range of Programme Selection. Three parents commended the seamless selection process for DSA applications. Four parents appreciated having the choice to choose from a range of programmes within the Singapore Education system – the Integrated Programme (IP), the International Baccalaureate (IB) Programme, Bi-cultural programme, and higher Chinese curriculum. Chad's and Eve's mothers valued having the ability to pursue a curriculum that would enrich their child's Chinese cultural knowledge and language skills.

Overwhelming information. However, with these increased choices, it also meant that parents had to sift through more information about each programmes' offerings, and how they would map out students' future. Three parents noted that reading through the large amount of information available can at times feel overwhelming. In addition to written information in booklets, these three parents also highlighted the importance of going for school visits as each IP or IB school runs the programme differently.

'Too early, Too deterministic'. In addition, parents also raised concerns about the appropriateness of segregating learners into the educational pathways at aged twelve. Two parents noted that their child is still too young to know what his preferences and interests are, and yet has to make a decision that would carry with him/her for another four or six years. One of the parents was also worried that the distinctiveness of each programme would makes it difficult for students to transfer between schools if they find the course unsuitable for them.

"The number of programmes out there, it took me so many years to figure it out. Then each school actually runs it slightly differently, especially for the independent school."

“There is enough variety. In fact, it is both a plus and a minus because for children who know their interests right from the beginning, it’s fantastic because you got so many selections at one go. But on the other hand [...] honestly, I was a little (pause) uncomfortable with her choosing IP because I feel that she’s not mature enough at 12 years old to know whether she wants to do O levels or IP.”

“Government wise I think in terms of options they’ve given plenty. [...] The information is out there, it’s just how to process it, how to make it simpler to understand.”

(Sasha’s Mother, lines 233-285)

The complexities within the school selection process were likewise reflected by three non-dyslexic learners. They noticed feelings of “*panic*”, being “*tired*” and uncertain about their decision during the school-selection process. Sasha’s mother highlighted that children would require parents’ support to navigate through the complex school selection process. However, not all families are privileged to have parents who have the time or access to the needed information.

7.3.3. Comparison of accounts between Non-dyslexic learners and their parents

A comparative analysis was conducted across the themes elicited by non-dyslexic learners and their parents around the actual school experience of non-dyslexic learners (Table 28).

Table 28

Qualitative Comparison of Non-dyslexic learners’ and their Parents’ Description of the Actual School Experience for Non-dyslexic Learners

		Non-Dyslexic Learners' Account	Parents' Accounts
Individual / Microsystemic Level	Temporal Changes	Overall Positive Experience	Time of Necessary Growth
	Peer relationships	Have positive friendships	
		Experienced negative peer interactions	
Exosystemic Level	Teacher Support	Varied Teaching Standards	

Macrosystemic		Varied Programmes and Educational Pathways
Level	Education System	
	Culture expectations	Societal Pressure for Excellence – Pursuit of Academic Excellence and DSA Pressures
	Social Equity	Meritocratic culture exacerbates social inequity

7.3.3.1. Individual level

All non-dyslexic learners generally had a positive experience at school. All learners recounted feeling belonged in their final year of primary school. While Chad, Lucy and Eve had experienced difficult periods with peer relationships prior to Primary six, they did eventually develop positive friendships. Only Chad and Eve's mother recounted receiving support from schoolteachers. Chad's mother also shared that joining an external scouts group, outside of school, helped Chad to hone his leadership and friendship skills. Lucy and her mother were reticent about how Lucy overcame these peer difficulties.

With regards to academic performance, three of the seven parents shared that their child went through period/s of "*not doing very well*" in their studies. Betty's father associated the academic struggles to transition adjustment difficulties with new teachers and puberty when Betty was in Primary 3 and 5 respectively. For Chad's mother, she shared that mixing with the wrong peer group greatly impacted Chad's academic performance. Eve's mother attributed her less stellar grades to meeting a teacher who was not familiar with the curriculum. Contrarily, Chad, Betty and Eve themselves did not recount of academic struggles.

7.3.3.2. Microsystemic level

At a microsystemic level, both non-dyslexic learners and their parents shared of the varied teaching standards among schoolteachers. Non-dyslexic learners and their parents minimally expected teachers to cover the basic curriculum content required for school-based or national examinations. However, not all teachers did. Eve and Chad had teachers in previous years who would "scold" the class for asking academic-related questions.

Ideally, to satisfy the cognitive needs of learners, non-dyslexic learners and their parents sought for schoolteachers who would help learners develop an interest in learning. Yet, in reality, some teachers also did fall short of the ideal expectations. Jason, Evan and Eve shared that their teachers would just “*stick to the textbook*”. “*They’re just teaching cause it’s their job and they can earn money.*” This made lessons boring and learners lose interest in that subject. Even then, there were also positive examples given by learners and their parents of teachers who were patient and offered interesting mediums to teach new concepts.

7.3.3.3. Macrosystemic level

Parents of non-dyslexic learners gave insight to the realities of the current Singapore education system at a macrosystemic level. Six of the seven non-dyslexic learners and their parents considered and applied to secondary schools due to the specialised programmes offered. While these varied specialised programmes and educational pathways enable learners to further develop their interests and talents, most parents of non-dyslexic learners felt that it can sometimes feel “*confusing*” to choose between the programmes. Parents of non-dyslexic learners still felt unsure about the programmes despite the overwhelming amount of information available.

Parents of non-dyslexic learners spoke largely about the academic-driven culture prevalent in schools and the wider society. They spoke of societal pressures that rewarded academic performance, and principals and parents who perpetuated this ideology. And while parents would prefer it to be less grades-focused, they did not want to “*limit their children’s potential*” either. Many parents reported providing their children extra private tuition support. Some parents also noted that this pursuit for excellence also included sports and the arts.

At this current stage of development, admission into a secondary school of choice drives and motivates non-dyslexic learners and their parents to excel academically, in sports and arts. The motivation for parents to afford early-on opportunities to develop their child’s talent was to secure a place at a prestigious school through DSA. The gravity of the PSLE examination on school selection was raised by some interviewed parents to have caused their child to become “*more mature*”, “*more disciplined*” and “*more determined*”, especially with exam preparation. All non-dyslexic learners shared that they were anxious about not doing well enough for PSLE and having PSLE scores that were below the minimum grade criterion for their desired school.

Parents of non-dyslexic learners also shared their apprehensions about the current education system and how school selection is conducted, especially with DSA exacerbates social inequity. Having greater financial capacity meant that parents could afford to provide their child with external support to develop their skills and talents in the academics, sports and/or the arts. This could give learners from a more financially advantageous background the helpful advantage during PSLE and DSA as schools seek to choose learners based on performance. Having the financial means also offers parents more school options such as international schools at a secondary level, if they wanted.

8. Results

– Comparison need-supplies discrepancies among dyslexic and non-dyslexic groups

8.1. Introduction

The current chapter sets out to identify the needs-supplies discrepancies unique to the dyslexic group, and the needs-supplies discrepancies common to both the dyslexic and non-dyslexic groups. The study does so by cross-examining the needs and actual school experiences within each group. Needs and supplies were deemed to fit if learners and/or parents were satisfied with the provision. Needs and supplies were deemed to be discrepant if learners and/or parents were dissatisfied with the provision or have offered suggestions to improve the situation. The needs-supplies discrepancies are examined at the individual level first (section 8.2) – discrepancies unique to dyslexic learners are presented in section 8.2.1, discrepancies unique to non-dyslexic learners in section 8.2.2, followed by commonalities between groups in section 8.2.3. The findings at the parent and societal level in section are examined in section 8.3.

8.2. Individual level – Comparison of Needs-Supplies discrepancies between dyslexic and non-dyslexic groups

The between group comparison in discrepancies in needs-supplies fit at the individual level are matched according to Maslow's (1976) hierarchy of needs. Findings are presented in Table 29.

Table 29

Comparison of needs-supplies discrepancies identified by Dyslexic and Non-dyslexic group

	Dyslexic Group	Non-dyslexic Group
Deficiency Needs		
	<i>Need: To feel safe among peers, but</i>	
Safety Needs	<ul style="list-style-type: none"> Experienced Bullying; Did not feel like teachers could be relied on to help and ensure discipline 	
	<i>Need: To develop positive friendships, but</i>	
Belongingness and Love Needs	<ul style="list-style-type: none"> May require support to develop social relationships 	
	<i>Need: For adults to hear their problems; but</i>	
	<ul style="list-style-type: none"> Provisions were inconsistent 	

Esteem Needs	<i>Need: To build learners' confidence through well-matched curriculum, but</i> <ul style="list-style-type: none">Learners continued to face academic struggles;Assessment practices prevents dyslexic learners from demonstrating their knowledge	
	<i>Need: To build learners' confidence through developing interest, talents and hobbies but</i> <ul style="list-style-type: none">Few dyslexic learners shared their talent or interests	
Growth Needs		
Cognitive Needs	<i>Need: To tailor curriculum to match dyslexic learners' needs, but</i> <ul style="list-style-type: none">Lack of early identification and appropriate intervention;Varied teachers' knowledge about dyslexia	<i>Need: To tailor curriculum to match non-dyslexic learners' interest for learning, but</i> <ul style="list-style-type: none">Varied teaching standards,Culture pressure to pursue after academic excellenceOverwhelming Information about the programmes offered
	<i>Need: To support dyslexic learners with the Chinese language, but</i> <ul style="list-style-type: none">Information regarding Chinese exemptions and foundational subject options were not clearly stated	
Transcendence Needs	<i>Need: To develop character values and life skills among non-dyslexic learners, but</i> <ul style="list-style-type: none">Hindered by unidimensional cultural expectations for academic excellence	

8.2.1. Needs-supplies discrepancies – Unique to the Dyslexic Group

Firstly, while dyslexic learners voiced the need to have friends at school, in reality, their parents noted that their social interactions were often limited. For some dyslexic learners, it was difficult for them to establish a close friendship circle. Parents shared that dyslexic learners may require additional support above and beyond the provision offered to non-dyslexic learners, to develop their expressive and receptive language skills, build their confidence in initiating conversations with others and explicit teaching of reading social cues.

Secondly, stemming from the recurrent nature of dyslexic learners' academic difficulties and its negative impact on dyslexic learners' academic self-perception, parents of dyslexic learners shared the need for the curriculum to be tailored to match learners' abilities. Yet in reality, parents of dyslexic learners felt that more could be done to support the learning needs of dyslexic learners. The current assessment practices, such as word problems and passage readings in mathematics and science papers, hinder dyslexic learners from fully showcasing their knowledge and performance in these subjects. Mainstream teachers also have varied knowledge about dyslexia. As such, not all teachers would have the keen skills to identify dyslexic learners, leading to inconsistent early intervention support for them. Also, while all primary-level academics curriculum is accessible at a foundation level, dyslexic parents may not be clear of the entry criterion or its implication on the learners' future pathways. Thus, parents may not be aware or are cautious of providing their dyslexic child with the opportunity to take the examinable subjects at a slower pace, more fitted to their learning needs.

Thirdly, parents of dyslexic learners identified the need to develop dyslexic learners' interest, talents and hobbies as an avenue to develop learners' positive self-perception and confidence. In reality, schools do offer a wide range of extra-curricular activities, and do not discriminate based on learners' diagnosis. However, some parents noted that due to limited spaces available, popular sports and clubs required try-outs. Thus, their child may not be able to enter a club of choice if not selected. Also, the activities offered across schools differ. Mothers of dyslexic boys interviewed shared that they had to encourage their son to try out other sports as they were unable to enter a club that was in line with their first choice.

8.2.2. Needs-supplies discrepancies – Unique to the Non-Dyslexic Group

Non-dyslexic learners and their parents most commonly cited that ideally teachers would be able to impart learners with a love and interest to learn. Additionally, for parents of non-dyslexic learners, imparting character values was also as a needed part of education. However, in reality, the teaching standards across schools and individual teachers varied. Some teachers were described to have a passion for teaching and modelled empathy for learners; But there were also other teachers who did not complete the needed curriculum nor prepared learners sufficiently for school examinations. Another reason that led to the unmet need, as reflected by parents of non-dyslexic learners, was that at times it can be difficult to balance the cultural expectation of academic excellence. This emphasis placed on academic performance can derail parents and schools from focusing on character building and the imparting of life skill such as communication skills.

Parents of non-dyslexic learners also appreciated that the current education system offers specialist schools and different educational pathways and programmes that cater to learners' different interest and learning. However, some parents of non-dyslexic learners interviewed noted that they were at times stressed by the information overload. Many parents of non-dyslexic learners commented that they were unfamiliar with these education developments. While information about the programmes and schools can be found online and in school, the information was too much that it resulted in a difficulty in understanding and effectively making a decision about secondary school choice. Another criticism about the varied pathways offered is the age at which learners are given the choice to decide. Some parents felt that giving learners the chance to choose and determine their pathways at age 11 is too young. Some learners may not have explored their strengths and interests to know what they want to do later on in life.

8.2.3. Needs-supplies discrepancies - Common across dyslexic and non-dyslexic groups

Both dyslexic and non-dyslexic learners identified the need to feel safe among their peers. However, in reality there were some dyslexic and non-dyslexic learners who had shared negative experiences of being bullied by others. Three of the six dyslexic learners and two of the seven non-dyslexic learners had experienced negative interactions with their peers. And while dyslexic learners shared that teachers had a critical role in ensuring discipline, in reality, some of those who were bullied could not trust their teacher would be able to protect them, neither did they feel comfortable to reach out to the teachers.

Dyslexic and non-dyslexic learners also identified the importance of having a significant adult at school who would hear their problems. And while five of the six dyslexic learners and four of the seven non-dyslexic learners could identify at least one significant adult in primary school, having a significant adult was a "hit-and-miss". "It's a luck issues" to find a teacher who would offer emotional support for learners, in addition to their teaching role.

And while there were discrepancies between needs and supplies, the findings also identified areas where there were needs-supplies fits (see Table 30).

Table 30

Comparison of needs-supplies fits identified by Dyslexic and Non-dyslexic group

	Dyslexic Group	Non-dyslexic Group
Deficiency Needs		
Safety Needs	Needs-Supplies Fit: Safe Physical Environment	
Belongingness and Love Needs	Need-Supplies Fit: Established Friendships	
Growth Needs		
Self-Actualisation Needs	Need-Supplies Fit: <ul style="list-style-type: none">Pursue new interests and further develop skills;Wide education pathways	

Generally, both dyslexic and non-dyslexic groups found that the actual school matched their needs in providing a safe physical environment. Albeit that some learners experienced negative interactions with peers, all learners - both dyslexic and non-dyslexic learners, had established close friendships.

The current educational climate also offered non-dyslexic learners the prospects of pursuing their interests and skills. This has been possible with the introduction of specialist schools and pathways in secondary school and extracurricular activities across all educational levels. All of the non-dyslexic learners commented about their CCA and said that they have enjoyed it.

8.3. Parent and Societal level – Comparison of Needs-Supplies discrepancies between dyslexic and non-dyslexic groups

Maslow's hierarchy of needs offers the framework to examine the individual needs of dyslexic or non-dyslexic learners. However, the present study also identified that parents also had worries and needed support. Parents also relayed concerns regarding social equity in provisions which needs to be addressed. The between group comparison in needs-supplies discrepancies and fits at the parental and societal levels are presented in Table 31.

Table 31

Comparison of parents' and society's needs-supplies fits identified by Dyslexic and Non-dyslexic group

Dyslexic Group	Non-dyslexic Group
For Parents	
<i>Need: To support parents in accepting their child's dyslexia diagnosis, but</i>	
<ul style="list-style-type: none"> Limited accessibility to professional support; Parents did not know who or where to turn to; Parents lacked knowledge about dyslexia information, assessment process, educational pathways and options; Parents faced pressure from society towards excellence, yet acknowledging the added academic challenges faced by their child 	
<i>Need: To help parents manage concerns about primary to secondary school transition, but</i>	
<ul style="list-style-type: none"> Lack of Provision 	
For Society	
<i>Need: To offer equal opportunities to all, but</i> existing education practices do exacerbate social inequity	

Both groups of parents – those of dyslexic and non-dyslexic learners commented that parenting is a journey. Learners and parents identified that parents do play a significant role in supporting children through challenges and joys. The present study's findings suggest that supporting dyslexic learners could bring additional parenting challenges. Parents of dyslexic learners acknowledged that they had to first accept their child's diagnosis. And for Eve's mother, it has been difficult to fully accept the diagnosis. However, to offer Eve the needed intervention support, she agreed to assessment. For Colin's and Sophie's mother, the difficulty they faced was in determining the difficulties their children were facing. Colin's and Sophie's mother shared that they knew their children had significant academic struggles, but they were not sure to whom they could turn to or what the condition was.

Teachers did not flag Colin and Sophie for further psychological assessment despite learners failing some subjects even with additional support. To these parents, the diagnosis came as a relief and a doorway to appropriate support.

For five of the six parents of dyslexic learners, parents shared that they had to manage their personal expectations with regards to their child's academic performance and future prospects. All parents interviewed were not dyslexic or faced similar literacy difficulties as their child when they were younger. As such, for some parents, it was difficult to grasp the full potential or limitations of their child's abilities. Parents of dyslexic learners noted that at times they felt uncertain of their decision to not push their child towards academic achievement, but at the same time worry also if this would limit their child's future prospects. The Singapore education culture rewards learners who perform well academically, but this is also the primary area of difficulties for dyslexic learner.

Both dyslexic and non-dyslexic groups highlighted that ideally, Singapore should strive towards social equity where there is fair and equitable provision, and implementation of services offered to all. Yet, parents of dyslexic and non-dyslexic learners shared that unfortunately having greater financial means added advantages. Parents of dyslexic learners who have the financial means are able to engage and access private psychologists, especially if dyslexic learners were not identified by teachers or schools. Parents of dyslexic learners would also require more resources to afford more specialised support for their dyslexic child in a smaller setting. For parents of non-dyslexic learners, having the financial gains likewise enable parents to enrol their child to tuition centres or sports and arts programme. These parents are also likely the ones who will be able to guide their child through the secondary school selection process.

9. Results

– Accounts by Educators

9.1. Introduction

The current chapter examines the findings gained from interviewing educators about the actual school experiences of dyslexic learner in primary school. In particular, the challenges faced by dyslexic learners. Interview findings with educators elicited understanding of mesosystemic and macrosystemic factors that influence the inclusion of dyslexic learners, which were not expounded by dyslexic learners nor their parents. As some the interviewed educators also taught secondary school-aged learners particularly during primary-secondary transition, the study was able to elicit temporal development changes among dyslexic learners and primary-to-secondary transition needs faced by dyslexic learners.

9.2. Educators' perspective of the challenges and barriers met by dyslexic learners in school

Table 32 describes the frequency of coded comments per theme.

Table 32

Descriptive statistics of coded segments for Interview data with Educators about challenges faced by dyslexic learners at school

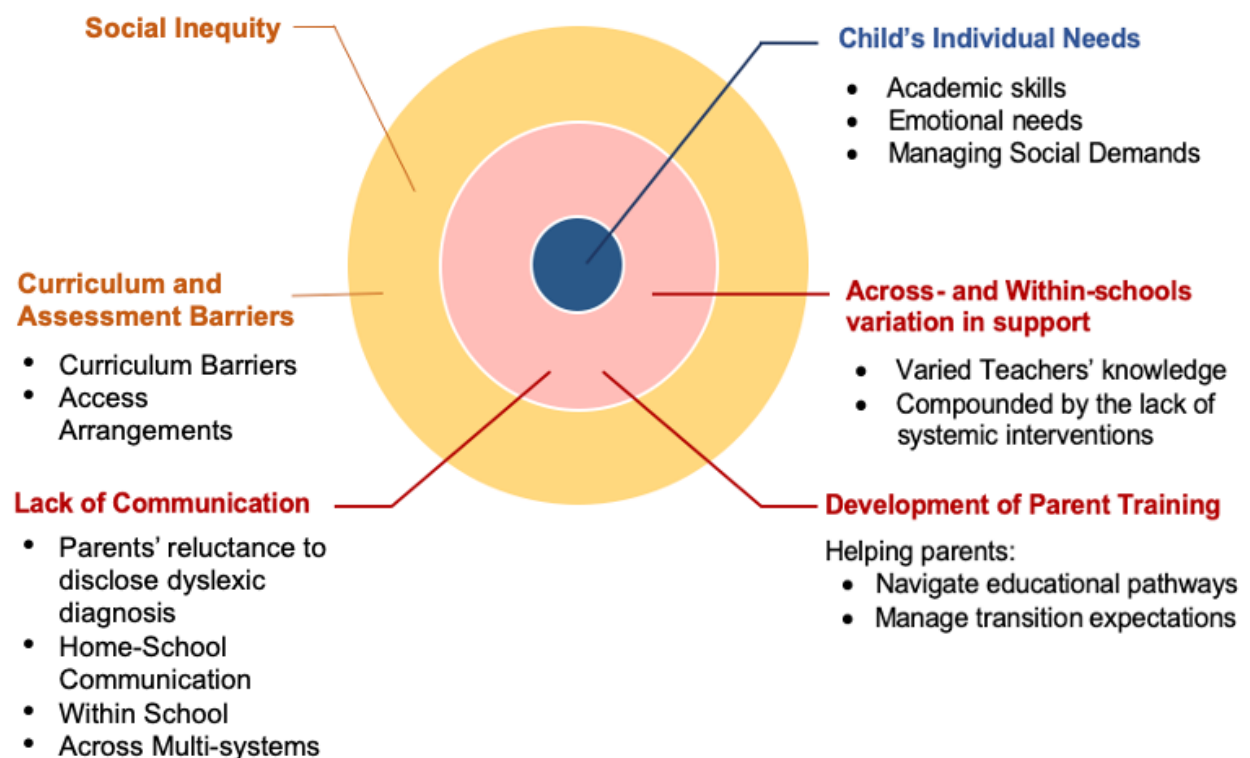
Themes	Frequency (N)	Percentage of data coded (%)
Child's Individual Needs		
Academic Skills	40	9.61
Emotional needs	17	4.36
Managing Social Demands	7	0.09
Across-and Within- School Variations in Support		
Varied Teachers' Knowledge	27	11.32
Compounded by Lack of Systemic Interventions	11	5.56
Development of Parent Training		
Navigate Educational Pathways	9	4.03
Manage Transition Expectations	27	9.06

Themes	Frequency (N)	Percentage of data coded (%)
Lack of Communication		
Parents' reluctance to disclose dyslexia diagnosis	3	1.35
Lack of Home-School communication	9	3.17
Lack of communication within School	7	2.09
Lack of communication across multi-systems	14	3.95
Curriculum and Assessment Barriers		
Curriculum Barriers	12	2.98
Access Arrangements	10	6.37
Social Inequity	25	10.14

The themes and subthemes identified are presented in Figure 13.

Figure 13

Actual Experiences of Dyslexic Learners as Recounted by Educators



Educators addressed the positives and gaps in provision at an individual level, microsystemic level – parent and school support, mesosystemic level (the interactions between different systems of support around the child) and also macrosystemic level factors.

