

PARENTS' PERCEPTIONS OF ONLINE LEARNING FOR CHILDREN WITH DYSLEXIA DURING THE COVID-19 PANDEMIC IN MALAYSIA

Mee Yuen Doh^{1*}

Shi Wei Chu, PhD²

Sharimila Ambrose, PhD³

¹Master's graduate

¹²³Special and Inclusive Education Programme

School of Education

University of Nottingham Malaysia

^{1*}Corresponding Author: doh.mee.yuen@gmail.com

Research in special needs have found parents to perceive online learning during the COVID-19 pandemic to be more difficult and challenging, compared to in-person schooling. This study explores parents' perceptions of online learning for children with dyslexia during the COVID-19 pandemic in Malaysia. The study employed a qualitative multiple-case study using semi-structured interviews to examine parents' perceptions of teacher instruction, their child's academic progress, and their own experiences, during online learning. Three families participated in this study. Findings suggested that parents have perceived teachers to lack the instructional and technical skills for online teaching, use standardised instruction and lack accommodations. Parents have also perceived a loss of learning in their child's academic performance during the pandemic and found online learning during the pandemic to be challenging to both themselves and their child. Study findings can inform future research in three areas, namely, enhancing accessibility in online learning for children with dyslexia, investigating strategies for mitigating losses in online learning, and providing support to parents for sustainable implementation of online learning for children with dyslexia.

Keywords: Dyslexia, online learning, parents' perceptions, COVID-19 pandemic

INTRODUCTION

In a global emergency to curb the unprecedented COVID-19 pandemic (henceforth, the pandemic) in March 2020, many governments worldwide enforced social distancing, which led to school closure in 180 countries (The World Bank, 2020). Malaysia too, closed its schools, affecting approximately 5 million school children nationwide (Ministry of Education, 2022). As schools closed across Malaysia, online learning was quickly deployed to deliver education to children in their homes. Online learning refers to teaching and learning activities that are conducted synchronously (i.e. real-time) or asynchronously (i.e. non-real-time) on digital platforms using electronic devices such as laptops, tablets, and smartphones (Singh & Thurman, 2019; UNESCO, 2020). The rapid transition to online learning saw parents taking on the unexpected role of supporting their child's learning from home. Studies on special education in Malaysia have documented various challenges faced by parents during online learning in the pandemic (Amir & Mohd, 2022; Farah & Manisah, 2022; Mohd et al., 2021). However, there has been no published research on the impact of online learning for children with dyslexia and their parents in Malaysia (Amir & Mohd, 2022). This study aims to explore online learning for children with dyslexia during the pandemic in Malaysia by examining parents' perceptions of their child's academic learning, and by understanding parents own experiences in the process.

Dyslexia is a specific learning disorder with a neurobiological origin (American Psychiatric Association, 2013). Dyslexia is characterised by unexpected difficulties with reading, spelling, and recognising words. The difficulties may impede the individual's reading comprehension and writing fluency (Shaywitz & Shaywitz, 2020; Snowling et al., 2020; Vellutino et al. 2004). According to the American Psychiatric Association (2013), dyslexia is not explained by deficits in intelligence, sight or hearing acuity, educational opportunities, or socio-economic status. The International Dyslexia Association (2020) estimates 15-20% of the population to experience some symptoms of dyslexia. In Malaysia, government statistics estimate that 4%-8% of school children have dyslexia (MyHealth, 2020). Children with dyslexia require specific instruction (National Reading Panel 2000; Lee & Lee, 2021), as well as accommodations (Shaywitz et al., 2008) that could improve learning outcomes for them. Three critical accommodations for the learning success of students with dyslexia are: (a) auditory input; (b) assistive technologies; and (c) additional time (Shaywitz et al., 2008, Young & Clerke, 2024). Without the appropriate instruction and accommodations, a child's learning could be adversely hindered. However, previous research has largely focused on in-person instruction of children with dyslexia (Lee & Lee, 2021). Therefore, it is unclear how the learning of children with dyslexia has been impacted by online learning during the pandemic. Nevertheless, a small number of recent research has provided some insight into three key areas on the topic which are teacher instruction, academic progress, and parents' own experiences (Pastori et al., 2021; Farah & Manisah, 2022; Jumareng et al., 2022). Therefore,

parents' perceptions of online learning of their children with dyslexia through teacher instruction, academic progress and experiences during online learning will be explored in this study.