9.2.1. Child's Individual Needs

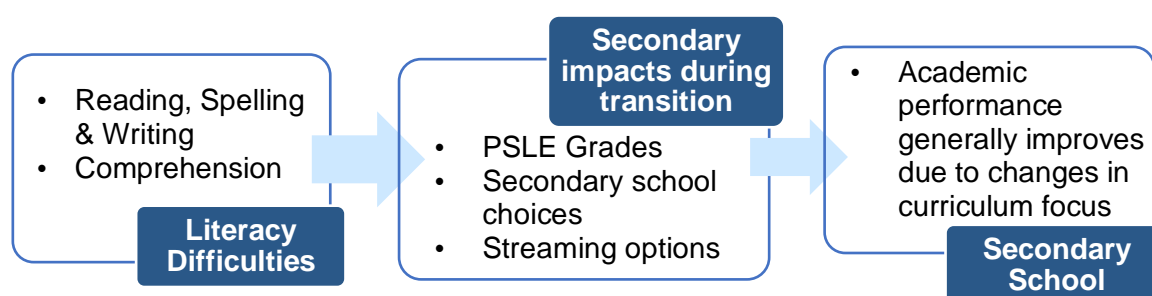
The individual needs of dyslexic learners identified by educators can be broadly categorized into three domains – academic skills, emotional well-being and social demands.

9.2.1.1. Academic Skills

Educators noted that dyslexic learners have primary literacy needs which can impact their academic performance, and decisions when choosing a secondary school and streaming options. Temporal changes in dyslexic learners' academic outcomes across primary-to-secondary transition were also accounted for (see Figure 14).

Figure 14

Timeline representation of subthemes attached to persistent academic struggles



Nature of literacy needs. Educators identified that dyslexic learners faced difficulties in reading (mentioned by three educators), spelling (three educators) and written expression (three educators). Dyslexic learners' poor foundational literacy skills in phonological processing and reading can also hinder them from developing higher-level literacy skills such as reading comprehension (noted by three educators).

"Just the word problem thing. It's ridiculously hard. Because not only does dyslexia make it hard to read words [...] it's receptive and then you have to comprehend what you're reading. [...] Then you take more time to understand what you're reading. So, I can read aloud, but it doesn't mean I can understand right?"

(Ms C, lines 955-964)

Secondary impact on academic grades and school options. Four educators raised that their students' weak literacy skills often disadvantaged them to achieve poorer academic performance across other subjects compared to their non-dyslexic peers - not solely confined to the English language. As a result, dyslexic learners' overall poorer grades can limit their secondary school choices and streaming options. Ms C added that while the Singapore government has set up specialised schools in sports and the arts to afford all students with opportunities to develop specialised interest and skills, these avenues may not be accessible for dyslexic learners. The academic demands and minimum academic expectations set by these specialised schools remain too difficult for some dyslexic learners to attain.

"...So she (the student) had a great art portfolio (But) Because you need to write a lot of essays in S school... She couldn't. They chose not to send her to S school because she wasn't good at essay writing, not because of her lack of talent."

(Ms C, lines 543-562)

Secondary impact on streaming options. Three educators shared that some parents sought their advice regarding streaming options. For these parents, educators explained that parents were confronted with the dilemma of either choosing a lower-ability stream that matched their child's current ability level or choosing a higher-ability stream that offered more educational pathways and hence greater future prospects. Ms P regarded the streaming system to be rigid, citing that currently Normal (Technical) [N(T)] students are unable to directly enter degree programmes conducted in polytechnics due to course eligibility criterion. N(T) students are given vocational-type subjects, which limit their access to only a specified range of post-secondary institutions and hence constrain the types of job they can apply to.

"To like give you a full picture... I ever had before one boy... who was at risk of dropping to N(T). So, he was sec 2 and... he didn't want to drop to N(T) because he really wanted to go poly (polytechnic). The teachers gave him the choice of either going N(T) or repeat sec2 N(A) and he chose to repeat N(A)."

(Ms P, lines 531-539)

And, while the streaming system allows for upward mobility across streams, three educators noted that this rarely occurred. Firstly, to qualify for promotion, students need to fall within the top five percentile of their cohort in academic performance. Secondly, the discontinuity in curriculum between the Normal (Technical) and Normal (Academic) stream

makes it difficult for N(T) students to cope with the additional new subjects. The assessment criterion and higher expectations in the N(A) programme is also steeply more demanding than the N(T) stream.

"It's very complicated you see. [...] To be promoted to normal acad you must be in the top 5 percentile. And also, it's very hard when you're promoted. Because you will be missing a lot of stuff. The curriculum is just vastly different. Some of my students kind of regretted [...] they were struggling a lot to catch up. Because for example, they didn't learn geography or social studies in Sec 1 and 2. So in Sec 3 they have to learn 2 years of worth of geography."

(Ms C, lines 248-263)

The stigmatization of being in a lower-ability stream was also stressed by three educators to be another important concern. Educators noted that streaming pigeonholes students based on their ability. Educators gave examples of students whose identity as a student in a lower-ability stream had impacted their academic motivation and self-esteem. Ms A echoed that although her dyslexic N(A) students were able to cope with the English subject at a higher academic level, they *"just felt inadequate in some way"*.

Improvement in Academic performance in Secondary school. The three private educators noted that students' academic performance tend to improve in secondary school. The reason cited for this academic progress is the change in curriculum focus and expectations at the secondary level which enabled dyslexic learners to better demonstrate their skills. These educators noted that at the primary level, there is a greater emphasis on sight-word reading and spelling in the English curriculum, which is an area of weakness for dyslexic learners. However, at the secondary level, spelling has a lower weightage, and instead more emphasis is given to *"grammar, sentence fluency and coherence of written arguments"*. For students in the N(T) programme, writing becomes functional. Students are assessed in their letter-writing abilities and are expected to write simply and succinctly to communicate their thoughts – *"writing two pages is fine"*. At the Express and N(A) level, students are also offered more choice of genres and topics during writing assessments. Thus, this gives dyslexic learners more flexibility to write about a topic in their area of interest and strength.

For maths, private educators noted that at the primary level, dyslexic learners tend to perform poorly due to the language demand required to comprehend word problem sums.

However, in secondary school, *“maths is no longer that focused on language, they are more focused on abstract functions”*.

As dyslexic learners do improve in academic performance, Mr S highlighted that this aspect needed to be communicated to parents during transition.

“So when they (dyslexic learners) go onto secondary school, I tell parents, “it’s a very different environment. Certain students can actually do better... Don’t let whatever they get during their PSLE affect, hinder their motivation... plus affect your (the parent’s) perception of your child’s abilities.”

(Mr S, lines 187-196)

9.2.1.2. Emotional Needs

Mr S and Ms P commented that their dyslexic learners do get ‘bullied or made fun of because they’re slow or dyslexic’. Ms P added that these negative comments can also come from parents. Cumulatively, these negative remarks lower dyslexic learners’ self-confidence, and negatively impact their self-perception.

“It will be like, “my mother says I’m stupid.” [...] I’ve (also) got some students that will be like, “I can’t help it I keep making reading and spelling mistakes.” Then I will be like, “Yeah! I’ve taught you these strategies you just need to use them. You can mitigate 50% of your mistakes. [...] whatever negative feelings you are putting on yourself, usually it’s a result of your own confidence. It’s very little to you being dyslexic. [...] The fact that they can overcome it makes you a better person than all those other people who don’t have it.”

(Mr S, lines 667-715)

9.2.1.3. Managing Social Demands

Educators noted individual variations in dyslexic learners’ ability to cope during transition. Mr S commented that his students generally do not have difficulties across transition. While three educators – Ms E, Ms A and Ms P acknowledged that the primary-to-secondary school transition is a period of changed social demands which dyslexic learners need to manage and adjust to. These educators noted that while non-dyslexic learners are likewise expected to be more independent, able to establish a new routine and cope with different teacher expectations, in reality, dyslexic learners may struggle more due to their poor memory or organizational skills.

“I hear from parents that ‘Oh the child has... difficulty remembering what to bring, what to put in his bag or even pack his bag. So, the mother has to reinforce that routine of packing, checking, using a check list and packing your bag every night.”

(Ms P, lines 321-340)

9.2.2. Across- and Within-School Variations in Support

All educators noted variations across and within primary and secondary schools in SEN support. Four educators raised that some schools uphold a good reputation of providing better support for SEN pupils above others. These schools tend to have ‘more people onboard’ and are equipped with a counsellor and AED(LBS) who can offer behavioural and learning support respectively. Other contributing factors that were listed by educators included having a supportive principal, an overall lower level of needs within a school and increased teachers’ knowledge in SEN support. However, as highlighted by all educators, these types of information [except the availability of AED(LBS) in school]] cannot be found on formal channels like the Ministry of Education websites or the Secondary school selection booklet (MOE, 2020). As such, parents have to resort to informal forums or word of mouth to gather insights into school provisions, leading to uneven distribution of information across all parents of SEN children.

9.2.2.1. Varied teachers’ knowledge

The most commonly cited factor, indicated by all educators, is that teachers’ understanding of dyslexia and general SEN varied greatly, and this has broader impact on educational inequity for all SEN children. Ms E narrated that in her school, some teachers felt lost at balancing the competing demands of supporting the SEN child and the needs of other students in class.

“Teachers will be like, “I still have to take care of the rest of the class. I can’t just focus my attention on this child”. So, in a sense, it’s also bad for the child because the child gets labelled as the ‘problem child’. Then even when things try to turn around, they (teachers) will still have this like negative perception. “No,no,no, he hasn’t changed.””

(Ms E, lines 333-340)

“Some allied educators may (also) be more trained to support children with like literacy problem.”

(Ms A, lines 263-264)

Ms A recalled that her lack of knowledge about dyslexia, combined with the lack of communication between parents and the school, and within teachers about the students' dyslexia diagnosis led her to hold misplaced assumptions of her previous student.

"We are not really very equipped with that kind of information about children with special learning needs which is why we kind of just feel lost or sometimes there were .. I .. I will admit where there were years when we just block out the fact that this person has a special need. And just continue teaching like how we teach because then classes were so much bigger. And there was really no time to attend to this person's needs one to one and then we also didn't know how to help."

(Ms A, lines 558-572)

Yet, encouragingly, three educators also spoke of positive efforts and developments made in recent years to increase teachers' support and awareness of SEN needs. Mr S shared that *"quite a few of my students had got good support from the teachers and teachers have been very patient with them, even recommending being promoted to higher academic stream like from N(T) to N(A)"*.

Ms A and Ms E acknowledged that pre-service and in-service teachers training have helped to build teachers' foundational knowledge around SEN including dyslexia, de-stigmatize challenging behaviour present in the classroom, and empowered teachers to identify students who may require additional support. However, more can be done to encourage more teachers to 'buy-in'.

"Sometimes then we think again, "Oh.. it might take up a lot of our time, and maybe we only have 1 student out of the whole cohort to help, to attend a... a few afternoons of a course, may not be the most effective use of my time."

(Ms A, lines 529-533)

9.2.2.2. Compounded by Lack of Systemic Interventions

Ms E and Ms A raised that more provisions and efforts for teacher training need to be particularly targeted at the secondary level. They stated that not all secondary schools are equipped with AED(LBS)s. As observed by interviewed educators, the perceived role of AED(LBS) in primary and secondary school appears to be positioned differently. *"[In my secondary school] AEDs did not... really come across as... er.. as people who would be helping these children with the special needs. In our schools or in the neighbourhood schools they really provided more classroom management kind of support than helping*

children with special needs.” As a consequence, Ms A shared that AED(LBS) were often not seen as a resource by secondary school teachers to help with students’ learning needs. This contributed to teachers’ feeling a sense of despair in supporting SEN/dyslexic learners in the classroom.

“So actually we are quite lost [...] within the school there isn’t much support in a way because there isn’t much information. There’s nobody with the expertise who can actually point us in the right direction of how to help these students.”

(Ms E, lines 325-238)

MOE educational psychologists also do not conduct assessments at secondary schools. Thus, students have to be referred to private psychologists or REACH, a government agency for assessments.

“I think right now the secondary school students are really left to their own devices. And even if you refer to external agencies, it’s a long waiting list. So, by the time it goes back and forth, back and forth, the whole process can take months and in the meantime the school would have to manage the child by themselves.”

(Ms E, lines 513-520)

And, unlike primary schools where all schools offer the same systemic School-based Dyslexia Remediation (SDR) intervention programme, *“in secondary schools, no and we do not provide any official kind of support in terms of special programmes for them... We also have not publicised any additional support that we will give to children with this condition”*. SEN provisions in secondary schools are often offered by teachers at an individual or small-group basis, which introduces educational inequity if teachers varied in their ability to offer adequate support. Thus, to ensure more equitable provisions across secondary school, one educator suggested for systemic dyslexic intervention programmes (like the SDR) to also be implemented at a secondary level.

9.2.3. Development of Parent Training

9.2.3.1. Navigate Educational Pathways

Mr S raised that a plausible aspect of parent training could be to help parents manage their expectations as their child enter secondary school. In his experience, such training would be especially helpful for *“parents who don’t yet have kids in secondary school”*. He suggested that parents can be helped in their prioritization of school consideration factors, such as considering children’s motivation as more important than

school reputation. And helping parents see beyond their child's PSLE scores and not letting their academic performance define their perception of their child's abilities.

Extending that thought, Ms P suggested helping parents to manage their expectations beyond secondary school and planning forward to post-secondary educational options.

"I feel some parents are very focused on PSLE that moment, which I know is really a hurdle. It determines your pathway for the rest of your life. [...] So we tell parents to try and find out their interest. It would also prepare them to think about what course they can do in poly and ITE, and also, what courses you want to take also affect your sec 3 subjects choice. Then sometimes we emphasise when they go poly and ITE, they can use more computer, assistive technology...choose like courses where there is less of literacy. It's really thinking more far ahead, instead of getting caught up in "cannot do well" in the 4, 5 years."

(Ms P, lines 1019-1052)

9.2.3.2. Manage Transition Expectations

Ms P also suggested including dyslexic learners in the transition session.

"Because I think at this age, it's important that they become a bit more independent, especially when they go onto Poly, ITE they have to do a lot more independent work, working with different kind of people.. so, it's also about teaching them about making choices I guess."

(Ms P, lines 1075-1083)

9.2.4. Lack of Communication

Three educators raised concerns about the lack of communication within the existing education system in-school and at a multi-systemic level. Educators described communication between home, school and across agencies as largely *"parent-initiated"*.

9.2.4.1. Parental reluctance to disclose dyslexia diagnosis

The first gap in communication identified by Ms E and Ms A is that parents may at times be reluctant to share their child's diagnosis with the school.

"Some of them (parents) maybe just feel like "oh my child is able to handle or able to manage, so I don't need the support and all those things". So, they'll say "I do not

consent for transition support". And usually most of them are able to manage...it's just sometimes as the year progresses, and as the syllabus gets a bit harder and a bit more challenging, that's when...a bit of...challenges [appear] again. Sometimes depends on the parents whether they like, feel that they need more help now. They'll either approach their form teacher or go through their form teacher to let the AED(LBS) know."

(Ms E, lines 286-305)

9.2.4.2. Lack of Home-school Communication

Second, Ms A highlighted that home-school communication is typically kept at length. Schoolteachers would not communicate with parents unless they have observed externalising behavioural difficulties presented by the child- *"Teachers will typically only call parents if the child is not cooperating in school, struggling, not cooperating, that is when we will try to find out more from the parent"*. Home-school communication was perceived as an *"unnecessary bother"*, and *"disturbance"* for teachers and parents, which was echoed by a parent participant – Sophie's mother.

"Usually teachers will not unnecessarily... disturb a parent. And teachers are quite busy already. [...] Only when the child is maybe idle, misbehaving... or struggling in their studies then we try to make some link- let's find out if this condition is the one causing his struggles."

(Ms A, lines 242-252)

"With the teachers, from P4 onwards, I'm actually don't bother them. No news is good news."

(Sophie's Mother, lines 565-570)

9.2.4.3. Lack of Communication within School

The third gap in communication, noted by Ms A, is between the form teachers and subject teachers. Ms A acknowledged that schools do have valid concerns about divulging too much information about a child unnecessarily. *"Sometimes parents do not like their children's information to be shared about teachers. So, I think that's their concern as well."* However, she also challenged that there can be negative implications when the child's diagnosis is not shared across all teachers. It can lead to educators forming misconceptions about learners and deepen conflicts in the teacher-student relationships.

“If everybody keeps quiet right, as a subject teacher I wouldn’t know anything. I [...] continue(d) making my assumption that this child is just distracted and uninterested in his studies, not putting in effort. [...] And it’s not wrong of us to make these assumptions you see... We didn’t know any better.”

(Ms A, lines 257-270)

These misunderstandings can result in tensions between teachers and parents when parents felt frustrated that information has not been shared or to learn that their child is poorly supported at school. As such, Ms A suggested for teachers and subject teachers to begin each year with a joint parent-school meeting.

“At least have a meeting at the beginning of the year to inform the subject teachers and [...] discuss a little about how we are going to provide a certain kind of support, so at least the subject teacher is not on his own. [...] With more teachers grouped together to discuss a certain learning condition they can also sort of support each other.”

(Ms A lines 812-821)

9.2.4.4. Lack of Communication across systems

It was also noted that in the accounts provided by all educators, there was a lack of multi-systemic collaboration across agencies during transitions. Ms E noted that while primary and secondary school AED(LBS)s do work closely to transfer children’s information about the students’ triggers, area of needs, helpful and unhelpful strategies, support is “*really through the primary school rather than external agencies*”. Private educators also noted that they rarely worked with schools – “*depends on school, and a case-by-case basis.*”

“I had one very forceful parent who spoke to the principal. She got me to talk to the AED and work together. [...] And the AED was quite supportive”.

(Ms C, lines 1877-1886)

The challenge that arise due to the lack of communication across agencies, as highlighted by Ms E is the lack of continued support for the child.

“In my line of work I see the kid, the child gets diagnosed and that’s it. There is no follow-up done. [...] Maybe in primary school it’s still manageable but when he comes to

secondary school, maybe it's because of the different environment. [...] There is a lot of peer issues that become much more apparent."

(Ms E, lines 190-201)

9.2.5. Curriculum and assessment barriers

9.2.5.1. Curriculum barriers

The two private educators viewed the assessments used in the primary-school curricular as barriers to learning for dyslexic learners and advocated strongly for policymakers and educators to put more considerations into determining what the assessments are measuring. They shared similar sentiments that in order to accurately assess all students, especially dyslexic learners, educators must first determine the goal of assessment and afford multiple options for assessment. This same thought process also aptly applies to access arrangements – *"What skills are we assessing?"* and *"Will this access arrangement granted offer unfair advantage to dyslexic learners or a more levelled mode of assessment?"*

9.2.5.2. Access Arrangements.

Four educators spoke of access arrangements to be reviewed for dyslexic learners to ensure that they are given the appropriate tools and support to demonstrate their skills and abilities. These educators noted challenges dyslexic children have with access arrangements. Firstly, the criterion to qualify for some access arrangements remains unclear.

"I know there are some secondary school students who have also tried to apply for typing. Which is not very common.[...] We don't know if our application can pass".

(Ms P, lines 920=941)

Another consideration that educators raised is the appropriateness of access arrangements granted to dyslexic learners. Three educators shared of experiences where the arrangement granted did not suit the needs of the child, and also led to negative consequence of unwilling disclosure of their diagnosis to their peers.

"When they are seen to have support, their peers might judge them for it. Like some of my kids when they had extra time [...] during lunch time, others ask, "why do you have extra time?" Either they have to reveal that they have dyslexia and come out, which they hate, or some choose, "I don't want extra time. I want to be normal.

Everyone does the test in 2 hours". So you got to consider carefully about accommodations."

(Ms C, lines 144-155)

9.2.6. Social Inequity

Ms P and Ms C noted the gaps in equitable provision of support for dyslexic learners. As highlighted by parents of dyslexic learners, a consequent of the current variations in school support and lack of within school and multi-systemic collaboration, results in parents having to play a greater role in advocating for their child and communicating information across different stakeholders. However, this hinges on parental accessibility to resources and their knowledge about dyslexia. Unfortunately, as noted by Ms P, learners from less privileged background are also compounded by other social difficulties, such as poor parental supervision and greater vulnerability to negative peer influence.

MS C also noted that families who are more financially well-off can afford more specialised private tuition support that matches teaching approaches to the learning style of all dyslexic learners. With respect to assessment, private psychologists also have less wait time, and this is particularly critical during national exams where psychological reports need to be updated and submitted before a stipulated deadline for learners to be granted access arrangements.

Ms P noted one's socio-economic background also has impact on the diagnosis given. She raised that there remains inconsistent practice in Singapore with regards to diagnosing dyslexia. Dyslexia is often confused with Language Disorder, also known as Developmental Language Disorder (DLD). Ms P noted that *"while language disorder can co-occur dyslexia the language impairment diagnosis is hardly given in Singapore, even if they (children) show concurrent language difficulties. Because I believe, over here, if I'm not wrong, the MOE PPG (states that), I think the language impairment also needs to be seen by a Speech and Language Therapist. Which is not something that all parents can afford and it's also a long waiting list"*.

9.3. Unique Contribution by Interviewing Educators

The themes identified by educators were compared against those of dyslexic learners and their parents (see Table 33).

Compared to findings from dyslexic learners and their parents, findings from the educators offered the study greater insight to the microsystemic factors at the school level

that hinder inclusion for dyslexic learners, and the exosystemic factors that influence learners' primary school experiences, like teacher training, curriculum barriers and challenges with access arrangements. Additionally, educators offered suggestions about how parents can be supported better. The educators also highlighted temporal changes in development among dyslexic learners, as well as differences in provisions across primary and secondary schools, and how parents and learners can be supported pre-transition to manage their expectations about secondary school.

Table 33

Comparison of Dyslexic learners, Parents' and Educators' description of Dyslexic learners' actual school experience

		Dyslexic Learners	Parents of Dyslexic Learners	Educators
Individual level	Academic	Experiences and anticipates persistent academic challenge	Academic challenges extend beyond English Language	
			Secondary impact of poor academic achievement on emotional well-being	
				Academic performance Impacts school choices and streaming options
	Peer relationships	Have positive friendships	Limited social circle, attributed to social skills deficits, or personality	
		Experienced negative peer interactions		Experienced negative peer interactions
	Social Demands	Anticipate stricter discipline in secondary school		Manging changes in teachers' expectations
		Gaining independence		
				Adapting to routine changes
	Emotional needs	Having a significant adult to offer emotional support		
		Developing interest		
	Other difficulties		Handwriting difficulties	
			Vision	
			ADHD symptoms	
	Temporal changes	Some noted academic improvement in secondary school	Identified growth in children's academic performance	Improvement in academic performance due to curriculum changes in secondary school
			Identified improvement in coping with social interactions	

Microsystem level	Teacher support	Varied Teachers' knowledge in SEN
		Positive efforts in increasing teacher training at pre-service and in-service level
	School-wide support	Varied school-wide support, especially in secondary school
		Lack of systemic-level dyslexia-specific school support
	Parent support	Parent-driven support, raised issues of social inequality
Mesosystemic level		'Wait and see approach' Develop parent-training
		Lack of communication within-school and at multi-systemic level
Exosystemic level	Curricular development	Curriculum barriers
		Access Arrangements
	Social equity	Uneven distribution of SEN provision across schools introduces social inequity

10. Discussion

10.1. Introduction

Bringing together all the data gathered through the interviews and questionnaires conducted with dyslexic and non-dyslexic learners, their parents and a group of educators, alongside available literature, this chapter aims to address the research questions posed for this study and its implication for EP practice. The strengths and limitations of the study are then examined.

10.2. Research Question 1 – What are the ideal school constructs expressed by dyslexic learners and their parents?

This research question offers insights to the underlying needs of dyslexic learners as expressed by learners themselves and perceived by their parents.

10.2.1. Safe Environment

Establishing a safe and supportive environment appeared to be critical for dyslexic learners and their parents. Maslow (as cited in Cohen et al., 2019) identified that students' safety needs must be met before progressing on to meet more advanced needs including the needs for belonging, self-confidence and motivation towards learning. This was echoed by one parent, *"Because I'm sure when the emotional part is taken care of, he will enjoy the academics"*. Similar thoughts were also expressed by parents of non-dyslexic learners too, who viewed the emotional needs of children as paramount to attaining good academic performance.

In accordance with literature, the current findings indicated that a safe learning environment encompassed not only physical safety, but also includes emotional and psychological safety (Osher et al., 2019; Wanless, 2016). Dyslexic learners desired for an school environment that is free from physical violence and harm. And even when misbehaviours occurred, dyslexic learners saw teachers having a critical role in instilling discipline. These expectations were reflected in both parents' and dyslexic learners' decision-making process when selecting a secondary school. Both groups deemed it important to choose schools based on their discipline approaches.

Discipline as defined by these dyslexic learners were not equated to punishment and control. They rejected the use of punitive discipline approaches like detention. Instead, they envisioned discipline to be one that balances firmness with kindness, where students are offered opportunities for correction despite repeated misbehaviour, where educators

provided understanding of the principles behind expected behaviours and used preventative measures like putting up posters to communicate expectations. This embodies what Dearborn and Sturgeon (2019, ph.57) emphasised, *'This is the place where empathy and structure meet...It is simultaneously firm and flexible, and it is the mainstay of an effective, balanced teacher'*. These proposed approaches are also consistent with principles of positive discipline that promotes emotional safety (Durrant, 2010; Nelsen & Gfroerer, 2017). Positive discipline has garnered attention in educational practice for its non-violent approach to challenging behaviours. Rather than punishing learners for academic and behavioural mistakes, positive discipline encourages educators to model the concepts and behaviours and praise learners' successes. A quantitative study by Wang and Kuo (2019) revealed that positive strategies of 'setting clearly defined and consistent expectations' and 'respecting the view and decision of the group' had the strongest association with the happiness and satisfaction among students with learning disabilities. Consequently, when learners felt happy and satisfied, Wang and Kuo (2019) found them to be more willing to engage in learning. Positive discipline was also found to increase the sense of belonging among students and create mutual respect between teacher and students (Barboza, 2019; Bej, 2016; Childs et al., 2015; Sherwood, 2017).

In their construct of an ideal school, most parents of dyslexic learners also envisioned children feeling psychologically safe and confident to take risks in their social contexts - to make new friends, take up new leadership roles in school, and participating actively in lessons, without the fear of making mistakes. As defined by Edmondson and Lei (2014), a psychologically safe environment is one where individuals feel able to show one's self and take risks without fear of negative consequences to self-image or status. And to facilitate dyslexic learners from contributing their ideas, parents and educators noted that reasonable adjustments need to be provided where possible. In line with recommendations by Reid (2019), there is a need to match curriculum and pedagogy to meet the skills for students and offer suitable appropriate access arrangements. Informal learning experiences such as hands-on activities, going out on school trips were examples named by dyslexic learners and their parents. These interactive learning methods offer non-threatening situations that promote learning and have been promoted by Copley (2004) and Kangas (2010) to have positive effects on students' motivation and their attitudes towards school.

10.2.2. Builds Confidence and Self-esteem

Looking beyond their academic difficulties, parents of dyslexic learners and educators saw value in building protective factors to boost children's confidence and global self-esteem. These included seeking opportunities for students to establish new areas of

interest and develop their strengths in Sports and Arts through their CCAs. Hornor (2017) recommended that resilience is promoted when individuals' strengths and interests are identified. Participation in academic, athletic, art, or other activities that children are passionate about and excel in can give them a sense of accomplishment and confidence. In a study by Firth, Greaves and Frydenberg (2010) from Australia, they identified that sports abilities among dyslexic adolescents played an important role in compensating for the difficulties they experienced in academic work.

While dyslexic parents and educators focused on building learners' strengths in achievements and talents in tangible areas like sports and arts, positive research extends that character strengths can likewise offer comparable benefits (Peterson & Seligman, 2004). Early longitudinal studies found that character traits like proactivity and perseverance can promote resilience among adults with reading disabilities (Haft, Myers & Hoeft, 2016; Raskind et al., 1999; Werner, 1993). In Chathurika and colleagues' study (2018), main signature strengths self-reported by 89 dyslexic learners surveyed were curiosity, fairness, kindness, judgement, honesty, leadership and humour (Chathurika et al., 2018; Seligman et al., 2009). Correspondingly, the authors highlighted that dyslexic individuals have thrived and expressed their strengths in creative careers associated with these strengths, such as architecture, engineering, construction, art and design, etc. And as echoed by one parent of a non-dyslexic child, sports can be used as a means to develop these character strengths, rather than seeing the child's sports achievement as an end in itself.

10.2.3. Physical Well-being

For dyslexic learners, providing the space and curriculum time to play games and relax with their schoolmates was key to an ideal school. From a developmental perspective, play allows children and adolescents to develop motor skills, experiment with their social behavioural repertoire, simulate alternative scenarios, and address the various positive and negative consequences of their behaviour in a safe and engaging context (Bailey et al., 2019; Nijhof et al., 2018). From a social perspective, Di Palma and colleagues (2019) noted that play served as a critical motor of inclusion participation and social aggregation, especially for individuals with specific learning disabilities who face difficulties in school and university (Bailey, 2005; Peluso Cassese, Di Palma & Tafuri, 2017). Sports activity regardless of students' achievement and competency can develop their autonomy and interpersonal skills. As poignantly related by a dyslexic individual in Senatore and colleagues' (2019) study, *"for the first time I was not treated as a "different person", but as an ordinary person who was in that environment to practice a sport"* (pg.668).

10.3. Research Question 2 – What are the group similarities and differences in identified needs, between dyslexic and non-dyslexic groups?

This research question serves to identify the unique and universal needs between dyslexic and non-dyslexic groups. Comparing the components of the ideal school as described by dyslexic and non-dyslexic learners and their responses on the School considerations questionnaire, the study found preliminary findings which suggest that dyslexic learners have greater concerns about meeting more fundamental physiological and safety needs, compared to non-dyslexic learners and their parents who made reference to higher level self-fulfilment needs.

Non-dyslexic learners deemed it imperative to gain competency and mastery in their interest and/or hobby, seeking mutually respectful relationships with peer and teachers, and engaging in more interactive learning. Non-dyslexic learners detailed how the physical learning environment can be structured to foster their higher-level needs. Parents of non-dyslexic learners also sought to build values and life-skills beyond the academics like diligence and humility. This was similarly reflected in participants' responses on the school considerations questionnaire. When choosing schools, non-dyslexic learners ranked the following factors from the most important to lesser importance - teachers are caring and responsive (Belongingness and Love needs), child's preference (Autonomy) and good general facilities (Aesthetic Needs). In comparison, the top three considerations for dyslexic learners were – PSLE scores, each school's approach to discipline (Safety needs) and that teachers are caring and responsive to needs (Belongingness and Love needs). The need observed among non-dyslexic learner to exert their individual preference and autonomy has been associated to meeting actualisation needs (Waterman, 2014). Self-actualizing individuals, according to Maslow (1954), are hypothesized to operate autonomously of external expectations due to their undistorted perceptions of their own realistic abilities (Bordages, 1989).

Drawing upon dyslexic learners' accounts of their actual school experiences can offer plausible reasons for the differences in needs emphasised. Dyslexic learners' more pronounced desire for a safe and secure environment could have been influenced by their negative prior experiences in social interactions. Of the six dyslexic learners interviewed, three students reported being bullied or teased at by others. For the remaining three students who did not self-report negative peer interactions, parents noted that their social exchanges were often limited and effortful. Two students struggled with making and maintaining friendships and another was not confident in social situations. These concerns about not fitting in with peer groups were similarly reported by primary school-aged dyslexic

learners in previous studies by O' Brien (2019) and Estell (2008). These evidences highlight a sense of vulnerability and lost stability experienced by dyslexic learners, which could have resulted in the reported heightened awareness among dyslexic learners towards schools' discipline policies and approaches when choosing schools. Sam admitted that not knowing about how secondary schools dealt with bullying made him worry about transitioning into a new environment and suggested that schools could reveal more about their discipline approaches – *“if there was a bullying case, how might they handle it?”*.

To note, while themes of safety needs were more frequently cited among dyslexic learners, the study found that non-dyslexic learners could similarly face such difficulties. Of the seven interviewed non-dyslexic learners, two students faced struggles with fitting in in primary school. The need to nurture safe relationships among students and teachers within the classroom, built on respect, trust and care were highlighted by both dyslexic and non-dyslexic learners. Both groups valued the importance of having teachers who could support them when they faced personal problems. To help promote safe schools, Williams and colleagues' (2018) study found that it is not only about reducing bullying in school. Among 585 high school students surveyed, after accounting for demographics and bullying victimization, student-perceived teacher-student relations, consistent rules, a clean school that is also crowded/noisy, and a sense of school belonging were found to predict increased students' perception of school safety. In Williams' (2018) study, frequency of bullying experiences was not significantly associated with school avoidance because of feeling unsafe. Instead, school avoidance was associated with decreased school belongingness and poorer teacher-student relationships. These findings underscore the importance of having positive teacher-student relationships in promoting safety and meeting the needs of dyslexic learners as reflected in the present study's findings.

10.4. Research Question 3 – Based on the accounts of dyslexic and non-dyslexic learners and their parents, what are the needs-supplies discrepancies common between the dyslexic and non-dyslexic groups?

This research question highlights possible avenues for universal provisions to benefit all learners. Gaps noted by both dyslexic and non-dyslexic groups include the need for teachers to provide emotional support for all learners more consistently at a whole-school level, the need for society to address the cultural stresses in seeking after academic excellence and the need for systems to offer parents more support.

10.4.1. Needs-Supplies Discrepancy: Perceived teacher support to be inconsistent and inept to provide safety and emotional support

Students – both dyslexic and non-dyslexic, regardless of SEN, appreciated to have teachers whom they could share their friendship and/or academic problems with. From an attachment perspective, teachers may play the role of a secure base and safe haven, even though the attachment is more on an ad-hoc basis given that students change teachers every school year (Ainsworth, 1989; Zajac & Kobak, 2006). The containment that teachers offer could possibly explain results which show the highly predictive power teachers' interpersonal relations with students has on students' emotions (Mainhard, et al., 2018), and its positive impact on students' motivation, academic and behavioral outcomes (Merritt et al., 2012; Ruzek et al., 2016). However, in the current study both dyslexic and non-dyslexic learners noted that teacher support is far and few between. Rather than a whole-school culture where teachers are empathic and kind, learners and parents perceived teacher support to be an individual endeavour. Learners were 'lucky' to have found a teacher who cared. Some dyslexic learners interviewed also shared their doubts in their teachers' abilities to resolve their peer conflicts.

While this is not confirmed in the present study's findings, Verschueren and Koomen (2012) posited that the role of the teacher as an attachment figure is expected to be of greater importance for vulnerable learners. The authors reasoned that attachment systems are activated more easily among vulnerable children, and their capacity for self-regulation is relatively limited. Thus, this makes adult-caregiving support, such as teachers' support, crucial for their growth. Even though it is acknowledged that compared to parents, the range of teachers' caregiving behaviours is more restricted and their primary role is instructional, the benefits of developing positive teacher-student relationship is still evident (Kesner, 2000). Given the inconsistency in teacher support within-school and across-school as highlighted in the present study, increasing teachers' capacity to provide emotional support can be a valuable input to teacher training.

10.4.2. Needs-Supplies Discrepancy: Pressure to conform to cultural expectation of academic excellence at the expense of esteem and learning needs

Interviewed parents and educators related that the academic-driven culture within the local system is stressful for learners and their parents, with or without dyslexia. Individuals with better academic performance are rewarded with better future prospects. PSLE grades for example, chiefly determined secondary school choices and streaming options. For dyslexic learners, this pressure is compounded by social stigma towards lower-ability groups

who are perceived to be more misbehaved and less motivated to study (Abdullah, 2019). And, if students fail to enter their choice school, fail the PSLE, or are unexpectedly placed in lower-ability streams, this could trigger feelings of inadequacy and grief in transition as posited by Howe & Richards (2011).

These socio-cultural factors highlight that more systemic efforts are required to help parents and society at large to expand our definition of what achievement entails and how it can be measured. This cultural shift benefits not only dyslexic learners but non-dyslexic learners too. Parents of non-dyslexic learners shared a desire to shift away from the academic-focused curriculum towards a value-based education system. Atencio and colleagues (2015) promotes that the Singapore government give more opportunities for outdoor education. The authors argue that outdoor education offers an alternative learning context, whilst still remaining relevant and enjoyable. For example, learning in and about the natural environment as well as understanding sustainability issues through outdoor activities can occur in conjunction with key curricular frameworks (Higgins, 2009). And whilst exploring nature, it can concurrently target learners' social, emotional and moral development. Interviewed parents recognised recent government attempts to reduce cultural emphasis on academic achievement, by introducing subject based banding and removing streaming labels. There have also been recent efforts to review the Character and Citizenship Education curriculum to help learners develop an appreciation of the multiracialism and diversity within our community. While there have been progresses, interviewed parents noted that more needs to be done at the parent-level to change parents' perceptions, and at school-level to be more consistent in how success is defined and encouraged.

10.4.3. Needs-Supplies Discrepancy: Overlooking the needs of parents

Across both groups, parents shared their struggles with parenting, some more transient than others. The study highlighted that to adequately support learners better, it is critical to consider the needs of the team around the child. And parents play a crucial in guiding learners through their growing up years – regardless of SEN groups.

Common parenting needs raised by parents of dyslexic and non-dyslexic groups included helping their child navigate peer relationships and gaining independence. Parents also sought clarity regarding programme information. For parents of non-dyslexic learners, they raised the need to organize the current information regarding the various specialist programmes and education pathways. For parents of dyslexic learner, they requested greater clarity in understanding the criterion for foundational studies, and the educational prospects of the various pathways.

10.5. Research Question 4 – What are the needs-supplies discrepancies unique to the dyslexic group, identified by dyslexic learners and their parents?

This research question examines the gaps in targeted support for dyslexic learners only. It is important to highlight while the needs identified in this section are unique to the dyslexic group, the current study's findings also found individual variations in needs and actual experiences across dyslexic learners. The variations in needs present within the study's sample concurred with existing literature that have reported individual differences among dyslexic individuals (Juneja, 2018; Reid & Guise, 2017), and would thus advocate an individual needs-based approach to tailor dyslexic support

10.5.1. Need-supplies discrepancy: Academic difficulties due to curriculum and access arrangements barriers

At an individual level, all dyslexic learners encountered academic difficulties. They scored poorer academically than the non-dyslexic learners interviewed in the present study. While objective academic performance data were not obtained, most of the dyslexic learners (four out of the six dyslexic learners) interviewed entered the lower-ability academic streams in secondary school – N(A) and N(T), whereas most non-dyslexic group (six out of seven non-dyslexic learners) entered the higher-ability Express stream.

And while all dyslexic learners struggled academically, they varied in degree and areas of needs. While some students faced challenges with reading, and spelling, which are primary characteristics of dyslexia, other dyslexic learners noted greater difficulties with higher-order language skills like understanding inferences, comprehension and writing expressions.

Dyslexic learners, parents and educators highlighted that dyslexia impacts academic performance beyond the English language. Most frequently cited by parents and educators, is the impact on dyslexic learners' performance in Maths and Science. For the groups of dyslexic learners, parents and educators raised that assessment barriers such as lengthy exam questions, and requirement for written answer, resulted in learners being unable to accurately demonstrate their knowledge and attainment. The finding recommends that the current primary education curriculum and access arrangements practices be reviewed to enable multiple means of expression. As noted by Reid and colleagues (2008), providing alternative arrangements for tests requiring fluent reading skills, such as student/teacher discussion, practical tasks, and interpretation of diagrams or illustrations of subject content might raise the attainment of all students. The writing difficulties of many dyslexic students

can also be resolved by the introduction of ICT, which is not commonly offered in Singapore mainstream primary schools as a flexible alternative.

10.5.2. Need-supplies discrepancy: Inconsistent and inadequate tailored curriculum offered to dyslexic learners, due to variations in teachers' knowledge of SEN

Parents of dyslexic learners and educators noted that given their academic struggles, dyslexic children were also observed to have low self-esteem and confidence in their academic abilities. Parents observed feelings of frustrations among learners, and educators noticed negative self-perceptions among some dyslexic learners which can be perpetuated by the views of closed ones around them. This was similarly reported by previous qualitative studies conducted with Singaporean dyslexic learners and their parents (Daud, 2019; Zheng, 2018).

Parents of dyslexic learners suggested that these observed esteem needs can be addressed using a tailored curriculum to match their child's abilities. However, in reality, this has been met with inconsistent teacher support within and across school. The variability in provision not only impacts dyslexic learners' individual development, it also introduces social inequity in provision. Based on the current RTI model practiced in the Singapore education system, teachers have a role in identifying learners who might have additional needs. Yet, experiences shared among parents and educators indicated that not all teachers may be competent to do so. In the present study, two dyslexic learners were only identified at the upper primary level despite facing persistent difficulties with their academics. Even after disclosing the diagnosis, parents of these dyslexic learners also shared of their role in having to convince and educate their child's teachers about dyslexia, even though they may not feel adequate to take on this role. The responsibility of identification and referral was left on parents to shoulder, whose accessibility to information and resources for further assessment could be limited by their educational background and socio-economic status (Becker et al., 2017). As such, participated parents and educators advocated for more teacher training to be provided, to improve teachers' knowledge about SEN and its accompanying emotional impact on learners, how teachers can identify and support dyslexic learners within the school. These gaps have been raised consistently by previous studies (Poon et al., 2014; Yeo et al., 2011; Walker & Musti-Rao, 2016).

The present study offers preliminary evidence that the learning needs of dyslexic and non-dyslexic learners may differ. As such, teachers may struggle to balance the needs of the two groups. On one hand, non-dyslexic learners seek a stimulating learning environment.

Yet, dyslexic learners require materials and tasks to be paced slower and tailored. The universal design for learning (UDL) curriculum approach has been proposed to provide the essential infrastructure for implementing inclusion. UDL is built on three broad foundational principles (see Table 34; Hall, Strangman & Meyer, 2003).

Table 34

Principles of Universal Design for Learning

Principles of Universal Design for Learning	
1. Multiple Means of Representation	
<ul style="list-style-type: none"> • Aims to offer different mediums to present information, creative expression, and engagement • Learners to be granted the flexibility of digital technology 	
2. Multiple Means of Action and Expression	
<ul style="list-style-type: none"> • Considers how to enable learners to express what they want and how teachers evaluate them • Learners to be granted different forms of written and verbal responses, with visual art, iMovie, etc. 	
3. Multiple Means of Engagement	
<ul style="list-style-type: none"> • Reinforces the need for teachers to differentiate instructions (Tomlinson, 2001) • Recommends for teachers to adjust the difficulty levels of materials used in the classroom, providing varying level of scaffolding to gain and maintain learner attention during the instructional episode, giving rewards and offering choices of learning tools (Razak et al., 2018) 	

While UDL offers promising inclusive pedagogy delivery, it currently has low fidelity in its implementation within the Singapore context. In Razak's study (2018), only principles of multiple means of engagement was incorporated in the programme delivery among a small group of dyslexic learners. The intervention did not offer flexible methods of presentation or media format to present lesson content, which could have been hindered by teachers' unreadiness to incorporate multi-media forms during lessons (Murbak, 2017).

10.5.3. Need- supplies Discrepancy: Vulnerability to negative social interactions and may require social skills support

Dyslexic learners were reported to present difficulties in managing their social interactions. Parents of dyslexic learners acknowledged that their child's disposition -being timid and/or socially anxious, and their poor social skills could have contributed to their social difficulties. Cardillo and colleagues (2017) found supporting evidence that dyslexic children do perform weaker in linguistic pragmatic and theory of mind tasks than their peers with nonverbal learning disabilities and peers with no known diagnosis. Thus, suggesting that dyslexic children may have trouble with understanding beyond the literal meaning of words. They can struggle with the use of metaphors and will need practice with inference and learning to interpret other people's points of view, beliefs and thoughts. While parents have surfaced these needs, parents did not mention school support that have targeted their social skills needs. This highlights a possible gap in support provision that is exposed by a lack of communication between home-school and within-school, or the lack of awareness among teachers.

10.5.4. Needs-supplies Discrepancy: Lack of Joint Home-School Collaboration which results in parent-dependent advocacy, and introduces social inequity

Studies have identified supportive communication between teachers and parents as a key avenue to implement inclusion successfully (Frederickson et al., 2004). However, only three parents of dyslexic learners mentioned collaborating with teachers. Findings from educators, parents of dyslexic learners, and non-dyslexic learners, revealed that the communication between parents and schools are limited and ad-hoc. Interviewed parents of dyslexic learners did not want to 'bother' teachers and took a 'wait-and-see' approach before they would approach teachers for support. The possible reluctance to seek help could reflect an underlying cultural stigma and reliance towards seeking professional help among Asian cultures and could be the reason that the theme of developing a relationship with the school did not surface as prominently (Mojaverian, Hashimoto & Kim, 2012). The gap in home-school collaboration was similarly found in Chan's (2016) study who interviewed Singaporean parents with SEN children in mainstream pre-schools. In the present study, only when prompted by the researcher did one parent comment that it would be good for schools to reach out to her during the primary-secondary transition. To ensure continuity of support and to foster stronger relationships, it would be ideal to have more frequent two-way communication channels.

As noted in the present findings, due to the poor communication between home-school and the lack of prompt school support, parents of dyslexic learners often took up the critical role in interacting with schools and ensuring that their child receives the support required. As noted by an educator involved in the current study, given schools' concerns around inappropriate disclosure, parents were expected to be the middleperson in communicating information among different stakeholders. However, not all parents are equipped with the resources and/or the consideration to collaborate among professionals. To reduce class difference in learners' academic performance and promote educational equity, it takes more than involving family education. Instead, as highlighted by Li and Qi (2018), tackling social inequalities within education requires a concerted effort from schools to identify and provide interventions for needed dyslexic learners and at the national level to upgrade the quality of teachers and achieve a balanced allocation of educational resources for all.

Parents of dyslexic learners interviewed in the current study also exemplified the multiple roles parents of SEN learners have to bear. Aside from collaborating with professionals, parents also had to play the supporting role to their children. Dyslexic learners in the current study shared that they mainly preferred and depended on their closest people for support and shared their problems with their parents. All participants, dyslexic and non-dyslexic learners, relied on parents to guide them through the school selection process. Parents likewise had the financial responsibility to provide external support for their children. Given these many roles and responsibilities, some parents felt overwhelmed. This is compounded by the additional charge to have to deal with their personal feelings and reservations about the dyslexia diagnosis. Some felt lost and could not identify their child's difficulties, some did not know to whom they could turn. And while the Singapore ministry of education offers post-diagnosis education guidance support and counselling to parents of SEN learners who had recently received a diagnosis, many of the parents were not aware of the service or had access to it.

10.6. Research Question 5 – From the educators' perspectives, what are the challenges faced by dyslexic learners?

The perspectives of educators broadened the study's findings about the various factors that impact the primary school experience of dyslexic learners, and also confirmed findings identified by dyslexic learners and their parents. The educators highlighted several themes similar to those of dyslexic learners and their parents. At the individual level educators also noted that dyslexic learners faced persistent academic difficulties, lower self-esteem in the academic domain and greater vulnerability in peer interactions. And while

educators acknowledged that learners would have to continually develop skills to overcome their literacy difficulties, educators were positive that dyslexic learners' academic performance would improve when they enter secondary school. Educators saw a greater need to address dyslexic learners' difficulties in managing the social demands at secondary school. These challenges include adapting to routine changes and managing secondary school teachers' higher expectations of independent learning skills.