LITERATURE REVIEW

Teacher Instruction

Research suggested that students with dyslexia and their parents have found online learning to be difficult (Forteza-Forteza et al., 2021; Baschenis et al., 2021). Forteza-Forteza et al. (2021) concluded that students with dyslexia and their parents have perceived teachers to lack the instructional and technical skills for online teaching. Students with dyslexia reported that teacher instruction in online learning did not meet their specific needs, with standardised instruction being a key challenge. Furthermore, the same study found that assistive tools were not used in online learning. Standardised instruction is an instructional approach that considers all learners to be homogeneous with the same learning needs, instead of them being heterogeneous with diverse learning needs (Ainscow, 2020). In dyslexia, standardised instruction potentially erect learning barriers that amplify a student's difficulties with reading and writing, thereby impeding access to learning. For example, students with dyslexia have described working significantly harder at text-oriented tasks in standardised instruction, compared to their peers (Maurer-Smolder et al., 2021). Similar effects have been found in standardised online instruction, where dyslexia difficulties with the written word continue to persist (Pang & Chen, 2017; Woodfine et al., 2008). These findings well support Forteza-Forteza et al.'s (2021) report of students' difficulties with standardised online instruction. Importantly, studies have shown that the utilisation of accommodations such as assistive tools, visual-verbal media (e.g., video-conferencing), and self-paced learning could ameliorate students' difficulties in standardised online environments; resulting in more favourable learning outcomes (Maurer-Smolder et al., 2021; Pang & Chen, 2017; Shaw et al., 2022, Lowenthal & Lomellini, 2023). Students with dyslexia would continue to require accommodations that make learning accessible to them when standardised instruction is used in online learning.

Academic Performance

In another study (Baschenis et al., 2021) which compared the academic performance between students with dyslexia and typically developing children, as well as the perceptions of their parents, more students with dyslexia reported difficulties in following online classes. Similarly, more parents of students with dyslexia perceived their child to face difficulties in online classes. The students with dyslexia also faced challenges with managing homework and text comprehension. Importantly, more students with dyslexia had failed to achieve the learning outcomes that would have been expected of them under pre-pandemic conditions. Overall, the study revealed that the academic progress of students with dyslexia had deteriorated during online learning. Baschenis et

al.'s (2021) findings are consistent with Pastori et al. (2021) which revealed that more parents of children with special needs reported their child to experience difficulties and challenges with online learning, compared to parents of typically developing children. However, it could not be ascertained from Baschenis et al.'s study whether the children's difficulties were consequences of dyslexia challenges in an online learning environment, or due to other moderating factors, such as disruption to education during the pandemic. Contextual and moderating factors can be further explored to mitigate academic challenges which could be encountered by children with dyslexia in online learning.

Positive Perceptions of Online Learning

In contrast to the above, other studies from the pandemic have reported positive perceptions of online learning. Shaw et al. (2021) found that among medical students with dyslexia in university have found online learning during the pandemic to be a positive experience for the participants. Compared to traditional in-person learning, students felt empowered to be self-directed in online learning (Shaw et al., 2021). A similar example was reported in Maurer-Smolder et al.'s (2021) study among university students. In one special needs study, parents have favoured online learning for their child's health safety concerns during the pandemic (Jumareng et al., 2022). Taken together, research showed that students who had perceived online learning positively in the pandemic are likely to be university students (Maurer-Smolder et al., 2021; Shaw et al., 2021), more self-directed (Maurer-Smolder et al. 2021; Shaw et al., 2021), or may have specific health needs (Jumareng et al., 2022) which can be further explored through parents' perspectives.

Parents' Experiences of Online Learning

Online learning during the pandemic required high physical and emotional involvement from parents of children with dyslexia while primary school children required more help with their schoolwork, compared to secondary school children, with mothers being more involved than fathers (Baschenis et al., 2021; Forteza-Forteza et al., 2021). The findings are consistent with Pastori et al. (2021) who reported that parents of children with special needs had spent long hours helping their child with schoolwork, at the risk of their own mental health. Parents have also perceived social isolation during online learning to be stressful for their children (Baschenis et al., 2021; Forteza-Forteza et al., 2021). Largely, perception surveys across special needs studies have found parents to perceive online learning as being more difficult for their child, and more demanding of parents, compared to in-person schooling (Farah & Manisah, 2022; Misirli & Ergulec, 2021; Mohd et al., 2021) which can be further explored in the Malaysian context.