All educators interviewed recognised an eco-systemic perspective to understand the challenges of dyslexic learners. At the microsystemic level, educators recognised the significant role they had in alleviating the challenges dyslexic learners faced at school. While some educators wanted to improve support, they noted that many mainstream teachers remained lacking in SEN knowledge. The lack of accurate knowledge can result in misunderstandings and hinder their collaboration with learners and parents. The gap in teacher knowledge is despite positive government efforts in increasing pre-service and in-service training on SEN learning.

At a nation-level, systemic dyslexia intervention support is largely concentrated at the primary-level and poorly continued at the secondary level. Educators highlight that while dyslexic learners do build coping strategies when they are older, this does not mean that they do not require ongoing support. Rather, their needs could have changed with development and require support in other domains, or that their needs are just simply masked. In Nalavany and colleagues' (2011) study, dyslexic young adults were found to continually need support to manage their emotions and achieve independence. Even among dyslexic adults, the negative emotional experiences with dyslexia remain to impact self-esteem (Carawan, Nalavany & Jenkins, 2016).

Also, with parents, the educators interviewed noted the importance of engaging parents. As raised by some educators, parents may be blindsided by the task at hand to choose the 'best' secondary school or stream that they can sometimes overlook other important considerations like their child's interest or taking subjects that contain less literacy demands. Educators thus can play the role of a critical friend to explore these considerations with learners and their parents. Educators can also work to manage parents' fear and expectations as their child transition into secondary school.

At an exosystemic and macrosystemic level, educators shared more in-depth analysis of curriculum barriers and the importance of matching access arrangements to the individual needs of dyslexic learners, rather than a 'one-size fits all' approach. Educators

concurred with parents of dyslexic learners and perceived the primary-level assessment criterion in English and maths as rigid that impede dyslexic learners from demonstrating their understanding and written abilities flexibly. Like parents, educators lamented the social inequity in provisions that sorely benefit only those who are financially more well-off.

10.7. Strengths

The strengths of the study are outlined in Table 35.

Table 35

Strengths of the Present Study

Strengths of the Present Study	
1. Adopts both the Humanistic and Bioecological Approach	
<ul style="list-style-type: none"> • Enabled the examination of individual needs, while taking into account social circumstances, which increases understanding. • The use of PPCT model addresses the criticism that Maslow's hierarchy of needs is too simplistic and does not consider social circumstances, changes across development and cultural differences (Cianci & Gambrel, 2003; Tay & Diener, 2011) • The use of Maslow's needs hierarchy addresses the shortfall in Bronfenbrenner's explanation of the role of individual's motivations in explaining human behaviour (Christensen, 2016). 	
2. Adopts a multi-perspective approach	
<ul style="list-style-type: none"> • Different groups of participants brought different insights to inclusion and complexity in factors that need to be addressed. • Dyslexic learners provided in-depth understanding of individual and microsystemic processes. • Parents were able to offer insight about temporal growth, offer understanding of the dyslexia identification and diagnostic process and eluded to wider exosystemic factors. • Educators set the context around policies, curriculum practices and culture. 	
3. Demonstrated that Students can provide rich and valuable data	
<ul style="list-style-type: none"> • Researcher adopted a mixture of tools and techniques to engage learners and can be used in future studies with dyslexic individuals or other with expression difficulties 	

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- The use of the “ideal” concept elicited students’ actual perceived worries, and shed light on what and how practices can be changed to improve support (Connelly, 2018; Green, 2014; Ravenette, 2000; Smith & Parr., 2007).
 - The use of scaling techniques and questionnaire served as question prompts. Helpful for participants (1 dyslexic, 1 non-dyslexic learner) who offered short responses without much elaboration.
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10.8. Limitations

The limitations of the current study are listed in Table 36.

Table 36

Limitations of the Present Study

Limitations	
A. Limited Generalizability	
1. Sampling Method	
<ul style="list-style-type: none"> • Small sample size - The study recruited 31 participants – only 7 dyslexic pupils and 6 non-dyslexic pupils • Representativeness of sample population limited by inherent variations in each learners’ profile • Thus, the study did not seek to generalise the findings, as do many qualitative research (Seale et al., 2004). Instead, exploration is its main aim to view reality through these participants’ lens within the Singapore context (Marshall, 1996; Ponterotto, 2006). 	
2. Context-dependent nature of Dyslexia	
<ul style="list-style-type: none"> • Limited ability to conduct cross-cultural comparison due to differences across countries in: <ul style="list-style-type: none"> → Understanding of what dyslexia is; → Recognition to dyslexia as a learning disability; → How dyslexia is diagnosed; → Education systems; → Inclusion ideologies • Even so, principles of best practices evidenced in the study (e.g. ‘building a safe haven, strengthening teacher-student relationships) is relevant and can be applied cross-culturally (Wentzel, 2016), 	

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- Findings are still relevant within the Singapore context, helpful for Educational psychologists and schools

B. Methodology

3. Difficulties with recruitment

- Difficulties with recruiting a larger number of research participants given the limited resources and timeline amidst the COVID-19 pandemic
- Most of the organisations, schools and parents approached by the researcher declined to participate
- Difficulties recruiting educators from the mainstream primary schools. Gathering perspectives from this missing group of teachers can offer greater clarity on transition support and show how children develop across time in different contexts
- Overall limited number of educators working in mainstream schools
Each school has its unique challenges. More participants would ensure that findings are not over-generalized and best practices can be deduced and learnt.

4. Demographic Differences across Groups

- Most participants were of the Chinese ethnicity.
 - Family circumstances were homogenised in Non-dyslexic group, but Families in the non-dyslexic group were more varied in family structure – one participant from a single-family, and one participant for a foster family
 - Family factors such as ethnic minority status, family structure have been found to influence families' access to resources and wider family support (Nieuwenhuis & Maldonado, 2018; Tackey, Barnes, & Khambhaita, 2011).
 - Family's social economic status can be a barrier to dyslexic students' provision (noticed by parent participants)
 - Unintentional biases was addressed during interview by using indirect questions to reframe perspectives when needed
 - E.g. 'What advice would you give another parent with a dyslexic child?', 'What would another parent do in a particular situation?' (Jerke et al., 2019)
 - This helped participants to project their own feelings onto others and provide more representative answers.
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5. Retrospective Nature

- Introduced biasedness due to participants' varying ability to recall experiences
- Dyslexic learners could face greater difficulties in understanding temporal language and time concepts (Pembrey, Doran & Dutt, 2017).
- To aid recall, the use of visual aids like the timeline was used, alongside being specific about the time frames 'How was it before Primary 6 PSLE?' 'or in Primary 1?'
- To ensure validity, information was triangulated with parents' recounts and quantitative findings, which have been found to show consistent findings in this present study.
- Future studies to consider examining the experiences of the pupils over a period of time.
 - E.g. Investigating pre- and post-transition, which may provide further understanding of temporal factors related to inclusion

C. Promoting Students' Voice

6. More can be done to increase students' co-participation in research

- Recruitment was conducted through parents.
 - Thus, learners may not have had full control over participation.
 - This was acknowledged during the study and I ensured that all students were aware of the study's aims and methodology and were agreeable to proceed.
- Design of study was still adult-led.

Future studies can also look to embark on more youth-directed research, where students initiate and plan research (Hart, 1992).
- Lack of respondent validation of themes generated.
 - Themes in the current study were validated by peer and supervisors who were proficient with thematic analysis
 - However, respondent validation can reduce error (Mays & Pope, 1995).

7. More considerations to be taken in dissemination of findings

- This is to ensure that the voices of these participants are truly able to influence policy and practice, and not taken at a tokenistic level.
 - The present study's key findings and recommendations will be shared with all participants and the DAS through a leaflet, and at a sharing session among other Trainee Education Psychologists.
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10.9. Future Research

An area I was made aware through the study was around how learners perceived their dyslexia. Anecdotally, among the learners that I had interviewed, they each had differing definitions of dyslexia. A participant share how he initially thought it meant he was “crazy” and later associated dyslexia with his ADHD symptoms. Other related it to poor grades, others were unsure what dyslexia was. Ethically, practitioners have the onus explain diagnoses given and have the views and feelings of clients heard in the diagnostic process (HCPC, 2016; Unicef, 2011). Diagnostic labels when explained, often serve a role in structuring the individuals’ reality – it clarifies and sometimes explains their experience (Jutel, 2011). Thus, it would helpful to understand how dyslexic learners understand their diagnosis and how they and their families have been helped through the process.

Future study could extend on current study’s findings by following up on dyslexic learners into post-secondary provisions. This would provide greater understanding of the developmental challenges encountered by dyslexic learners.

Given the importance of strengthening teacher-student relationships, studies could explore teachers’ current practices and the barriers they encounter in building rapport with dyslexic and non-dyslexic learners. A review of effective interventions that have supported dyslexic learners with social relationships can also be conducted to provide a better understanding of good supportive practices.

11. Conclusion

11.1. Implications for EP practice

As noted by previous local study by Poon and colleagues (2016), there is a misperception among school staff that specialist training is essential to support SEN pupils. Teachers are often reported to feel inadequate about their competency towards supporting SEN students (Chong, 2007; McGhie-Richmond et al., 2013; Poon et al., 2014). However, as noted in the current findings, the underlying needs of dyslexic learners can be universal and required by all students. Both dyslexic and non-dyslexic learners sought to have teachers who cared and listened to them about their personal issues. Emotional difficulties do not affect dyslexic learners solely, but were also noticed among non-dyslexic learners who faced bullying and struggles with fitting in. EPs could thus have a key role to emphasise the emotional needs and well-being of all learners, and the importance of strengthening teacher-student relationships at a school-wide level (Dutt, Lim & Thaver, 2019). EPs could contribute by developing the attunement skills of teachers through professional training and development (Pryce, 2012). Other skills that can be developed during teacher training including active listening skills and teaching strategies to elicit youth ideas. Teacher attunement has been found to promote higher prosocial behaviour and early identification of students' needs (Marucci et al., 2018).

Another aspect reflected in this study evolves around the lack of parental engagement and support, and the reliance on parent advocacy to provide for dyslexic learners. There was a common narrative among parents of dyslexic and non-dyslexic learners that parents adopt a "wait and see" approach to support and do not want to bother teachers unless challenges arise. Yet research shows better outcomes for students when a proactive and responsive approach is adopted in school to manage challenging behaviours and when early interventions are implemented for children with SEN (Philpott et al., 2019). Positive transitions across primary to secondary school, supported by seamless coordination between schools, and with families, have been noted by Cantali (2019) to result in better learning outcomes among SEN learners in secondary school. Universal and SEN-specific parent training have been found to impact parents' self-efficacy, their approach to managing parents-child conflicts and improving children's behavioural and emotional outcome (Hohlfeld et al., 2018; Hosseini et al., 2017). As such, EP can play a role in promoting preventative and proactive support. In the delivery of interventions, EPs could work alongside school staff or family services to co-facilitate parenting workshops to help parents better understand the developmental needs of their children better and think ahead of the type of support their child might require. As highlighted by the study's findings, there is also a gap in

understanding the various programmes and pathways, and managing expectations across transition that can be delivered in school settings by a school staff mentored or co-facilitated with an EP.

At a wider systemic level, inclusion of dyslexic individuals in mainstream schools would require social stigma towards lower-ability streams and the overemphasis on academic performance to be addressed. As noted by educators, inclusion is impeded by how education is structured and streamlined in Singapore. While streaming enables teaching to be catered to learners' abilities, it is often deterministic and sets the students' path for the next educational phase. This is further compounded by the early age at which students are streamed. The Singapore government acknowledges that the lack of mobility between streams is a problem that segregates the community, and that social inequity can be ingrained and perpetuated in this educational model. While no immediate steps can be offered to dyslexic learners who are victims of the meritocratic society, teachers and parents can help learners find strengths and interests that they can develop in to fulfil their potentials. Post-secondary and tertiary programmes can also likewise offer a wider range of programmes catered to these learners interests and abilities. Society as a whole likewise needs to be open-minded to see successes beyond the academic performance.

11.2. Conclusion

The present study contributes to the literature by deepening the understanding of the provisions desired by dyslexic learners and the discrepancies between needs and supplies offered in the actual primary mainstream setting. Gathering the views of parents and educators have enabled the study to develop a holistic perspective. The key findings of the study highlight the different areas of needs between dyslexic and non-dyslexic learners. Dyslexic learners revealed greater concerns with physiological and safety needs, which were likely due to negative prior experiences with bullying and the more effortful process of making new friendships. Comparatively, non-dyslexic learners identified with fulfilling higher level of needs in building mastery and competence beyond academia and developing more in-depth knowledge of the world around them. These non-dyslexic learners are also concerned with aesthetic needs of the learning environment around them.

There was a consensus among dyslexic learners, their parents and educators that for dyslexic learners to thrive, they required a safe and supportive environment. The safe environment offers dyslexic learners the space to foster close relationships with teachers and friends, which was their primary concern; and to support their self-esteem and confidence as learners, a chief concern for parents. To achieve this ideal school, all

participants recognised that it would require a concerted effort from the systems around the child. Adults around the child need to be sensitive to the varied individual needs of each dyslexic individual. Parents ought to collaborate with schools to share the learners' strengths and weaknesses. Teachers to show care and have adequate knowledge, so as to provide a tailored curriculum best-fit to each learners' abilities. Principals and the education system to envision a well-rounded education that rewards beyond the academic attainments. Finally, for society to reduce its stigma towards individuals who may not excel academically.

While the study highlighted the needs of dyslexic learners, findings also found that some non-dyslexic learners may also face deficiency needs at school and would require support. And through gaining the views of all learners, there was a high degree of consistency in the importance of building positive relationships with peers and teachers.

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Appendix 1 – Dyslexia Debate

1.1 Brief history of Dyslexia Controversies

This chapter offers a brief history of the controversies that surround dyslexia and reviews the arguments that surround the current dyslexia debate.

1.1.1 Dyslexia another term for ‘mental defect’

According to Kirby and Snowling (2016), the term ‘dyslexia’ has historically been loaded with misunderstandings and political baggage. In its early conception, ‘dyslexia’ was confused with ‘mental defects’ (Kavale & Mostert, 2004). This was during a time when the eugenics movement was rising (Davis, 2017). The term ‘mental defect’ denoted a negative social rhetoric of these individuals who cannot contribute to the betterment of the human race and were worthless. Hence, in the early accounts, founding researchers, Pringle Morgan and Hinshelwood were careful to associate dyslexia with high intelligence to avoid the misrepresentation and the social and self-stigma people would attach towards the ‘dyslexia’ label.

1.1.2 Dyslexia a ‘middle-class’ myth

Another notion that has been associated with dyslexia even to-date, is the ‘middle-class’ myth. Dyslexia was misconstrued as a pseudo-medical diagnosis used by middle-class parents as an excuse to their children’s poor reading performance (Kirby, 2018a). This social narrative was perpetuated at a time when literacy became increasingly important due to its close association with economic success (O’Brien, 2018). In the late 19th century, British industries were transitioning from manufacturing to professional service sectors and needed more skilled workforce. Schooling was also mandated until the age of fifteen, and the ‘eleven-plus’ examination was rolled out across England and Wales (Kirby, 2019). These political reforms inadvertently led to the pathologizing of individuals who had difficulty attaining expected proficient literacy (Armstrong & Squires, 2015). Society perceived them as unsuccessful or different, which in previous times of illiteracy, such difficulties would not have been problematic. Kirby (2019) recounted that governments were inattentive to the interest of this vulnerable group and without advocacy efforts by individuals and families, the needs of the dyslexic community might have otherwise been forgotten.

The social make-up of the dyslexic community opened up dyslexia to accusations of being socially produced by the middle-class. Dyslexia was diagnosed in greater proportions in higher socio-economic groups, who can afford the fees for private diagnosis and intervention (Kirby, 2018b). Advocacy efforts to raise awareness and support for children

with dyslexia were likewise largely funded by private or voluntary organizations, absent of state recognition and central funding (Kirby, 2019; Warnock, 1978).

In addition, the use of the IQ-discrepancy criterion to diagnose dyslexia made it difficult to debunk this myth. Based on this previously used criterion, dyslexic individuals had to have significantly discrepant and lowered achievement scores in reading or spelling compared to that expected for their age and intellectual ability (Lopes et al., 2020). This criterion implicitly implied that dyslexic children had to have average or above average IQ scores to meet the criterion. It fed the notion that dyslexia was an emotional 'crutch', used by wealthier and worried parents to 'support' themselves and their child's general intelligence is left unaffected. (Kirby, 2018b).

1.2 Current Dyslexia Debate

Presently, the discussion around dyslexia has shifted. In light of the recent scientific evidence, it has been generally agreed that firstly, reading difficulties are present not only among those with intellectual disabilities, but across the spectrum of cognitive abilities (Rose, 2009). Secondly, persistent reading difficulties do exist and is not a myth (Elliott & Nicholson, 2016). While the prevalence rates vary widely across studies, it is usually estimated that three to seven percent of the population persist with reading difficulties despite receiving high-quality, evidence-based provision (Fraga González, Karipidis & Tihms, 2018). Yet, what remains unclear and is at the core of the recent dyslexia debate is the usefulness of the 'dyslexia' label.

1.2.1 Dyslexia lacks scientific value

This controversy was sparked by Elliott and Grigorenko (2014). They argued that the dyslexia label lacks scientific validity and concluded that the label should be abandoned entirely since it does not hold any usefulness in practice.

First, Elliot (2016) claimed that the characteristics and aetiology of dyslexia is ill-defined. Literature evidence offers support to Elliot's stance, which even critics of Elliot's cause have found it difficult to refute (Elliott & Nicholson, 2016). A literature review of developmental dyslexia evidenced that dyslexia has multiple definitions, with each definition outlining a different concept (Rice & Brooks, 2004). This is dependent on which aetiological theory the researcher deemed true (Kuersten, Mota & Segart, 2019). Theorists of the phonological deficit theory (Stanovich, 1988) and the double-deficit hypothesis (Wolf & Bowers, 1999) would argue that phonological difficulties characterise dyslexia. Proponents

of the magnocellular deficit hypothesis would emphasise the visual perceptual and attention difficulties present among dyslexics (Stein, 2014). Rather than a single-deficit model, contemporary researchers have claimed the use of a multiple-deficits approach as more encompassing and best able to describe dyslexia (Ramus & Ahissar, 2012; Jong & Bergen, 2017). However, the probabilistic nature of the multiple-deficits model inherently invites the same unhelpful uncertainty of defining dyslexia.

Second, Elliot and Grigorenko (2014) stated that the 'dyslexia' label fails to differentiate dyslexics from other poor readers, whose poor reading abilities are associated with other factors such as poor schooling experience or low cognitive abilities (Hammill & Allen, 2020). There is a lack of evidence indicating that dyslexics have characteristically different cognitive and neural basis compared to other poor readers (Tanaka et al., 2011). While Nicholson objected stating that several studies do provide evidence that dyslexics demonstrate a delay in executive functioning and proceduralisation processes, these studies have only compared dyslexics and good readers and not with other poor readers (Elliott & Nicholson, 2016).

The current dyslexia diagnostic criterion has also been found to poorly differentiate dyslexics from other poor readers based on performance outcomes. The previously used IQ-achievement discrepancy criterion was proven inadequate and eventually fallen from use (Harrison, 2017) (see Table 1).

Table 37

Problems with the IQ-achievement Discrepancy Model

Arguments for refuting the IQ-achievement discrepancy model

- Rose report (2009) showed that reading difficulties occurred across a range of intellectual abilities (Fletcher, Lyon, Fuchs & Barnes, 2007). Invalidated the assumption that IQ was reflective of reading abilities and it would be unexpected to find individuals with high cognitive abilities and poor reading skills.
- Measures of IQ did not inform intervention.
IQ scores did not predict how learners responded to literacy intervention or long-term outcome (Siegel & Hurford, 2019).
- The IQ-discrepancy criterion delayed the identification of children with reading needs. Typically, discrepancies are not evident until the child has reached the third or fourth grade (Adolf & Hogan, 2018; Fletcher et al., 1998).
- Statistically biased.
Children with high IQs were more likely to qualify as dyslexic than children with low IQs due to statistical methods used to determine discrepancy criterion (i.e. Regression to the mean) (Francis et al., 2005)
- Diagnostic biased.
The criterion has led to overidentification of minority students

Adapted from Jacobs, Flanagan & Alfonso, 2017

In replacement of the traditional IQ-discrepancy criterion, most local education agencies in the US have shifted towards the 'Response to Intervention' (RTI) model to make learning disability determination (Björn et al., 2018; USDOE, 2011). The RTI approach advocates a school-wide multitiered system of support. Fundamentally, quality instruction is provided for all students (Tier 1), with regular monitoring of students' progress. For students who remain non-responsive to intervention, they will receive more intensive, small-group instruction (Tier 2) in addition to Tier 1. If interventions are still inadequate, students will receive Tier 3 support that includes further assessment and possible diagnosis. While the RTI approach sought to delineate poor readers due to an inadequate early instruction, it has likewise received criticisms particularly around the inconsistent and unclear implementation of the approach, making the diagnostic process falsifiable (Reynolds & Shaywitz, 2009; see Table 2).

Table 38*Strengths and weaknesses of RTI model as a Stand-Alone Method of Dyslexia Identification*

Weaknesses of RTI	Strengths of RTI
Lack of agreement on what curricula, instructional methods, or measurement tools should be used for each tiered support	Allows schools flexibility and to intervene early to meet the needs of struggling learners
Different methods of interpreting response led to different children being labelled as responders/non-responders	Data collected from tiered intervention better informs instruction than data generated by traditional ability-achievement discrepancy method
Weaknesses of RTI	Strengths of RTI
No consensus on how to ensure treatment integrity	Helps ensure that the student's poor academic performance is not due to poor instruction
Lack of clear definition of what constitutes as 'dyslexia'	Holds educator accountable for providing effective instruction and documenting repeated assessments of student's progress during instruction

Source: Learning Disabilities Association of America, white paper (Hale et al., 2010)

Third, Elliott and Grigorenko (2014) stated that dyslexics benefit from the same evidence-based interventions as would all kinds of poor readers. Thus, making the dyslexia label redundant. At present, phonics-based teaching programmes that are intensive, systematic and explicit have been well-evidenced to be the most effective interventions for all individuals with reading disabilities, not specific for dyslexics (Ramus, 2014; Rowe, 2005; Westwood, 2017).

While Ramus (2014) acknowledged the strength of phonics interventions, he contended that Elliott's argument that phonics is a 'one-size-fits-all' intervention for all poor

readers might be too premature to claim. Phonics-based intervention strategies have been found to have its limitations among older children (Frankel, Pearson, & Nair, 2010; NICHD, 2000). As reading demands increase, other language aspects such as vocabulary, fluency and comprehension are also required (McCardle & Chhabra, 2004). It is plausible that specific subtypes of dyslexia might also require different intervention strategies (Ramus, 2014). Preliminary evidence suggests that dyslexia characterized by reduced visual attention span would benefit from an intervention targeting their visual attention span (Bosse et al., 2007; Valdois et al., 2014). Ramus (2014) concluded that to agree or refute Elliot's third claim, more research is needed to understand specific subtypes of dyslexia and their best-matched intervention.

Lastly, based on the above three arguments, Elliot takes a strong position, asserting that there 'is no justifiable rationale for providing additional resourcing for dyslexic individuals at the expense of other poor readers who operate at a similar level' and would benefit from the same interventions (Elliot & Nicholson, 2016, pg. 115). Elliot argues that dyslexic individuals receive biased advantage to the accessibility of intervention services, accommodations and legal protection since diagnostic criterion is often used as eligibility criterion to administer such resourcing (Solvang, 2007; Thompson, Wehmeyer, Shogren & Seo, 2017). Concluding, Elliott proposed to remove this institutional barrier for the wider poor reader population by replacing the 'dyslexia' diagnostic category with 'reading disabilities' that would benefit all poor readers.

1.2.2 The social construction of Dyslexia

The social construction perspective of dyslexia often lies in tension with Elliott's pursuit of establishing a scientific valid construct to define reading difficulties. While critiques acknowledged that the 'dyslexia' label poorly distinguishes dyslexics from other poor readers and that resources ought to be equitably distributed, they believe that it is fallacious to state that dyslexia is not useful. Elliot's social reality as an academic and practitioner has influenced him to prioritize the pursuit of establishing a rigorous, scientific diagnostic procedure (Elliott & Nicholson, 2016) but diagnoses are not solely a scientific and clinical endeavour. Social influences play a bigger role in dynamically modifying the boundaries of what is constituted as normal and problematic (Aronowitz, 2001; Jutel, 2011).

Malchow (2014, para. 4), the then President-Elect of the International Dyslexia Association noted, *"The word 'dyslexia' serves many purposes. It is written into the laws of our nation and many states to afford remediation, accommodations, and other services to*

help people with dyslexia succeed. It is a word woven into decades of research and ground-breaking approaches that alleviate the conditions”.

Studies have evidenced positive impacts of labelling for dyslexic individuals. Diagnosis has enabled individuals to better understand their difficulties and has offered an authoritative and acceptable explanation for their difficulties (Alexander-Passe, 2015). It also brings feelings of relief and validation that their difficulties were not their fault (Singer, 2005). Individuals who have accepted their dyslexia label were found to have positive self-appraisals and increased self-esteem and were more willing to receive help from others (Alexander-Passe, 2015; Armstrong & Humphrey, 2009; Higgins et al., 2002; Gibby-Leversuch, Hartwell & Wright, 2019). Battistutta and colleagues (2018) reasoned that when dyslexic individuals were diagnosed earlier, this gave them more time to accept and understand their diagnosis which resulted in the higher self-perceptions in terms of academic and general abilities reported.

Studies show preliminary evidence suggesting that the use of a more generic label, as proposed by Elliott (2006), are less favourable among individuals with reading difficulties than when a ‘dyslexia’ label is given. Macdonald (2013) and Taylor and colleagues (2010) noted that children categorised with having general SEN or general reading difficulties had lower self-esteem and generally perceived themselves as academic failures when at school, than children with a ‘dyslexia’ label. Although the ‘dyslexia’ label also invited stigmatization, dyslexics preferred having the label than not having one (Riddick, 2000). It is posited that a general label offers the individual very little explanation for their academic difficulties and impacts the accessibility to targeted interventions.

1.3 Navigating the Dyslexia Debate

It is apparent that the issues brought to light by the dyslexia debate is difficult to resolve. Dyslexia and disability are personal and socially sensitive subjects. The language used with which to refer to them, and to the individuals concerned, inevitably reveal the user’s attitudes and beliefs. Given the current labelling debate, and the limited research on dyslexic learners’ voice available, future research looking specifically at the advantages and disadvantage of the label from the perspectives of learners would add weight and value to the debate (Gibby-Leversuch, Hartwell & Wright, 2019).

Appendix 2 – Bronfenbrenner's Bioecological Model

2.1 Historical development of Bronfenbrenner's bioecological theory

During early stages of his theory development, Bronfenbrenner was heavily involved in social policy work relevant to children, adolescents and their families. Through his work, Bronfenbrenner (1973; 1975; 1977a) illustrated the importance of investigating the impact of social class and race on human development. He evidenced the negative impact of social changes in family configurations on the psychological development of children, adolescents, and their parents during the 1960s and 1970s in the United States.

Despite his compelling findings, Bronfenbrenner (1973) noted that the research approaches and theories available were inadequate to holistically conceptualise these observed phenomena in the real-world. The consideration of one's context (e.g. environmental context, values, interpersonal interactions) was often overlooked by lab-based and field researchers, who gave greater attention to the person (Rosa & Tudge, 2013). As such, this gap compelled Bronfenbrenner to develop an ecologically valid model.

Since the conception of Urie Bronfenbrenner's theory of human development in the 1970s until his death in 2005, his theory has evolved and developed considerably (Bronfenbrenner and Morris, 2006; for a more detailed review see Rosa & Tudge, 2013). In its earliest conception, initial emphasis was on the role of context in development, detailing the nested and interrelated levels within an individual's environment – microsystem, mesosystem, macrosystem, and exosystem (Asiabi & O'Neal, 2015). However, this original formulation was self-critiqued by Bronfenbrenner himself, for placing little explicit attention to the role of the individual. Hence, in later versions, Bronfenbrenner renamed his model, changing from '*ecological*' to '*bioecological*' model of human development to better reflect biological influences and the active role of the person in shaping his/her development (Hayes, O'Toole & Halpenny, 2017).

In the final iteration of the bioecological model, Bronfenbrenner added two more defining modifications to the bioecological model. First, the concept of proximal processes became central to the model (Bronfenbrenner, 2001; Bronfenbrenner & Morris, 2006). Proximal processes are defined as the everyday activities and interactions in which developing individuals engage in with their immediate environment (persons, objects, symbols) to make sense of the world (Hayes, O'Toole & Halpenny, 2017). Bronfenbrenner sees these interactions as the primary driving force behind human development (Waugh & Guhn, 2014).

Second, the Process-Person-Context-Time (PPCT) model was introduced. This fulfilled Bronfenbrenner's original intent for the theory to be practically relevant for policy designs and implementation (Waugh & Guhn, 2014).

2.2 Bronfenbrenner's Process-Person-Context-Time (PPCT) Model

The PPCT model consists of four major components – proximal process, person characteristics, context and time, that simultaneously influence developmental outcomes (Bronfenbrenner, 1999; Rosa & Tudge, 2013).

2.2.1 Process

Outlining the unique properties of proximal processes, Bronfenbrenner states that these are interactions that (a) the individual need to be personally engaged in; (b) are enduring, occur on a regular basis, last for extended periods of time, and become increasingly complex and (c) involve not only relationships among people but can also include relations between people and the objects and symbols (Ashiabi & O'Neal, 2015; Bronfenbrenner, 1999). Though Bronfenbrenner reiterated that proximal processes can involve objects and symbols, he did not expound of what these interactions might entail (Bronfenbrenner & Morris, 2006; Rosa & Tudge, 2013). Bronfenbrenner regarded proximal processes as almost always positive – either promoting competence in more stable and advantageous environment or acting as a protective factor to buffer stresses in unstable or disadvantageous settings (Bronfenbrenner & Morris, 2006; Tudge, Merçon-Vargas, Liang & Payir, 2017).

2.2.2 Person

Bronfenbrenner described three types of person characteristics that can be examined – 1. Disposition, 2. Resources, 3. Demand (Bronfenbrenner & Morris, 2006).

Dispositions. Dispositions refer to the innate tendencies or propensities, which are solely internal to the person (Hayes, O'Toole & Halpenny, 2017). Dispositions can be either positive (generative) or negative (disruptive) (Bronfenbrenner, 1995). Generative dispositions involve curiosity, tendency to initiate and engage in activity and readiness to delay gratification to pursue long-term goals. Disruptive dispositions, on the other hand, display impulsiveness, distractibility, or a general tendency to withdraw from activity (Bronfenbrenner and Morris, 1998). Dispositions are not solely impacted by biological inheritance but also reflect the interaction between individual attributes with the contexts in which developments occur. An individual's dispositions influence the way one experiences

and acts in the world. This impacts the way the world responds, and in turn affects the individual's development of future dispositions.

Resources. Resources refer to an individual's bioecological resources – the ability and skill sets, knowledge, and experience necessary for effective functioning of proximal processes at a given stage of development (Waugh & Guhn, 2014). These resources, such as language, are sensitive to cultural values and beliefs (Hayes, O'Toole & Halpenny, 2017).

Demand. Demand characteristics relate to the qualities of the person that can invite or discourage reactions from the social environment (Rosa & Tudge, 2013). These demand characteristics, like appearance, age, ethnicity, contribute to others' impression formation and can be subjected prejudicial beliefs and thence influence proximal interactions.

2.2.3 Context

Bronfenbrenner outlined four different contexts that can impact each individual's development – the microsystem, mesosystem, exosystem and macrosystem (Bronfenbrenner & Morris, 1998).

Microsystem. *Microsystems* (e.g. family, peer groups, school) are environments that are closest to the individual and play the earliest and most immediate influence on a child. It is only at this contextual level wherein proximal processes occur.

Mesosystem. Individuals develop in more than one microsystem. The *mesosystem* identifies the reciprocal influences between microsystems such as family-school connections. Home-school partnerships are often endorsed as best practice and are evidenced to support the positive development of individuals (Cheung, 2019; Xia, Fosco & Feinberg, 2016; Ministry of Education, 2019; Ofsted, 2011). These interactions do not have to directly include the child (e.g. parents and teachers, mother and father) (Bailey & Im-Bolter, 2018).

Exosystem. *Exosystems* are social contexts where the individual does not have direct involvement in, but have knock-on effects on their development (Hayes et al., 2017). These include parent's workplace or school policies that influence the wellbeing and support of the adults in a child's life. The work demands and stresses experienced by these significant adults can impact their physical and emotional availability (Krishnan, 2010; Tudge et al., 2017). Exosystems also entail more distal systems like social policy or legislation that impact the accessibility and availability of SEN resources.

Macrosystem. The *macrosystem* includes cultural and subcultural values and norms (e.g., belief systems, ideologies, practices) (Tudge et al., 2017).

2.2.4 Time

The final component of the PPCT model, time, is built on Bronfenbrenner's earlier concept of chronosystem (Bronfenbrenner, 1998). Bronfenbrenner identified three ways in which time could impact on proximal processes in children's development - microtime, mesotime, and macrotime. **Microtime** refers to the continuity or discontinuity during the course of a particular interaction or activity; **Mesotime** refers to the extent to which activities and interactions occur over days and weeks; and **Macrotime** focuses on the historical context for a child's development (across the life course, successive generation, historical time) and the timing of certain events in a child's life (Hayes, O'Toole & Halpenny, 2017).

Appendix 3 – Ontology and Epistemology

3.1 Research Paradigm

A research paradigm consists of the following components: ontology, epistemology, methodology and methods (Braun & Clarke, 2013). It forms the theoretical framework that determines the kind of evidence that needs to be gathered, and how the research is to be designed, conducted, analysed and interpreted to meet its intended outcomes (Mertens, 2014). Levers' (2013), Moon and Blackman (2014) and Shannon-Baker's (2016) papers have comprehensively described several common paradigms adopted in social research – i.e. post-positivism, interpretivism, pragmatism and critical realism.

3.2 Ontology

Ontology is the study of being – what constitutes reality (Crotty, 1998; Levers, 2013). Traditionally, there are two polarised perspectives – Realism and Relativism (Moon & Blackman, 2014).

Realism states that only one single reality exists. It believes that a real world exists independent of human's awareness (Bryman, 2004). Relativist ontology, on the other end, holds that multiple 'true' realities exist – there are as many different realities as there are people (Denzin & Lincoln, 2005). Reality *is* the human experience.

3.3 Epistemology

Epistemology is the study of knowledge – its nature and how it can be acquired (Levers, 2013). Moon and Blackman (2004) suggest that the various epistemological stance can be broadly categorise under objectivism, constructionism and subjectivism.

Objectivism, as defined by Crotty (1998), is the belief that meaning resides within an object and is independent of human subjectivity. Research is about discovering an objective truth that can be universally applicable (Levers, 2013). The methodology that ensues includes the use of impartial observation or experiments that is free from the researcher's own feelings and values. The value of objectivist research lies in the applicability of the results to other contexts and reliability (Moon & Blackman, 2014). It enables researchers to make predictions and control underlying causes of event or behaviours.

Constructionism assumes that knowledge is constructed through everyday interactions between people through the medium of language (Burr, 2003). The focus of enquiry is placed on studying the social practices that people engage in, bearing in mind

their cultural, historical, and social perspectives (Crotty, 1998). The value of constructionist research is in building contextual understandings of a defined conservation topic or problem to generate suitable intervention strategies (Denzin & Lincoln, 2005).

Subjectivism maintains that meaning is internally constructed, imposed by people's minds (Gray, 2017). From this epistemological standpoint, research seeks to develop knowledge of how an individual's experience shapes their perspective of the world. Rather than focusing on the social phenomenon, subjectivists are more likely to explore the individual's emotions, values, worldviews and trust. Such research can be relevant to increase sensitization to ethical and moral issues, and personal and political emancipation (Levers, 2013).

Appendix 4 – Interview Schedules

4.1 Learners' Interview Schedule

Thinking about primary school

1. On a scale of 1 to 10, how much do you like your primary school?
(Why have you put yourself there? Why have you not put yourself lower? How could you put yourself higher?) {what has your time in primary school been like?}
2. Can you think of some words that you would use to describe the primary school
(building, relationships, activities, feelings)?
3. On a scale of 1 to 10, how happy did you feel about going up to secondary school?
(Why have you put yourself there? Why have you not put yourself lower? How could you put yourself higher?)

Drawing my Ideal school

- 4a. Now I would like you to think about your ideal secondary school

GUIDELINES FOR USE

1. Equipment needed: a black pen and two sheets of plain A4 paper.
2. Allow about an hour to complete to activity, perhaps with a short break if necessary.
3. Explain to the pupil that you are going to be doing the writing today, acting as scribe, this is to take the pressure off the pupil and keep the process moving.
4. The pupil is asked to make quick drawings or sketches (rather than detailed drawings), reassure the pupil that it doesn't matter if an error is made.
5. It is important to record exactly what the pupil says using their own words.
6. If the pupil is overly anxious about drawing either model stick people drawings first or just record the pupil's verbal responses.
7. Allow time for the pupil to process the requests – repeat/reward/simplify the questions if not understood,
8. Provide reassurance that there is no right or wrong answers or responses.
9. Provide encouragement and praise for the pupil's involvement with the activity.
10. Be sensitive about sharing the drawings with others, ask the child's permission and ensure that other adults understand that the child has trusted you in revealing such views which must be respected.
11. Talk to other colleagues about planning any follow up work which might be indicated.

Part 1: Drawing the kind of school you would NOT like to go to.

1. The School

Think about the kind of school you would not like to go to. This is not a real school.

Make a quick drawing of this school in the middle of this paper.

Tell me three things about this school. What kind of school is this?

2. The Classroom

Think about the sort of classroom you would not like to be in. Make a quick drawing of this classroom in the school. Draw some of the things in this classroom.

3. The Children

Think about some of the children at the school you would not like to go to. Make a quick drawing of some of these children. What are the children doing? Tell me three things about these children.

4. The Adults

Think about some of the adults at the school you would not like to go to. Make a quick drawing of some of the adults. What are the adults doing? Tell me three things about these adults.

5. Me

Think about the kind of school you would not like to go to. Make a quick drawing of what you would be doing at this school. Tell me three things about the way you feel at this school.

Part 2: Drawing the kind of school you would like to go to.

1. The School

Think about the kind of school you would like to go to. This is not a real school. Make a quick drawing of this school in the middle of the middle of this paper. Tell me three things about this school. What kind of school is this?

2. The Classroom

Think about the sort of classroom you would like to be in. Make a quick drawing of this classroom in this school. Draw some of the things in this classroom.

3. The Children

Think about some of the children at the school you would like to go to. Make a quick drawing of some of these children. What are the children doing? Tell me three things about these children

4. The Adults

Think about some of the adults at the school you would like to go to. Make a quick drawing of some of these adults. What are the adults doing? Tell me three things about these adults.

5. Me

Think about the kind of school you would like to go to. Make a quick drawing of what you would be doing at this school. Tell me three things about the way you feel at this school.

4.2 Parents' Interview Schedules

Pre-transition

1. How has your child's time in primary school been?
2. Can you think of some words that you would use to describe the primary school (building, relationships, activities, feelings)?
3. How do you feel about your child going to secondary school?
How do you think your child felt about going to secondary school?
4. Can you think of some words that you would use to describe your ideal secondary school for your child?
5. How did you feel about the school selection process?
6. What factors did you consider when selecting a secondary school?
7. How did you gather information about secondary school selection?
(Informal, Formal sources)
8. Which of these information sources were helpful?
9. Which of these information sources were most influential?
10. What could be done to improve the experience of school selection for you?

Post-transition

1. How has secondary school been for your child?
2. If you could advice parents who will be going through the school selection process, what would you tell them?

4.3 Educators' Interview Schedules

1. Can you describe your role in the school selection process? (e.g. Conduct open house, speak with parents, conduct talks, involved in School visits)
2. Have you and your school done anything specifically for young people with dyslexia in their decision process?
3. In your opinion, what are the supports available for parents with dyslexic children in the school selection process?
4. In your opinion, what are the barriers dyslexic children might face in the school selection process?
5. Can you describe how transition support looks like for dyslexic children (School support, external services, etc.)
6. What is going well?
7. What is going not so well?
8. What more could they have done?
9. Overall, is there anything that you feel could have been done differently children in the school selection process?

Appendix 5 – Questionnaires

5.1 Questionnaire for learners



I would like to know more about you and how you chose your secondary school.

THANK YOU!

Your background



1. Name: _____
2. Birth date: _____

Preferred Secondary School placement

3. When did you start thinking seriously about which secondary school you would go to?
 - ☐ Before Primary 4
 - ☐ Primary 4
 - ☐ Primary 5
 - ☐ Primary 6
 - ☐ Not sure

Factors influencing School choice

4. How important are these factors for you when choosing your secondary school?
Please tick ✓

		Important	Neither Important or Unimportant	Unimportant	
Geographic factors					
A* Distance from home to school					
B* Safety to travel to and from school					
C* Convenience to travel home					

<i>Academic Factors</i>					
D* My PSLE score/ School cut-off score					
E* Secondary School's GCSE O-level results					
F* School offers specialism in Academic subjects (E.g. Literature, Maths)					
G* School offers specialism in sports and arts.					
H* CCAs offered					
<i>Reputation and Recommendations</i>					
I* Sec School was recommended by seniors attending the school					
J* Recommended by other parents					
K* People in the community say it's a good school					
<i>Physical Features</i>					
L* Good general facilities (buildings,etc.)					
M* Good facilities for sports					
N* Available quiet corner spaces					

O* Size of school (Big or Small)					
P* Class size (Child-to-adult ratio)					
Staff Factors					
Q* Teachers are caring and listen to my needs.					
R* My teachers and parents talk to each other.					
S* Teachers learn a lot about the subject they are teaching.					
School Ethos / Socio-demographics					
T* School's approach to discipline					
U* Single-sex / Mixed school					
V* Wide variety of ethnicity					
W* Wide variety of children from different income families					
X* School emphasizes on getting good grades					
Y* School offers a variety of activities					
Z* School offers therapy/ other professionals ' input					

AA* School groups students according to their ability					
BB* Gives regular homework					
Child / Family Factors					
CC* What I like					
DD* What my parents like					
EE* My friends would also be attending the school					
FF* My Family members have attended this school					
GG* My siblings attend this school					
HH* Religious affiliation					

5. List your top 5 most important factor when choosing a Secondary school.
You may list any from this questionnaire or others that you feel are important

- ☐ Most important factor (1st): _____
- ☐ 2nd most important: _____
- ☐ 3rd most important: _____
- ☐ 4th most important: _____
- ☐ 5th most important: _____

Information gathering




6. Which of these did you use to find out more about the schools? (Tick ✓ all that apply)

- ☐ MOE – Choosing Secondary School booklet
- ☐ MOE School Finder website
- ☐ School website
- ☐ School visits
- ☐ Parent Teacher groups (Primary school)
- ☐ Secondary Schools' previous O-level scores
- ☐ Views of other parents / Friends
- ☐ Staff at primary school
- ☐ Health Professional advice
- ☐ Others _____

7. How many school visits did you attend, and brochures did you collect?

Number of schools visited: _____ schools




8. How useful were each source in helping you choose the school? Tick ✓ the column that best represents.

	I did not use it	1 Little or no use 	2 Of some use 	3 Most useful 
Formal Source				
MOE -Choosing your secondary school booklet				
MOE School Finder website				
School website				
School visits				
Parent Teacher groups (Primary sch)				
Secondary Schools' previous O-level scores				
Informal Source				
Other parents				
My friends				
Primary school teacher				

Others:				
---------	--	--	--	--

9. How much influence did each source have in helping you choose the school?



	I did not use this N/A	1 No influence 	2 Some influence 	3 Large influence 
Formal Source				
MOE -Choosing your secondary school booklet				
MOE School Finder website				
School website				
School visits				
Parent Teacher groups (Primary sch)				
Secondary Schools' previous O-level scores				
Informal Source				
Other parents				
My Friends				
Staff at primary school				
Others:				

10. During a school visit, which of these aspects do you look out for?
(Tick ✓ all that apply)

Teaching and Learning

- ☐ Curriculum / Subjects offered / Timetable
- ☐ Availability of CCA
- ☐ Subjects / Sports that the school is good for
- ☐ Pupil achievement / Results / League table
- ☐ Principal
- ☐ Other school staff (including friendliness, approachable, interaction with pupils)
- ☐ Teaching style / class sizes
- ☐ Presentation during open day
- ☐ School ethos – Emphasis on getting good grades / non-academic activities
- ☐ Discipline and behavioral policy
- ☐ Others: _____

School characteristics

- ☐ Facilities (e.g. equipment, field, music room)
- ☐ Canteen
- ☐ Appearance of school buildings
- ☐ General atmosphere / impressions
- ☐ Size of school
- ☐ Classroom environment / work displays
- ☐ Special needs provision (including languages, food)
- ☐ School administration
- ☐ Other aspect of the community around the school (e.g. crime)
- ☐ Safety within the school
- ☐ Others: _____

Pupil characteristics

- ☐ How pupils in the school behave / look (including records on bullying / attendance)
- ☐ Other pupil characteristics (e.g. ethnicity, class, diversity)

Parent's characteristics

- ☐ **My parent's like / dislike for the school**

11. Was there any other information that you would have liked?

- ☐ Other language translation
- ☐ Visual impairment materials (Braille, Large print, talking mat)
- ☐ Others: _____
- ☐ No other information needed

12. Overall, how satisfied were you that you had all the information you needed to help you decide which schools to apply to. Were you...

- ☐ Very satisfied
- ☐ Fairly satisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Slightly dissatisfied
- ☐ Very dissatisfied

13. How much did you and your parents agree about the final choice of your secondary school? (Please tick one ✓)

- ☐ Strong agreement
- ☐ Agreement
- ☐ Disagreement
- ☐ Strong disagreement
- ☐ My child did not have a choice
- ☐ I did not have a choice

Anxiety Scale

14. Please put a circle around the word that shows how often each of these things happens to you. There are no right or wrong answers.