PURPOSE OF THE STUDY

In Malaysia, there is currently no known research on online learning for children with dyslexia (see Badrotul et al., 2022). Concurrently, there is a lack of both international and local research on parents' perceptions of online learning for children with dyslexia during the pandemic. The purpose of this study is to explore parents' perceptions in order to gain insight into online learning for children with dyslexia in Malaysia during school closures in the pandemic. The research questions are:

1. How do parents perceive teacher instruction in online learning for their child with dyslexia, during school closure in the COVID-19 pandemic?
2. How do parents view their child's academic progress during online learning?
3. How do parents describe their own experiences in supporting their child's online learning?

METHODOLOGY

Research Design

As the research questions dealt with understanding how a recent set of experiences in a real-world context have been processed retrospectively by individual participants, a qualitative multiple case study was deemed appropriate for answering the research questions (Yin, 2018). Additionally, a qualitative approach to the case study allowed for in-depth exploration and deeper understanding of participants' experiences through their own descriptions and explanations (Cohen et al., 2018; Crowe et al. 2011; Stake, 2010), an aspect that was not examined in previous studies. In this study, a case is defined as a family unit whose child with dyslexia was enrolled with a government school or a private school, and had attended online learning during the pandemic in Malaysia (Yin, 2018).

Participants

Participants were recruited using purposive sampling and consisted of parents of children with dsylexia in government schools and private schools. Given that one of the study objectives was to examine the academic progress of school children with dyslexia during the two years of online learning (i.e., 18 March 2020 through April 2022), all study participants' children must have attended in-person schooling before transitioning to online learning. In each family, both parents were sampled. For adequate data triangulation, a total of three families were recruited for this study (Stake, 2010; Yin, 2018). Participant characteristics are presented in Table 1.

Table 1
Participant Characteristics Information

Case	Parents	Child's name and gender	Child's age (years)	Educational setting	Device used in online learning	Child on online learning (hours a day)	Parents helping in online learning (hours a day)
Family 1	Melati Din	Sheila, girl	9	Government school, special education	Laptop, Smartphone	<1	<1
Family 2	Hana Zul	Fadly, boy	12	Private school, mainstream	Tablet, Smartphone	4-5	<1
Family 3	Amani Farouk	Amir, boy	17	Private school, mainstream	Laptop, Smartphone	>5	<1

Instrumentation

Data was collected using semi-structured interviews. Semi-structured interviews allow for flexibility in participant's responses, besides providing room for the interviewer to probe deeper for insights (Cohen et al., 2018; Creswell & Guetterman, 2020). To achieve the purposes stated, open-ended interview questions were used. The interview questions were developed based on themes derived from literature review and the research questions.

Procedure of the Study

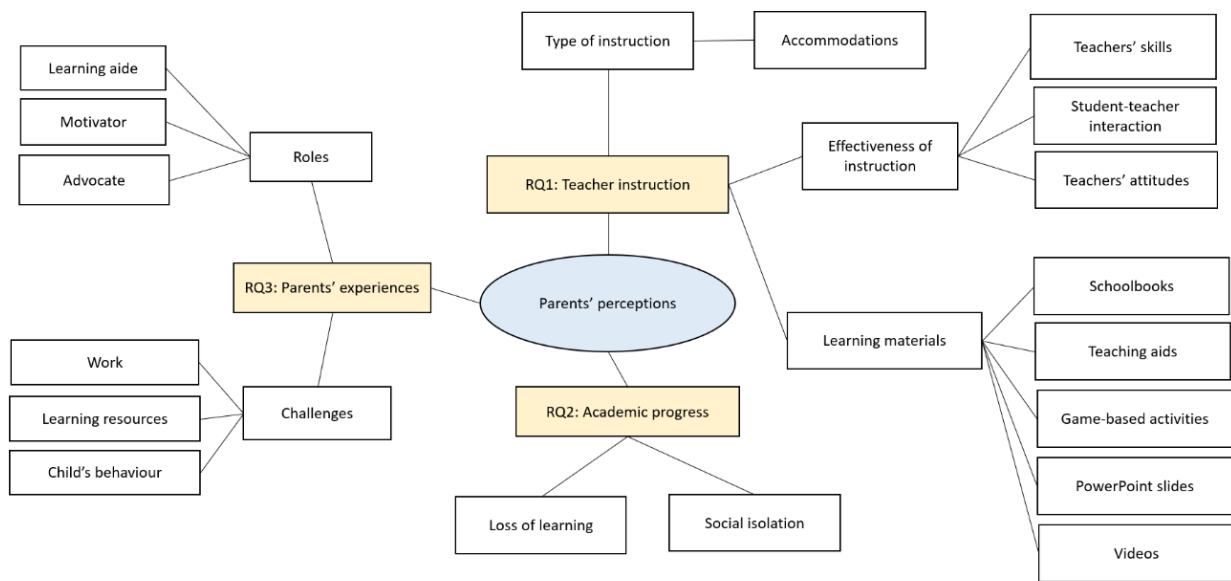
Data were collected via online interviews over four weeks. Both written and verbal consent were obtained from participants for the interview to be audio-recorded on voice-recording devices. Following that, each audio-recording was transcribed verbatim into a Word document on the

primary researcher’s laptop. Every transcript was checked against the audio-recording for accuracy before the final transcripts were analysed for findings.