1	I worry about things	Never	Sometimes	Often	Always
2	I feel sad or empty	Never	Sometimes	Often	Always
3	When I have a problem, I get a funny feeling in my stomach	Never	Sometimes	Often	Always
4	I worry when I think I have done poorly at something	Never	Sometimes	Often	Always
5	I would feel afraid of being on my own at home	Never	Sometimes	Often	Always
6	Nothing is much fun anymore	Never	Sometimes	Often	Always
7	I feel scared when I have to take a test	Never	Sometimes	Often	Always
8	I feel worried when I think someone is angry with me	Never	Sometimes	Often	Always
9	I worry about being away from my parent	Never	Sometimes	Often	Always
10	I am bothered by bad or silly thoughts or pictures in my mind	Never	Sometimes	Often	Always
11	I have trouble sleeping	Never	Sometimes	Often	Always
12	I worry that I will do badly at my school work	Never	Sometimes	Often	Always
13	I worry that something awful will happen to someone in my family	Never	Sometimes	Often	Always
14	I suddenly feel as if I can't breathe when there is no reason for this	Never	Sometimes	Often	Always
15	I have problems with my appetite	Never	Sometimes	Often	Always
16	I have to keep checking that I have done things right (like the switch is off, or the door is locked)	Never	Sometimes	Often	Always
17	I feel scared if I have to sleep on my own	Never	Sometimes	Often	Always
18	I have trouble going to school in the mornings because I feel nervous or afraid	Never	Sometimes	Often	Always
19	I have no energy for things	Never	Sometimes	Often	Always
20	I worry I might look foolish	Never	Sometimes	Often	Always

21	I am tired a lot	Never	Sometimes	Often	Always
22	I worry that bad things will happen to me	Never	Sometimes	Often	Always
23	I can't seem to get bad or silly thoughts out of my head	Never	Sometimes	Often	Always
24	When I have a problem, my heart beats really fast	Never	Sometimes	Often	Always
25	I cannot think clearly	Never	Sometimes	Often	Always

26	I suddenly start to tremble or shake when there is no reason for this	Never	Sometimes	Often	Always
27	I worry that something bad will happen to me	Never	Sometimes	Often	Always
28	When I have a problem, I feel shaky	Never	Sometimes	Often	Always
29	I feel worthless	Never	Sometimes	Often	Always
30	I worry about making mistakes	Never	Sometimes	Often	Always

31	I have to think of special thoughts (like numbers or words) to stop bad things from happening	Never	Sometimes	Often	Always
32	I worry what other people think of me	Never	Sometimes	Often	Always
33	I am afraid of being in crowded places (like shopping centers, the movies, buses, busy playgrounds)	Never	Sometimes	Often	Always
34	All of a sudden I feel really scared for no reason at all	Never	Sometimes	Often	Always
35	I worry about what is going to happen	Never	Sometimes	Often	Always

36	I suddenly become dizzy or faint when there is no reason for this	Never	Sometimes	Often	Always
37	I think about death	Never	Sometimes	Often	Always
38	I feel afraid if I have to talk in front of my class	Never	Sometimes	Often	Always
39	My heart suddenly starts to beat too quickly for no reason	Never	Sometimes	Often	Always
40	I feel like I don't want to move	Never	Sometimes	Often	Always

41	I worry that I will suddenly get a scared feeling when there is nothing to be afraid of	Never	Sometimes	Often	Always
42	I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order)	Never	Sometimes	Often	Always
43	I feel afraid that I will make a fool of myself in front of people	Never	Sometimes	Often	Always
44	I have to do some things in just the right way to stop bad things from happening	Never	Sometimes	Often	Always
45	I worry when I go to bed at night	Never	Sometimes	Often	Always
46	I would feel scared if I had to stay away from home overnight	Never	Sometimes	Often	Always
47	I feel restless	Never	Sometimes	Often	Always

5.2 Questionnaires for Parents

Child's background

1. **Child's Name:** _____
2. **Child's Gender:**
 - ☐ Male
 - ☐ Female
3. **Child's Birth date:** _____
4. **Child's ethnic group:**
 - ☐ Chinese
 - ☐ Malay
 - ☐ Indian
 - ☐ Others: _____
5. **Does your child have a formal diagnosis of Autism Spectrum Condition?**
 - ☐ Yes
 - ☐ No
6. **Does your child have any additional needs? If yes, please state.**

7. **What is your relationship to the child?**
 - ☐ Mother
 - ☐ Father
 - ☐ Legal guardian (Male/ Female)
8. **Mother's highest educational attainment**
 - ☐ No qualifications
 - ☐ PSLE
 - ☐ O Levels
 - ☐ A levels
 - ☐ Diploma Holder
 - ☐ University Degree Holder
 - ☐ Postgraduate Degree Holder
 - ☐ Professional/vocational equivalents
 - ☐ Others: _____
9. **Father's highest educational attainment**
 - ☐ No qualifications
 - ☐ PSLE
 - ☐ O Levels
 - ☐ A levels
 - ☐ Diploma Holder
 - ☐ University Degree Holder
 - ☐ Postgraduate Degree Holder
 - ☐ Professional/vocational equivalents
 - ☐ Others: _____

10. Is your child under the Financial Assistance scheme?

☐ Yes

☐ No

11. Does your child have other siblings? (Do not count your child)

Older siblings: _____

Younger siblings: _____

Child's current primary school placement

12. Is your child currently attending a mainstream or specialist primary school?

☐ Mainstream Primary School

☐ Specialist Primary School

Secondary School placement

13. Is your child starting secondary school in September 2019?

☐ Yes

☐ No

14. Please indicate how important various factors were in choosing your child's secondary school.

	Very Important	Important	Neither Important or Unimportant	Unimportant	Very unimportant
Geographic factors					
II* Distance from home to school					
JJ* Safety to travel to and from school					
KK* Convenient route for my child to travel home					
Academic Factors					
LL* My Child's PSLE score/ School cut-off score					
MM* Secondary School's GCSE O-level results					

NN* <i>If Sec School offers specialism in Academic subjects (E.g. Literature, Maths)</i>					
OO* <i>School offers specialism in sports and arts.</i>					
PP* <i>CCAs offered</i>					
Reputation and Recommendations					
QQ* <i>If Sec school is recommended by students already attending the school</i>					
RR* <i>Recommended by other parents</i>					
SS* <i>School's reputation in the community</i>					
Physical Features					
TT* <i>Good general facilities (building, etc.)</i>					
UU* <i>Good facilities for sports</i>					
VV* <i>Available quiet corner spaces</i>					
WW* <i>Size of school</i>					

(Big or Small)					
XX* Class size (Child-to-adult ratio)					
Staff Factors					
YY* Teachers are caring and respond to children's individual needs.					
ZZ* Teachers communicate well with families.					
AAA*Teacher's training in Special Needs					
School Ethos / Socio-demographics					
BBB*School's approach to discipline					
CCC* Single-sex / Mixed school					
DDD* School social composition (Ethnicity)					
EEE* School social composition (Standard of living)					
FFF* School has an academic excellence ethos					
GGG* School offers a variety of activities					
HHH* School caters to					

students with SEN					
III* School offers therapy/ other professional s' input / Pastoral support					
JJJ* School groups students according to their ability					
KKK* Gives regular homework					
Child / Family Factors					
LLL* My child's preference					
MMM* You / Family members have attended this school					
NNN* Siblings attend this school					
OOO* Religious affiliation					
PPP* My child's friends want to attend the school					

**15. List your top 5 most important factor when choosing a Secondary school.
You may list any from this questionnaire or others that you feel are important.**

- ☐ Most important factor (1st): _____
- ☐ 2nd most important: _____
- ☐ 3rd most important: _____
- ☐ 4th most important: _____
- ☐ 5th most important: _____

Information gathering

16. How long did you spend finding out about schools before applying?

_____ years _____ months

17. Which of these sources did you use to find out information about the schools?

(Select all that apply)

- ☐ MOE – Choosing Secondary School booklet
- ☐ MOE School Finder website
- ☐ School website
- ☐ Secondary School visits / Open Days
- ☐ Parent Teacher groups (Primary school)
- ☐ Secondary Schools' previous O-level scores
- ☐ Views of other parents / Friends
- ☐ Staff at primary school
- ☐ Health Professional advice
- ☐ Others _____




18. How many school visits did you attend?

Number of schools visited: _____ schools

19. Did you visit any schools more than one time?




- ☐ Yes
- ☐ No

20. Rate each source of information according to how useful it was in helping you choose the school?

		1	2	3
	I did not use it	Little or no use 	Of some use 	Most useful 
Formal Source				
MOE -Choosing your secondary school booklet				
MOE School Finder website				
School website				
School visits / Open days				

Parent Teacher groups (Primary sch)				
Secondary Schools' previous O-level scores				
Informal Source				
Views of other parents / Friends				
Staff at primary school				
Professional advice (please state professional): _____				
Others:				

21. Rate each source of information according to how much influence it had in your final school selection.

	I did not use this N/A	1 No influence 	2 Some influence 	3 Large influence 
Formal Source				
MOE -Choosing your secondary school booklet				
MOE School Finder website				
School website				
School visits				
Parent Teacher groups (Primary sch)				

Secondary Schools' previous O-level scores				
Informal Source				
Views of other parents / Friends				
Staff at primary school				
Professional advice (please state professional): _____				
Others:				

22. Did you talk to the following individuals about school selection? (Tick ✓ if yes)

- ☐ Teaching staff at primary school
- ☐ Other parents, friends or neighbors
- ☐ Educational Psychologist
- ☐ Priest / Faith official
- ☐ Health professionals (e.g. doctor, health visitor)
- ☐ Others: _____

23. Was there any other information that you would have liked?

- ☐ Other language translation
- ☐ Visual impairment materials (Braille, Large print, talking mat)
- ☐ Others: _____
- ☐ No other information needed

24. Overall, how satisfied were you that you had all the information you needed to help you decide which schools to apply to. Were you...

- ☐ Very satisfied
- ☐ Fairly satisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Slightly dissatisfied
- ☐ Very dissatisfied

DSA-Sec Admission

25. Did your child apply to a school through DSA-Sec Process?

- ☐ Yes
- ☐ No

26. What was the outcome?

- ☐ Accepted
- ☐ Rejected

School Allocation

27. To your knowledge how are schools allocated? (Select all that apply/ Exclude DSA-Sec Admission)

- ☐ If school was first preference
- ☐ Proximity to home related
- ☐ Sibling related
- ☐ Child's PSLE score
- ☐ Link/ Feeder Primary school
- ☐ Lived within catchment area
- ☐ Others: _____

Understanding of Over-subscription

Oversubscribed School – Schools which receive more applications than they have places available.

28. To your knowledge, in an oversubscribed school how are children then allocated? (Select all that apply)

- ☐ If school was first preference
- ☐ Distance to home
- ☐ Sibling related
- ☐ Child's PSLE score
- ☐ Link/ Feeder Primary school
- ☐ Lived within catchment area
- ☐ Others: _____

29. To your knowledge, how is a child allocated if he/she does not get into any chosen school? (Select all that apply)

- ☐ Distance to home
- ☐ Sibling related
- ☐ Link/ Feeder Primary school
- ☐ Others: _____

30. When choosing a secondary school for your child, did you use consider the over-subscription criterion?

- ☐ Yes
- ☐ No

31. Any suggestions / support you would have liked during the school selection decision-making process?

Anxiety Scale

32. Please put a circle around the word that shows how often each of these things happens to your child. There are no right or wrong answers.

1	My child worries about things	Never	Sometimes	Often	Always
2	My child feels sad or empty	Never	Sometimes	Often	Always
3	When my child has a problem, he/she gets a funny feeling in his/her stomach	Never	Sometimes	Often	Always
4	My child worries when he/she thinks he/she has done poorly at something	Never	Sometimes	Often	Always
5	My child feels afraid of being alone at home	Never	Sometimes	Often	Always
6	Nothing is much fun for my child anymore	Never	Sometimes	Often	Always
7	My child feels scared when taking a test	Never	Sometimes	Often	Always
8	My child worries when he/she thinks someone is angry with him/her	Never	Sometimes	Often	Always
9	My child worries about being away from me	Never	Sometimes	Often	Always
10	My child is bothered by bad or silly thoughts or pictures in his/her mind	Never	Sometimes	Often	Always
11	My child has trouble sleeping	Never	Sometimes	Often	Always
12	My child worries about doing badly at school work	Never	Sometimes	Often	Always
13	My child worries that something awful will happen to someone in the family	Never	Sometimes	Often	Always
14	My child suddenly feels as if he/she can't breathe when there is no reason for this	Never	Sometimes	Often	Always
15	My child has problems with his/her appetite	Never	Sometimes	Often	Always
16	My child has to keep checking that he/she has done things right (like the switch is off, or the door is locked)	Never	Sometimes	Often	Always
17	My child feels scared to sleep on his/her own	Never	Sometimes	Often	Always
18	My child has trouble going to school in the mornings because of feeling nervous or afraid	Never	Sometimes	Often	Always
19	My child has no energy for things	Never	Sometimes	Often	Always
20	My child worries about looking foolish	Never	Sometimes	Often	Always

21	My child is tired a lot	Never	Sometimes	Often	Always
22	My child worries that bad things will happen to him/her	Never	Sometimes	Often	Always
23	My child can't seem to get bad or silly thoughts out of his/her head	Never	Sometimes	Often	Always
24	When my child has a problem, his/her heart beats really fast	Never	Sometimes	Often	Always
25	My child cannot think clearly	Never	Sometimes	Often	Always

26	My child suddenly starts to tremble or shake when there is no reason for this	Never	Sometimes	Often	Always
27	My child worries that something bad will happen to him/her	Never	Sometimes	Often	Always
28	When my child has a problem, he/she feels shaky	Never	Sometimes	Often	Always
29	My child feels worthless	Never	Sometimes	Often	Always
30	My child worries about making mistakes	Never	Sometimes	Often	Always

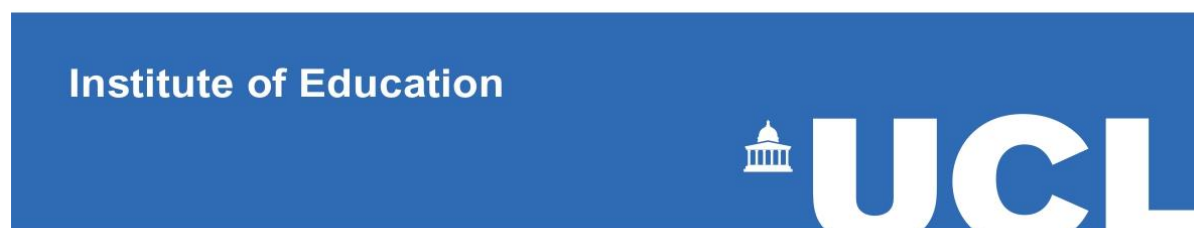
31	My child has to think of special thoughts (like numbers or words) to stop bad things from happening	Never	Sometimes	Often	Always
32	My child worries what other people think of him/her	Never	Sometimes	Often	Always
33	My child is afraid of being in crowded places (like shopping centers, the movies, buses, busy playgrounds)	Never	Sometimes	Often	Always
34	All of a sudden my child will feel really scared for no reason at all	Never	Sometimes	Often	Always
35	My child worries about what is going to happen	Never	Sometimes	Often	Always

36	My child suddenly becomes dizzy or faint when there is no reason for this	Never	Sometimes	Often	Always
37	My child thinks about death	Never	Sometimes	Often	Always
38	My child feels afraid if he/she have to talk in front of the class	Never	Sometimes	Often	Always
39	My child's heart suddenly starts to beat too quickly for no reason	Never	Sometimes	Often	Always
40	My child feels like he/she doesn't want to move	Never	Sometimes	Often	Always

41	My child worries that he/she will suddenly get a scared feeling when there is nothing to be afraid of	Never	Sometimes	Often	Always
42	My child has to do some things over and over again (like washing hands, cleaning, or putting things in a certain order)	Never	Sometimes	Often	Always
43	My child feels afraid that he/she will make a fool of him/herself in front of people	Never	Sometimes	Often	Always
44	My child has to do some things in just the right way to stop bad things from happening	Never	Sometimes	Often	Always
45	My child worries when in bed at night	Never	Sometimes	Often	Always
46	My child would feel scared if he/she had to stay away from home overnight	Never	Sometimes	Often	Always
47	My child feels restless	Never	Sometimes	Often	Always

Appendix 6 – Ethics Application

6.1 UCL Ethics Application



Doctoral Student Ethics Application Form

Anyone conducting research under the auspices of the Institute of Education (staff, students or visitors) where the research involves human participants or the use of data collected from human participants, is required to gain ethical approval before starting. This includes preliminary and pilot studies. Please answer all relevant questions in simple terms that can be understood by a lay person and note that your form may be returned if incomplete.

Registering your study with the UCL Data Protection Officer as part of the UCL Research Ethics Review Process

If you are proposing to collect personal data i.e. data from which a living individual can be identified **you must be registered with the UCL Data Protection Office before you submit your ethics application for review.** To do this, email the complete ethics form to data-protection@ucl.ac.uk. Once your registration number is received, add it to the form* and submit it to your supervisor for approval.

If the Data Protection Office advises you to make changes to the way in which you propose to collect and store the data this should be reflected in your ethics application form.

Section 1 Project details

a.	Project title		Understanding the experience of secondary school selection and support for Typically Developing and Dyslexic children in Singapore	
b.	Student name and ID number (e.g. ABC12345678)		Chua Yong En Beatrice [REDACTED]	
c.	*UCL Data Protection Registration Number		Date issued: 2 Feb 2019	
c.	Supervisor/Personal Tutor		Dr Dagmara Dimitriou & Dr Chris Clarke	
d.	Department		Psychology and Human Development	
e.	Course category (Tick one)	PhD <input type="checkbox"/>	EdD <input type="checkbox"/>	
		DEdPsy <input checked="" type="checkbox"/>		
f.	If applicable, state who the funder is and if funding has been confirmed.			
g.	Intended research start date		December 2018	
h.	Intended research end date		September 2020	
i.	Country fieldwork will be conducted in <i>If research to be conducted abroad please check www.fco.gov.uk and submit a completed travel risk assessment form (see guidelines). If the FCO advice is against travel this will be required before ethical approval can be granted: <a 2"="" href="http://ioe-</i></td> <td colspan=">London, United Kingdom</i>			

October 2018

Departmental use

If a project raises particularly challenging ethics issues, or a more detailed review would be appropriate, the supervisor **must** refer the application to the Research Development Administrator (via ioe.researchethics@ucl.ac.uk) so that it can be submitted to the IOE Research Ethics Committee for consideration. A departmental research ethics coordinator or representative can advise you, either to support your review process, or help decide whether an application should be referred to the REC. If unsure please refer to the guidelines explaining when to refer the ethics application to the IOE Research Ethics Committee, posted on the committee's website.

Student name	Chua Yong En Beatrice
Student department	Psychology and Human Development
Course	DEdPsych Educational Psychology (Professional Educational, Child and Adolescent Psychology)
Project title	Understanding secondary school selection support for typically developing and Dyslexic children in Singapore
Reviewer 1	
Supervisor/first reviewer name	Dr Dagmara Dimitriou
Do you foresee any ethical difficulties with this research?	No
Supervisor/first reviewer signature	
Date	4 th December 2019
Reviewer 2	
Second reviewer name	Dr Chris Clarke
Do you foresee any ethical difficulties with this research?	No – Beatrice has been reflective making sure that all ethical considerations are taken into account when designing and planning this research.
Supervisor/second reviewer signature	
Date	4 th December 2019
Decision on behalf of reviews	
Decision	Approved <input checked="" type="checkbox"/>
	Approved subject to the following additional measures <input type="checkbox"/>
	Not approved for the reasons given below <input type="checkbox"/>
	Referred to REC for review <input type="checkbox"/>
Points to be noted by other reviewers and in report to REC	
Comments from reviewers for the applicant	
<p><i>Once it is approved by both reviewers, students should submit their ethics application form to the Centre for Doctoral Education team: IOE.CDE@ucl.ac.uk.</i></p>	

6.2 DAS Ethics Application



**DYSLEXIA ASSOCIATION
OF SINGAPORE**

HELPING DYSLEXIC PEOPLE ACHIEVE

PATRON: MRS GOH CHOK TONG

Research Committee

Project approval code: RC 20-02-BEATRICE-CHRIS-DAGMARA

23rd January 2020

Name of PI: Chua Yong En Beatrice, Dr Chris Clarke & Dr Dagmara Dimitriou

DAS RESEARCH COMMITTEE APPROVAL

Project title:

Understanding Secondary School Selection support for typically developing and Dyslexic children in Singapore

I refer to your application for approval for the above project. The committee has deliberated on your application and is pleased to inform you that your project application is now approved. Please note that you are to adhere closely to the methodology and timeline as per your application. If you deviate from the above, you should inform the committee.

Please use the project approval code for future correspondences.

CC: Geetha Shantha Ram (Head of DAS Research Committee, Director, SAS, ELL & SPD & Deon Poh (Learning Centre Manager)

Appendix 7 – Information Sheet and Consent Form

7.1 Information sheet for parents

Institute of Education



Participant Information Sheet for Parents

UCL Research Ethics Committee Approval ID Number: Z6364106/2019/02/55

Title of Study: Understanding factors influencing secondary school selection for typically developing children and dyslexic children in Singapore

Department: Psychology and Human Development

Name and Contact Details of the Principal Researcher: Beatrice Chua
(Beatrice.Chua.16@ucl.ac.uk)

Dear Parents,

I am Beatrice Chua, a Trainee Educational Psychologist currently undertaking a Doctorate in Educational Psychology at University College London, Institute of Education. As part of my studies I will be conducting a research to understand secondary school selection process for children and their families.

Before you decide to take part in this research project, it is important for you to understand why the research is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please feel free to contact me if there is anything that is not clear or if you would like more information.

Thank you for reading this!

1. What's this research about?

I am interested to examine what parents and Primary 6 children consider during the secondary school selection process.

I would like to target 2 groups of children:

1. Neurotypical children (with no known diagnosis);
2. Children with Dyslexia (with a formal Dyslexic diagnosis)

2. Why is this study important?

Transition from primary to secondary school is a challenging time for all young people and their families.

There is, however, *little understanding of the school selection process*.

- The experience of secondary school selection has not been explored in the Singaporean education context.
- Even fewer studies focused on supporting families with dyslexic children who may be more vulnerable to poor transition and experience higher levels of anxiety.

This research hopes to:

- Hear from children and parents about what is important to them in secondary school choices.
- Provide professionals and policy makers with greater understanding of the complex considerations parents and children hold,
- Understand the possible differences in decisions between families with typically developing children and dyslexic children.
- Improve the support given and encourage conversations to help parents feel confident to choose secondary schools based on their child's needs, rather than a reliance on perceptions.

3. Why have you been asked to participate?

I am hoping to recruit both neurotypical children and dyslexic children, and their parents that meet the following criteria:

- Primary 6 children in 2019,
- Transitioning to secondary school in January 2020.
- Dyslexic children need to have a formal dyslexic diagnosis, while neurotypical children to have no known diagnoses.

4. What do you need to do for this research?

1. **Questionnaire**

(Completed by children and parents; Online or Hardcopy (upon request))

- Factors that influenced decision-making process
- School concerns scale
- Child anxiety scale

2. Interviews

- For children:
 - Interviews will be conducted for 45 minutes approximately (at a place convenient for the child)
 - Children will draw their 'Ideal school' and 'Not so ideal' school
 - Children will be asked to complete a Verbal and Non-verbal reasoning assessment.



- For parents:
 - Interviews will be conducted for 30 minutes approximately (at a place convenient for the child). Time and date can be separate from the child.

5. Will you or your child be recorded?

The interview sessions will be audio-recorded using an audio recorder. The audio recordings of these sessions will be used only for analysis. Transcripts will be used only for illustration in conference presentations and lectures. No other use will be made of them without your written permission. No one outside the project will be allowed access to the original recordings. Recordings will be destroyed immediately following transcription.

6. What are the possible disadvantages and risks of taking part?

Children may experience slight distress during the data collection session if they find the tasks too difficult or the session too long. As such, they will be given time to rest between tasks or whenever is needed. If at any time during the session the child appears distressed the child will be asked if they would like to rest or stop the session.

Any unexpected discomforts, disadvantages and risks to participants, which arises during the research, will be brought immediately to your attention.

7. What are the possible benefits of for my participation?

- All parent-children pairs will be reimbursed a \$10 CapitalLand Voucher for their involvement.
- Children will get to keep his/ her 'Ideal School' drawings or pictures in their transition booklet. The transition booklet can be used to help his/her secondary school to know him/her better.

[illegible]

- Transition resources will also be given for parents to support their child during transition.

You can also request for your child's responses on the questionnaires completed.

- At the end of the study, a brief report of the study's findings will be sent for your review too. The report is likely to be published in September 2020.

8. Will your participation in this project be kept confidential?

All the information that I collect about your child during the course of the research will be kept strictly confidential. No information, which could lead to identification of any individual, will be released. You will not be able to be identified in any ensuing reports or publications.

However, please note that there are limits to confidentiality.

- Assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. Confidentiality will be respected subject to legal constraints and professional guidelines. In such cases the University may be obliged to contact relevant statutory bodies/agencies.
- If this was the case, we would inform you of any decisions that might limit your confidentiality.

9. **Complaint procedures**

Should you have any concerns during the research, please feel free to raise your complaint to my supervisors, Dr Dagmara Dimitriou (d.dimitriou@ucl.ac.uk) or Dr Chris Clarke (c.clarke@ucl.ac.uk). Questions can also be directed to the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk.

10. **Local Data Protection Privacy Notice**

The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data. The information that is required to be provided to participants under data protection legislation (GDPR and DPA 2018) is provided in the general privacy notice. The general privacy notice sets out the information that applies to this study. Further information on how UCL uses participant information can be found in our general privacy notice (<https://www.ucl.ac.uk/legal-services/privacy/ucl-general-research-participant-privacy-notice>).

The lawful basis that would be used to process your *personal data* are:

- 'Public task' for personal data
- 'Research purposes' for special category data

If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

11. **Do you have to take part?**

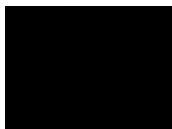
Taking part in the study **is entirely voluntary**. If you do decide for your child to take part, kindly indicate your interest by signing the attached **consent form**. Please indicate if you would like to participate in the **questionnaire or interview**.

You can withdraw at any time without giving a reason and without it affecting any benefits that you are entitled to. You will be asked what you wish to happen to the data you have provided up to that point (if the research had not been published yet).

11. **Contact for further information**

Further enquiries regarding the research project can be directed to me, Beatrice Chua. My contact details are as follow: Beatrice.Chua.16@ucl.ac.uk.

Thank you for considering taking part in this research study.



Beatrice Chua

Trainee Educational Psychologist
University College London, Institute of Education

7.2 Information sheet for Educators

Institute of Education



Participant Information Sheet For Professionals

UCL Research Ethics Committee Approval ID Number: Z6364106/2019/02/55

Title of Study: Understanding factors influencing secondary school selection for dyslexic and typically developing children in Singapore

Department: Psychology and Human Development

Name and Contact Details of the Principal Researcher: Beatrice Chua
(beatrice.chua.16@ucl.ac.uk)

I am Beatrice Chua, a Trainee Educational Psychologist currently undertaking a Doctorate in Educational Psychology at University College London, Institute of Education. My research interest is in understanding the secondary school selection process for children and parents.

Before you decide to take part in this research project, it is important for you to understand why the research is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please feel free to contact me if there is anything that is not clear or if you would like more information.

Thank you for reading this!

1. Importance of the study

Transition from primary to secondary school is a challenging time for all young people and their families. Much of literature relating to transition has focused on three main areas: the impact of transition on academic attainment and well-being, pupil's experience of transition, and predictors of difficult transition.

There is however, a lack of research in understanding the decision process parents and children take to choose a secondary school. This is the first critical step of transition. How do they understand and manage the application process, and what facilitates or hinders the selection process? There are even fewer studies examining the selection process for families with dyslexic children who are more vulnerable to poor transition, where parents and the child have been reported to experience higher levels of anxiety.

Thus, this research hopes to gain understanding from children, parents, teachers and other supporting professionals, aiming to understand:

- (1) what considerations are important in choosing secondary school,*
- (2) how the selection process is experienced – what are the supports and barriers present.*
- (3) What the different considerations are, if any, between families with and without dyslexic children when choosing a secondary school?*

2. Why have I been chosen? Selection criterion

I hope to recruit a total of 7 primary school teachers and 7 secondary school teachers, teaching in a mainstream setting. Also, 10 supporting professionals (e.g. AED (LBS), External Educators supporting dyslexic children, Educational Psychologists).

3. What will happen to me if I take part?

Professionals will be asked to participate in a 30-minute interview.

The interview session will be conducted at a place convenient for you to elicit your professional views about how children and parents are managing the school selection process, what supports are available in school and from external agencies, and the potential hindrances / barriers. Interview questions can be sent to you prior to the interview.

4. Will I be recorded and how will the recorded media be used?

Interview sessions will be audio-recorded using an audio recorder. The audio recordings of these sessions will be used only for analysis. Transcripts will be used only for illustration in conference presentations and lectures. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings. Recordings will be destroyed immediately following transcription.

5. What are the possible disadvantages and risks of taking part?

The interview may include questions that may make you feel uncomfortable to answer. You are free to skip these questions without needing to provide reasons to do so. Any unexpected discomforts, disadvantages and risks to participants, which arises during the research, will also be brought immediately to your attention.

6. What are the possible benefits of taking part?

All participants will be reimbursed a \$10 CapitalLand Voucher. A brief report of the study's findings will also be sent at the end of the study for your perusal. The report is likely to be published in September 2020.

It is with hope that this work will provide professionals, schools and policy makers with greater understanding of the complex consideration children and parents hold. This can improve the type of support rendered to parents and children in transition in the future.

7. Will my taking part in this project be kept confidential?

All the information that we collect about you during the course of the research will be kept strictly confidential. No information, which could lead to identification of any individual, will be released. You will not be able to be identified in any ensuing reports or publications.

However, please note that there are limits to confidentiality.

- Assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. Confidentiality will be respected subject to legal constraints and professional guidelines. In such cases the University may be obliged to contact relevant statutory bodies/agencies.
- If this was the case we would inform you of any decisions that might limit your confidentiality.

8. Complaint procedures

Should you have any concerns during the research, please feel free to raise your complaint to my supervisors, Dr Dagmara Dimitriou (d.dimitriou@ucl.ac.uk) or Dr Chris Clarke (c.clarke@ucl.ac.uk). If you wish to speak to an independent person about your concerns, questions can also be directed to the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk.

9. Local Data Protection Privacy Notice

The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk

The information that is required to be provided to participants under data protection legislation (GDPR and DPA 2018) is provided in the general privacy notice. The general privacy notice sets out the information that applies to this study. Further information on how UCL uses participant information can be found in our general privacy notice (<https://www.ucl.ac.uk/legal-services/privacy/ucl-general-research-participant-privacy-notice>).

The lawful basis that would be used to process your *personal data* are:

- 'Public task' for personal data
- 'Research purposes' for special category data

If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

10. Do I have to take part?

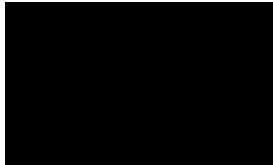
Taking part in the study is entirely voluntary.

You can withdraw at any time without giving a reason and without it affecting any benefits that you are entitled to. You will be asked what you wish to happen to the data you have provided up to that point (if the research had not been published yet).

11. Contact for further information

Further enquiries regarding the research project can be directed to me, Beatrice Chua.
My contact details are as follow: beatrice.chua.16@ucl.ac.uk.

Thank you for reading this information sheet and for considering taking part in this research study.



Beatrice Chua

Appendix 8 – Consent Form

8.1 Consent Form for Parents

Institute of Education



CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: Understanding factors influencing secondary school selection for typically developing children and dyslexic children in Singapore

Department: Psychology and Human Development

Name and Contact Details of the Principal Researcher: Beatrice Chua
(Beatrice.Chua.16@ucl.ac.uk)

Name and Contact Details of the UCL Data Protection Officer: Lee Shailer
(data-protection@ucl.ac.uk)

This study has been approved by the UCL Research Ethics Committee:

Project ID number: [Z6364106/2019/02/55](#)

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking (✓) each box below I am consenting to this element of the study.

I understand that it will be assumed that unticked boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

Yes

- | | | |
|----|--|--------------------------|
| 1. | *I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction. | <input type="checkbox"/> |
| 2. | *I consent to participate in the study. I understand that my and my child's personal information (<i>e.g. name, date of birth, gender</i>) will be used for the purposes explained to me. I understand that according to data protection legislation, 'public task' will be the lawful basis for processing. | <input type="checkbox"/> |
| 3. | *I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified unless evidence of wrongdoing or potential harm is uncovered. In such cases I may be obliged to contact relevant statutory bodies/agencies. | <input type="checkbox"/> |

- | | | |
|-----|---|--------------------------|
| 4. | *I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications. | <input type="checkbox"/> |
| 5. | I understand the potential risks of participating and the support that will be available to me and my child should I or my child become distressed during the course of the research. | <input type="checkbox"/> |
| 6. | I understand the direct/indirect benefits of participating. | <input type="checkbox"/> |
| 7. | I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher(s) undertaking this study. | <input type="checkbox"/> |
| 8. | I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future. | <input type="checkbox"/> |
| 9. | I agree that my pseudonymised research data (for interview participants - e.g. transcript of my interview schedule) may be used by others for future research. No one will be able to identify me when this data is shared. | <input type="checkbox"/> |
| 10. | I understand that the information I have submitted will be published as a report. | <input type="checkbox"/> |
| 11. | I consent to my interview being audio/video recorded and understand that the recordings will be destroyed immediately following transcription. | <input type="checkbox"/> |
| 12. | I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher. | <input type="checkbox"/> |
| 13. | I am aware of who I should contact if I wish to lodge a complaint. | <input type="checkbox"/> |

If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in follow up studies to this project, or in future studies of a similar nature, please tick the appropriate box below.

<input type="checkbox"/>	Yes, I would be happy to be contacted
<input type="checkbox"/>	No, I would not like to be contacted

Child's Name: _____

Parent's/ Caregiver's Contact Number: _____

Parent's/ Caregiver's email _____

Name of Parent/Carer

Date

Signature

Beatrice Chua

2nd December 2019

Researcher

Date

Signature

8.2 Consent form for Educators

Institute of Education



CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: Understanding factors influencing secondary school selection for typically developing children and dyslexic children in Singapore

Department: Psychology and Human Development

Name and Contact Details of the Principal Researcher: Beatrice Chua
(Beatrice.Chua.16@ucl.ac.uk)

Name and Contact Details of the UCL Data Protection Officer: Lee Shailer
(data-protection@ucl.ac.uk)

This study has been approved by the UCL Research Ethics Committee:

Project ID number: [Z6364106/2019/02/55](#)

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking (✓) each box below I am consenting to this element of the study.

I understand that it will be assumed that unticked boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

Yes

1. *I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction.

☐

2. *I consent to participate in the study. I understand that my personal information (*e.g. name, date of birth, gender*) will be used for the purposes explained to me. I understand that according to data protection legislation, 'public task' will be the lawful basis for processing.

☐

3. *I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified unless evidence of wrongdoing or potential harm is uncovered. In such cases I may be obliged to contact relevant statutory bodies/agencies.

☐

- | | | |
|-----|---|--------------------------|
| 4. | *I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications. | <input type="checkbox"/> |
| 5. | I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research. | <input type="checkbox"/> |
| 6. | I understand the direct/indirect benefits of participating. | <input type="checkbox"/> |
| 7. | I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher(s) undertaking this study. | <input type="checkbox"/> |
| 8. | I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future. | <input type="checkbox"/> |
| 9. | I agree that my pseudonymised research data (for interview participants - e.g. transcript of my interview schedule) may be used by others for future research. No one will be able to identify me when this data is shared. | <input type="checkbox"/> |
| 10. | I understand that the information I have submitted will be published as a report. | <input type="checkbox"/> |
| 11. | I consent to my interview being audio/video recorded and understand that the recordings will be destroyed immediately following transcription. | <input type="checkbox"/> |
| 12. | I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher. | <input type="checkbox"/> |
| 13. | I am aware of who I should contact if I wish to lodge a complaint. | <input type="checkbox"/> |

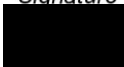
If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in follow up studies to this project, or in future studies of a similar nature, please tick the appropriate box below.

<input type="checkbox"/>	Yes, I would be happy to be contacted
<input type="checkbox"/>	No, I would not like to be contacted

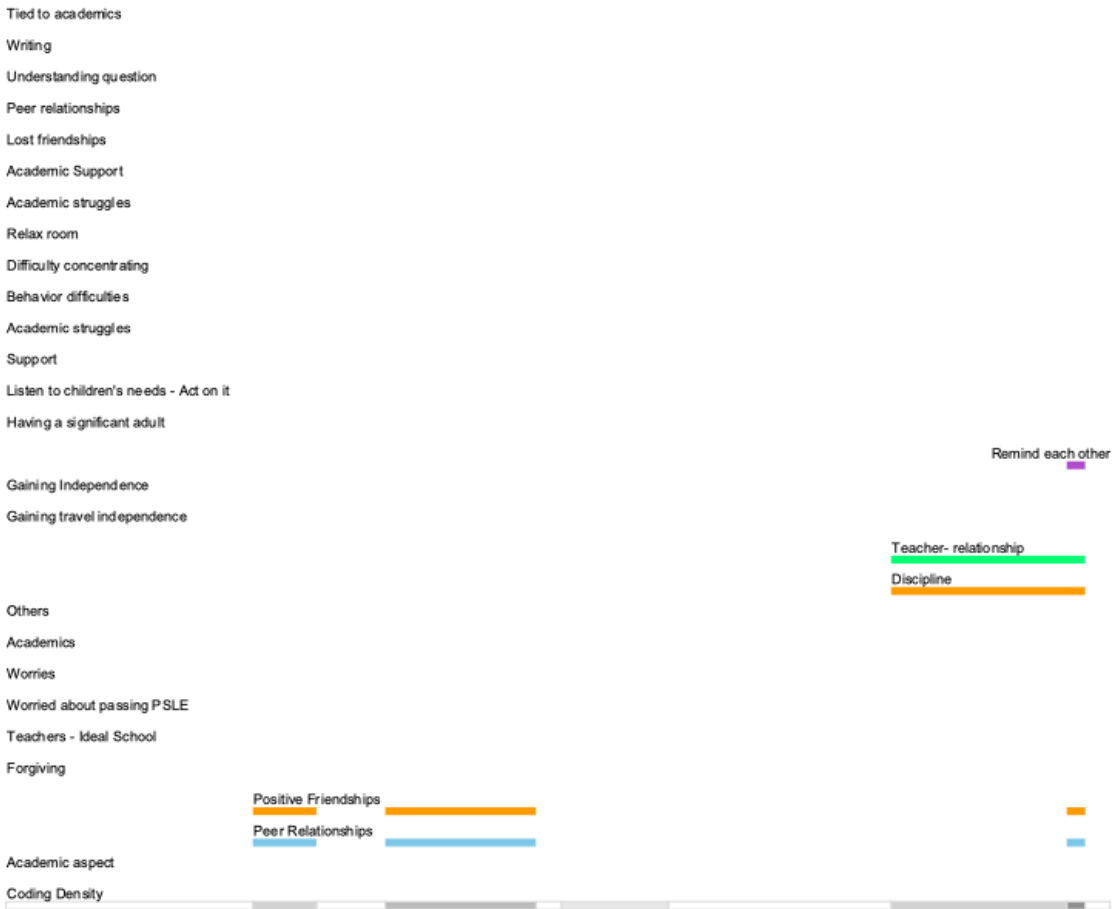
Child's Name: _____

Parent's/ Caregiver's Contact Number: _____

Parent's/ Caregiver's email _____

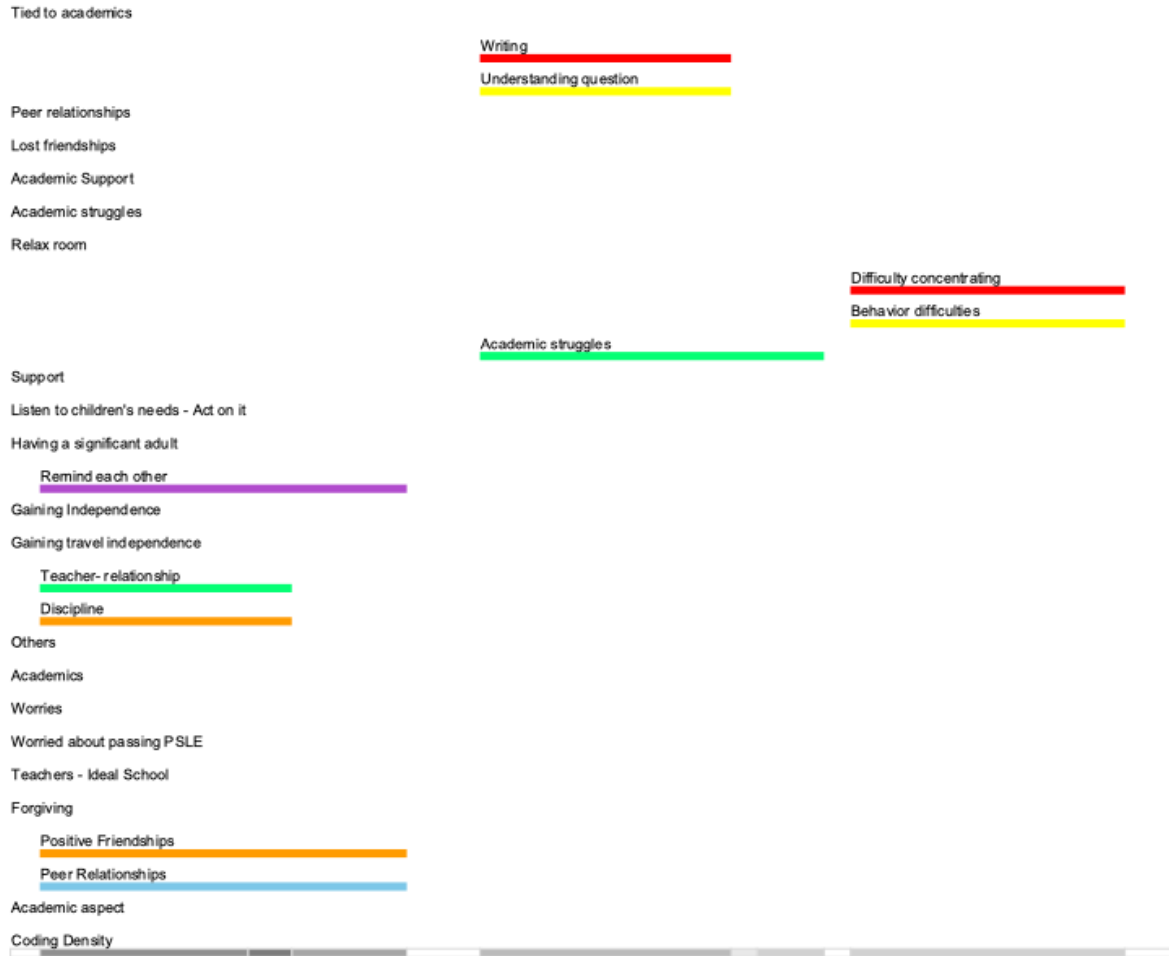
_____ <i>Name of Parent/Carer</i>	_____ <i>Date</i>	_____ <i>Signature</i>
Beatrice Chua	2nd December 2019	
<i>Researcher</i>	<i>Date</i>	<i>Signature</i>

Appendix 9 – Sample of Transcription



Notes

- B – OK so maybe we'll start with some activities first. Is it ok?
So right on a scale of 1 to 10, 1 is you didn't enjoy and 10 is that you enjoy it a lot.
Where would you say your experience in primary school was?
- C- er I would say.. 5?
- B- 5? Why a 5 and not a 4?
- C- Because I have a lot of friends ove rhtere. (mm) and.. also.. they're I have some BFFS also over there. We always hangout together during recess. And we help each other a lot. (Oh ok) Yeah.
- B- Help each other in terms of what?
- C- Homework, and also sometimes I have to be, we want to stay back in school to just to finish our homework tougher. (oh wow) because some questions we don't know to do, and sometimes our parents do not allow to have a video call. So we were thinking that maybe we will stay back in school to like finish our homework before we go home.
- B- OH that's very nice. So they very supportive.
- C- Yeah. But sometimes when I stay back I have to like tell, ask whether I've got. Because I'll take er school bus home, I have to ask whether they have the CCA, um extra bus a not for me to go home. Because I will not, I can't go home on my own. (Yes) So right, erm.. if don't have I have to go home straight away but then maybe I will try to video call her. Call her to see how, like how to do and yeah.
- B- So it's 2 of you all.
- C- Yes.(ok) Or maybe 3 or 4 (ok)
- B- so you all decided that you will support each other in terms of homework. (Yeah) ok. That's nice.
So apart from friends, your BFFs who help you with your homework, are there other things that make your primary school good? Or a 5?
- C- Er the teachers is nice? But sometimes when we never listen, the teacher will start scolding. Just because we never listen to the teacher, and we are talking and playing, yeah.
- B- That part, good or not so good?
- C- OK ah.
- B- so you see that they're actually trying to help you or what.



C- yeah but sometimes I was sitting in the middle. Then two of my friends were sitting beside me. I was talking to one of my friend in class, my the other friend in class tell me do not talk because the teacher scold, she scared that the teacher will scold me (Yeah) Yeah so she told us, she told me and one of my friend not to talk in sch (in class) in class. Both of them are one of my, two of my BFF.
Yeah

B- Oh, so you all will remind each other. That's nice.

C- Yeah we will remind each other not to talk in class and everything. (That's good) But sometimes we will play around (ah..) together.

B- Ah.. so it's like a balance. Sometimes play, sometimes you all will help each other.

C- Yeah and sometimes we will quarrel.

B- So, so why 5 and not a 10.

C- Mm because sometimes... um science especially science or um.. science paper 2 is very hard because you have to write. But MCQ you just have to guess the number, but you have to read the question what do you understand, what is the question about, before you answer the number. (Mm) Yeah

B- Mm so what about the science paper 2 that is a bit tricky.

C- *tsk* Um.. the questions. But sometimes I read and read and read, but I still don't understand. Yeah (Mm)

B- so understanding the questions. So apart from science, what makes it a..

C- Math (what about math?) Paper 2. (what about Math paper 2?) Paper 2 is some questions is very hard to answer. I understand the question but it's just very hard for me to answer. (mm yeah)

C- And last time I got distracted because there's a lot of people coming in and out. Yeah (Of the classroom? OK.) So.. the teacher decided for me to stay in one room for myself so that means, 1 room is by myself.

B- So do you think it helps?

C- Yes it helps a lot.

B- OK. So giving you more focus, a quiet environment. (yeah) ok.
SO you mention, maths you can understand the question but you don't know how to work out the sums (yes) ah you don't know the steps and all that (yes) Your teacher has to help you.

Tied to academics
 Writing
 Understanding question
 Peer relationships
 Lost friendships
 Academic Support
 Academic struggles
 Relax room
 Difficulty concentrating
 Behavior difficulties
 Academic struggles
 Support
 Listen to children's needs - Act on it
 Having a significant adult
 Remind each other
 Gaining Independence
 Gaining travel independence
 Teacher- relationship
 Discipline
 Others
 Academics

Teachers - Ideal School
 Forgiving
 Positive Friendships
 Peer Relationships

Coding Density

Worries

Worried about passing PSLE

Academic aspect

B- So apart from academics, are there other reason why it's a 5 and not a 10.

C- No

B- so it's just, the reason why primary school is not so good it's because of the studying

C- Yes

B- ok. Were you teachers helpful?

C- Yes

B- So teachers, your friends, your CCA all was a good part of school.

C- yes

B- It was just the study that was not so great.

C- Yes, yes.

B- Anything else you want to add?

C- No

B- So now right, imagine when you back in getting your results or after getting PSLE (Mm) So you know you were going to secondary school right?

C- I already in the secondary school

B- But last time, not now ok? Last time, before you get into this school. How did you feel about getting into a secondary school?

C- Happy. (What number?) 10

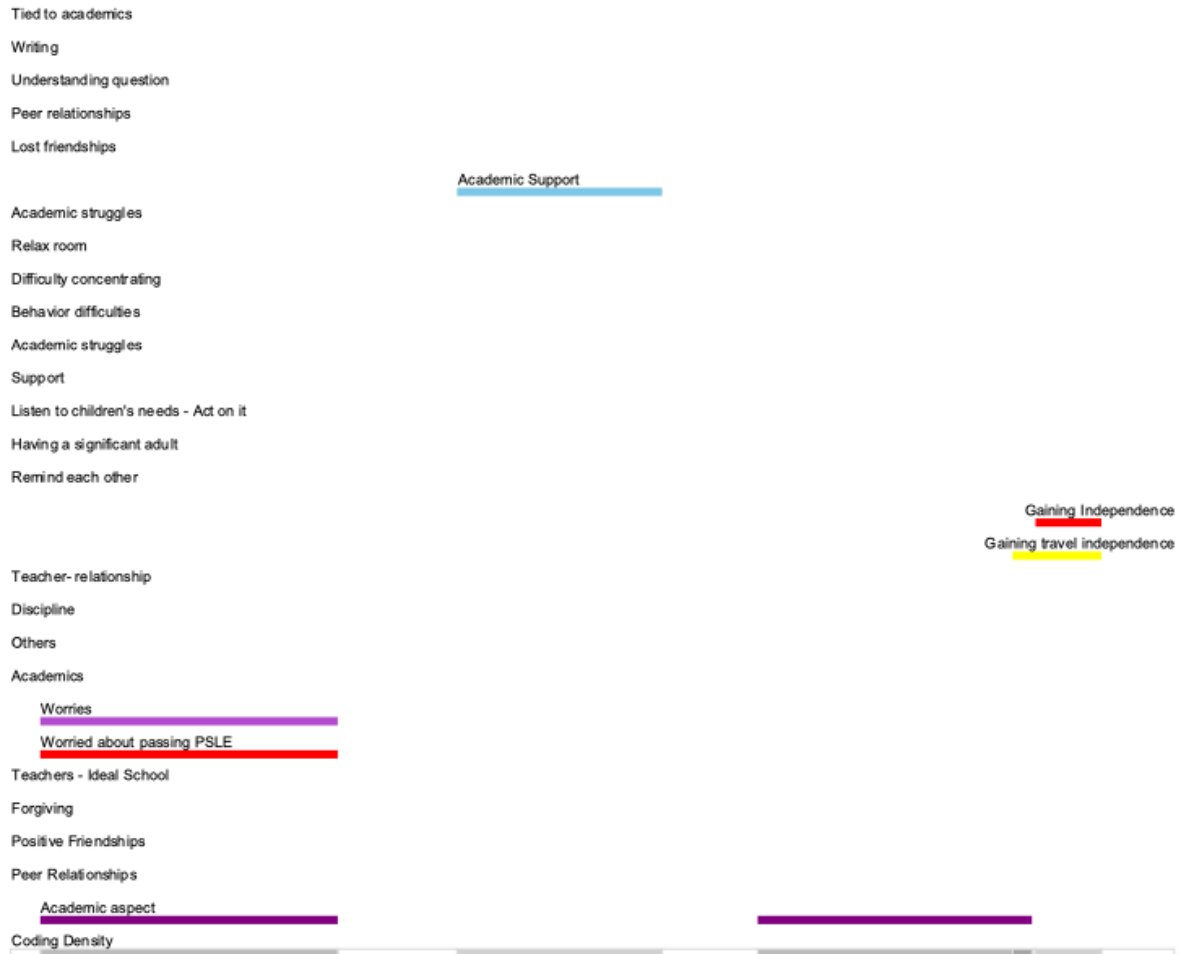
B- why 10?

C- Because when I receive my res.. when all of my friends receive our results like cause there has a screen that says everyone passed or everyone failed, or some people fail and some people pass. We see whether did we pass a not. So it says that all of us pass our PSLE and everyone were very happy. (oh, So can go into a secondary school) and.. we have to choose 6 choices of secondary school. (yes)

My first choice is my sister's secondary school. So I tried cause I tried very hard to like in order for me to go to my sister's secondary school. SO I managed to go to my sister's school. Yeah.

B- So before you know your PSLE results where were you? Because 10 is when you already know your results.

C- Nervous. (what number) Er maybe 1 or 2.



B- Why was it a 1 or 2?

C- Because its' a bit nervous, all of us scared we will fail our exams and we will stay back for another round of PSLE yeah. And we will not, never get into secondary school. So all of us were a bit nervous until when we get our secondary sch, our PSLE results. When they say that everyone pass we were (very happy) yeah not so nervous anymore.

B- Were you worried about which school you were going into? (yeah) you all were also worried.

C- all of us worry about our PSLE results and also the secondary school we are going in

B- What were you worried about in terms of secondary school?

C- UM... the papers will be more harder than our primary school (mm) and.. do, may not understand how to to, and may not understand how the teacher teach like yeah. So for now the secondary school, for Maths there's 2 teachers,, so 1 teacher will walk around while the other teacher will teaching. Yeah, So 1 teacher will walk around and like those who doesn't understand, they will come to our place to teach, to repeat what did the teacher (Say) like what did the teacher er explain to us why is the answer, and why is this not the answer.

B- So is this helpful?

C- yes.

B- So you were worried that whatever the teacher teach you don't understand, and you not sure whether – you mention..

C- whether exam can like (perform) cope.

B- Cope. Ok.

So you were worried more about studies lah

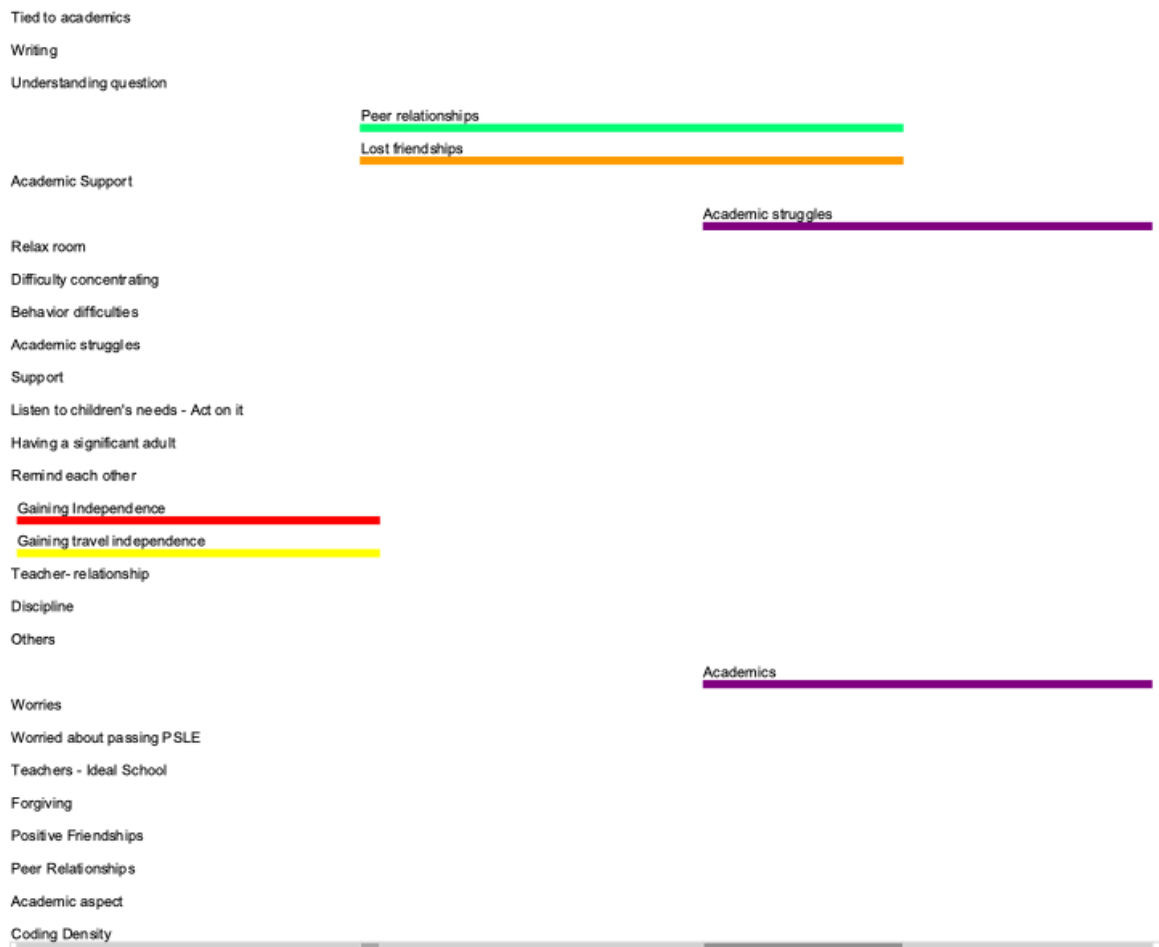
C- yeah.

B- Nothing else about friends, the environment...

C- No nothing.

B- Nothing. It's just all about studies. I have a question... what does going to a secondary school mean for you?

C- meaning?



B- Like is it like, for me it could be like, I finally grow up, I mature... or it could be like oh I've finally made it. So for you what does secondary school feel like? As in like, what does it mean?

C- Erm... I also quite nervous about walking home. Because this is my first time walking home from my secondary school to my house. And my house quite far away so I have to take bus already then I go MRT station. Once I go a few times, I finally get it how to like, yup then um... when I don't need to stay back, I will come to * mall to buy lunch to go back home to eat.

B- Yeah. Now that your mummy say you can do it quite independently, like you can do it on your own, how do you feel about it?

C- ok.

B- Ok. Less worried? (Yes) so do you friends now join you or not so much?

C- Join me. (The same group of friends?) Yes. But one of my friends went to other school and she was one of my BFF.

B- Aw.. so how do you feel about that?

C- A bit sad lah.

B- Do you still talk?

C- Yes. Still talk but we seldom video call already.

B- not as much?

C- Yes. Because we have a lot of homework to do and a lot of revision to do. And now that I know that there are more subjects, it's really hard to communicate with my friends. Yeah

B- Because you also need to do all your work is it?

C- Homework and everything.

B- I see, I see.

C- If you can see right, my primary school there's 4 subjects but my secondary school can have more than 4 subjects – 8 or 9 subjects. Yeha

B- How do you feel about that?

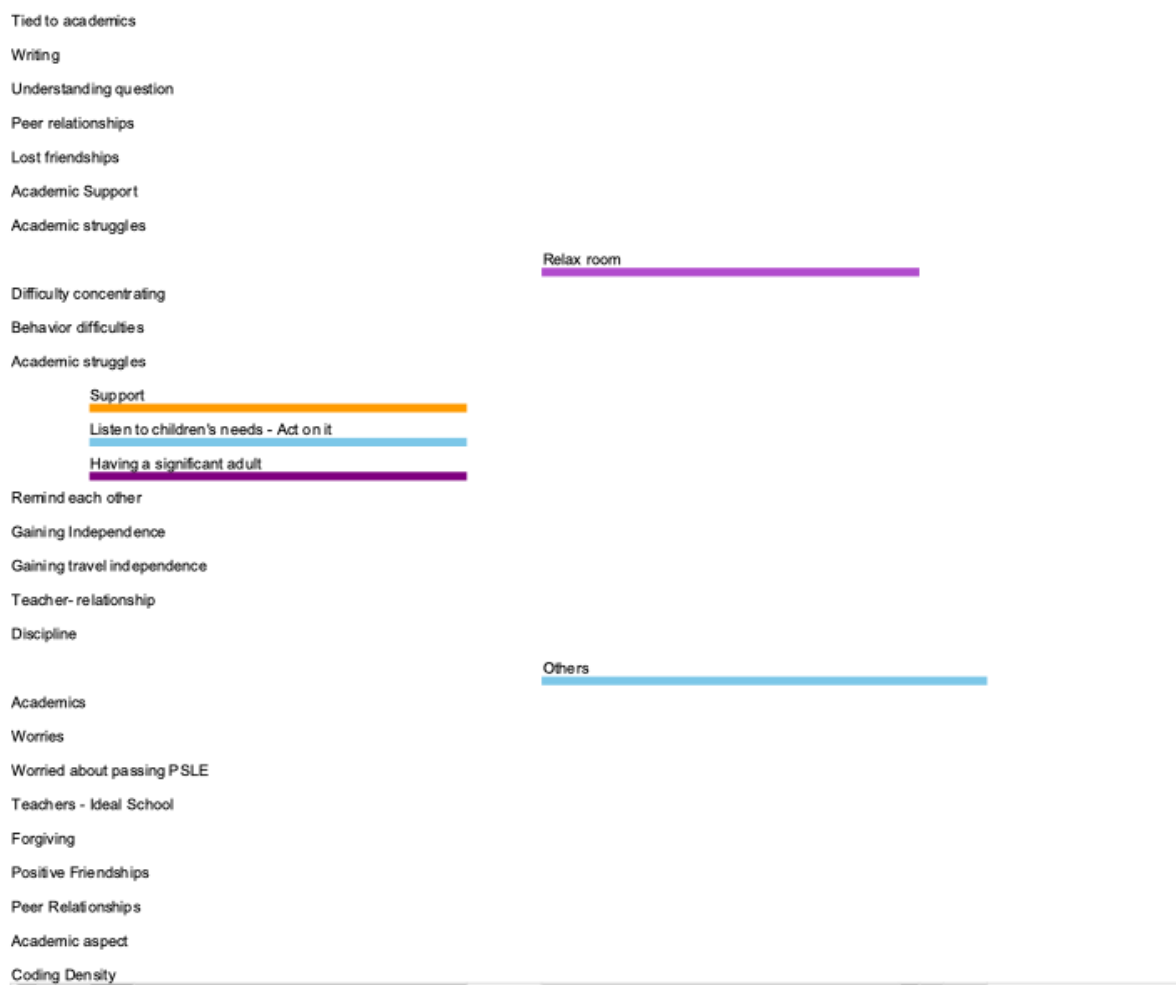
C- Stressed

B- Stressed ah. In terms of what.

C- In terms of studies.

	Tied to academics	
Writing		
Understanding question		
Peer relationships		
Lost friendships		
Academic Support		
Academic struggles		
Relax room		
Difficulty concentrating		
Behavior difficulties		
Academic struggles		
Support		
Listen to children's needs - Act on it		
Having a significant adult		
Remind each other		
Gaining Independence		
Gaining travel independence		
Teacher-relationship		
Discipline		
Others		
Academics		
Worries		
Worried about passing PSLE		
Teachers - Ideal School		
Forgiving		
Positive Friendships		
Peer Relationships		
Academic aspect		
Coding Density		

- B- Like what are you stressed about? (err all subjects)
Like Cannot cope? (yup)
How do you think about remedial lessons?
- C- It's helpful. (So you don't mind staying back?) Yeah I don't mind.
- C- As long as it is helpful for my studies, I'm fine with staying back.
- B- Oh ok. How about the friends around you? Do they say anything about why you must stay back or anything like that?
- C- Like sometimes yes, then I tell them, I told them that it's helpful for me so that I can pass and carry on to secondary 2. Because I don't want to stay back another year while everyone go on to secondary 2, sec 2. (yes)
- B- So whatever that can help you go pass
- C- I don't mind staying back.
- B- Ok. That's very positive. *haha* do you feel that way? What do you think is your biggest strength? (Huh?) What do you think is your biggest strength? Like what do you think you're good at?
- C- English. Because it was my first time passing my English for Prelims and PSLE. (Oh wow. You must be very proud of yourself then) ok lah
- B- OK? What would you tell someone if they asked you what (child's name) is like? How would you describe (child's name)?
- C- meaning?
- B- Like if to describe me, I would say I'm a cheerful person, I um... am good at baking. For example. What would you describe (child's name) to be like.
- C- Um.. Better at studies and will pass the more/all subjects. For science, um like you can get higher than my primary school, than the primary school and er or maybe the same level.
- B- Oh ok. So, so (Child's name) now can perform better than in her primary school.
- C- Um maybe (Yeah?)
- B- Ok now let's think about your ideal school. Ideal school means that a school you want to go. So (child's name) you are the principal ok? You can decide whatever you want in this perfect school. OK? Perfect School. SO what would your perfect school look like?



C- Um... Very big um.. very big school and also there's a room for them to like those who cannot cope and those who get distracted or something I'll put that person that room by their own. (Oh ok)
Cause it's like it's really very distracting when other people keep going in and out, going in and out, and the door is very loud. (Mm) Yeah.

B- How did you end up in this room? Like.. what did your teacher say? Did she punish you? Or you told her you cannot concentrate?

C- I told her I cannot concentrate and all. Can you like bring go to another room. Yeah by my own so that I can concentrate better, and I can pass my exam better.

B- So she took it on, she understood it.

C- She understood it and she went home to think about it. Then she came home/ came back the next day - 'can I speak to your mother?'. So, er.. like my mum is already thinking that I have to go to one of the room. Yeah.

B- OK so the teacher after to talk to mum, ok, mum was ok, so you just.. oh ok. So apart from big school, a specific room, a small room where you can help other children concentrate, what would your perfect school be like? Other things?

C- Maybe a room that umm those who finish already, those who finish (their studies) studies and understand already, may that room is for them to play. (Ah.. relax room) Relax, relaxing room and let them play.

B- what would they play?

C- Um.. anything. That room you can play with your phone or whatever. Yeah.

B- Anything else about this school? The outside, the environment, what would it look like? Equipment?

C- Anything.

B- Whatever the student like?

C- yeah. Whatever student like BUT I have, but they have to understand how to do work, not to like rush, and just to concentrate how to do. Those who got, get all correct will get to play. This is how it will, it will be. (mm) when I go to this kind of school.

B- how would you.. Not all students are like you, so motivated to study. (Yeah) How would you encourage other students?

C- Don't know. (hopefully they are all like you is it?) Yeah

B- How about the students in this school? How would they behave?

Tied to academics
 Writing
 Understanding question
 Peer relationships
 Lost friendships
 Academic Support
 Academic struggles
 Relax room
 Difficulty concentrating
 Behavior difficulties
 Academic struggles
 Support
 Listen to children's needs - Act on it
 Having a significant adult
 Remind each other
 Gaining Independence
 Gaining travel independence
 Teacher- relationship
 Discipline
 Others
 Academics
 Worries
 Worried about passing PSLE

Teachers - Ideal School

Forgiving

Positive Friendships

Peer Relationships

Academic aspect

Coding Density

C- But if they get all correct and they behave well maybe I will bring all of them to that, that room that you can use your phone, you can use anything.

B- What about the students? Imagine your perfect school, what would the students be doing? What would they be like? What would they be saying?

C- I don't know. (Imagine..) They good with teacher?

B- Good with teacher? Good relationship with teacher. (yes) Anything else? Are they rowdy? (No) Friendly? What...?

C- friendly.

B- Friendly. Anything else?

C- No.

B- How about the teachers in this school?

C- I will tell them to talk to them nicely. But if.. give them 3 chances, if they lose these 3 chances, bring them to me. (Then what would you do?) I would talk to them and tell them that 'um.. can you behave yourself? Like Because you are studying you can't, the teacher already give you 3 chances, but if you lose these three chances maybe I will never bring you like go to, I'll never, I will ask your teacher not to bring you go to the (relax room) to the relax room. (Mm OK..) Forever. (so you will talk to them nicely.) Yeah. I will tell them nicely, then I will give them one last chance. But if they behave well for that one last chance, maybe I'll bring them, I'll bring her along also. (mm so you personally, as a principal you will bring her to the relax room.)
 Not only her, but everyone.

B- mm.. What makes a good teacher? Don't know.
 How would you feel in this school?

C- I feel relaxing and s yeah.

B- Relaxing ok.
 How about a not so good school, the worst school that you can ever go to?

C- Um.. Not relaxed

B- What would it look like?

C- I don't know.

B- thing about the environment. You can think about 3 things – the buildings..



C- There is no relaxed room only studies. You cannot use your phone in school but you can use your phone in the canteen or the foyer. (So you can only use in specific places) Yeah.

B- How about big, small?

C- Small. (Small school, ok. What about the students - how would they behave?) Um.. maybe they will behave um badly? (er.. in what sense? What would they.. actions or..) Maybe sometimes they will use their phone under the table or something (Mm, anything else?) No.

B- What about their relationship with their teachers.

C- Bad. Attitude. (Bad attitude.)

B- Then the teachers.. How are the teachers like in this not good school.

C- Mm I don't know.

B- Can you imagine? What would they say?

C- Maybe they will scold. The students- 'why are you using the phone under the ?' Because it's really obvious when you put under the table then you look down, it's really very obvious. Then the teacher thought that you are not listening then they will come over and they saw you are holding your phone and using it.

B- Then will they confiscate?

C- Er maybe they will give you one last chance (ok) but if you continue to do it like this, maybe we'll confiscate and tell the parents. (Mm...) YEha

B- How would you feel in this school?

C- Er not relaxed.

B- SO for you it's very reason to be relaxed (Yes) What makes a good relaxed environment? (I don't know) Teachers are nice. you mentioned (Yes)

B- One last question ok? I need you to help me think about how did you choose your secondary school? What made you decide to choose this secondary school? What was important? OK?

B- When did you start thinking about choosing a secondary school?

C- Mm.. before I get my PSLE results, right before

■ Started doing Survey

Tied to academics
 Writing
 Understanding question
 Peer relationships
 Lost friendships
 Academic Support
 Academic struggles
 Relax room
 Difficulty concentrating
 Behavior difficulties
 Academic struggles
 Support
 Listen to children's needs - Act on it
 Having a significant adult
 Remind each other
 Gaining Independence
 Gaining travel independence
 Teacher- relationship
 Discipline
 Others
 Academics
 Worries
 Worried about passing PSLE
 Teachers - Ideal School
 Forgiving
 Positive Friendships
 Peer Relationships
 Academic aspect
 Coding Density

- B: What subjects were important for you? (all subjects)
 (Talking about priority)
 C: First, studies
 B: What kind of studies? The school is good at studies?
 C: No not so
 B: The school is able to provide support
 C: yeah provide support.
 B: anything else? Support – Academic support? (Er no.) or in emotional support (Emotion) Oh ok
- B: Talk to friends? About.. what they like about the schools? (yes)
 B: ANYthign else you can improve?
 C: No. Uh studies
 (deciding on schools with mum)
 B: So finally when you had to choose a school did you and mummy agree? Stongly agree?
 C: Agree.
 It's just that I wanted to go SM school but she don't know where SM School.
- B: Then how? In the end did you go to SM school?
 C: no
- B: How did you come up with like, what made you decide not to put SM school?
 C: Because one of the, one of my best friends are there.
- B: Then how? Mummy don't know SM but you want SM school. How did you all choose?
 C: Maybe I can put SM... because the most I want is my sister's school
- B: So it was still one of your choices
 C: My second choice