Data Analysis

Data were analysed using cross-case synthesis in order to identify within-case patterns (Stake, 2010; Yin, 2018). Following that, comparative analysis was made across cases for replications and differences, which were then synthesised to form a holistic interpretation of the phenomenon being studied (Stake, 2010; Yin, 2018).

Figure 1
Thematic Map of Findings



Validation of Findings

After achieving data saturation, to minimise flaws in interpretation, findings were validated using triangulation and member checking (Creswell & Guetterman, 2020; Stake, 2010). For triangulation, both parents were interviewed in order to establish corroborating evidence (Creswell & Guetterman, 2020; Stoner & Angell, 2011). Interview data were then analysed for corroborating statements between husband and wife for confirmability (Stoner & Angell, 2011). In member checking, participants were emailed a summary of their transcribed interview, and asked to confirm for accuracy of description and interpretation (Creswell & Guetterman, 2020; Stake, 2010).

RESULTS

This section presents findings thematically under the three research questions. Data are arranged according to the order in the scope of interview questions.

Parents' Perception of Teacher Instruction in Online Learning for their Child with Dyslexia, during School Closure in the COVID-19 Pandemic

Extra Time Has Enhanced Learning

All participants reported that in online learning, their child had received the same instruction as before in in-person schooling. Participants did not perceive any difference in the teachers' instruction before the pandemic and during online learning. None of the children received accommodations in their daily online lessons. Assistive tools were not used. However, Amir (F3) was given extra time in all his examinations. Amir's parents found the extra time to be beneficial to his performance in examinations, as *'the extra time really helps for the subject that he studies'* (Farouk, F3). Amani (F3) felt that the extra time helped Amir because *'he writes quite slow'*. For Fadly (F2), on one particular examination where he was given extra time, and aided by his mother's audio-recording of the questions, he was able to achieve good performance. *'Because of that time given by the teachers, he managed to pass the exam, all the subjects'* (Hana, F2). Sheila's mother, Melati (F1), confirmed that Sheila was not given any extra time or assistive tools during online learning: *'So we parents have to sit next to her and assist her especially during class so she's not left behind lah'* (Melati, F1).

Teachers' Instructional and Technical Skills

All participants perceived the instruction in online learning to be less effective than in in-person learning. Melati and Din (F1) perceived the quality of instruction to be affected by the teachers' lack of skills for online teaching. Melati (F1) commented that the teacher's *'pace was kinda faster'* compared to in-person learning, thus making it difficult for Sheila to follow the online lessons. Additionally, the teachers were also not proficient in using digital technology, as Melati (F1) said, *'I think they do not know how to share from the same device.'* Both Din and Melati (F1) felt that the teachers' lack of skills for online teaching contributed to their child's losing concentration in online class. Similarly, Hana and Zul (F2) perceived teacher skills for online teaching to be key factor in engaging Fadly's class participation. In general, Fadly rarely participated in the online

class, *'like the teacher asked the students to answer some questions, so rarely for him to put up his hand to answer the question'* (Zul, F2).

Student-Teacher Interaction

Two families (F1, F2) attributed the lack of effectiveness in online instruction to the lack of student-teacher interaction in online learning compared to in-person schooling. Parents perceived the reduced student-teacher interaction to have negatively impacted their child's engagement in the lessons. *'What I can see the kids are getting lost while the teacher is trying to tell them and the teacher does not see that the kids are not understanding'* (Din, F1). Among the families, Hana and Zul's (F1) child, Fadly, appear to be the most affected by the lack of student-teacher interaction in online learning, *'Last time at school they had a lot of two-way communication, ya, that's why, quite a culture shock for him to get the first online session during the first lockdown'* (Hana, F2). The lack of peer and student-teacher interaction during online learning negatively impacted Fadly's behaviour and attendance in class.

Teachers' Attitudes

Amani and Farouk (F3) viewed teachers' attitudes to be a critical factor in Amir's motivation to attend online classes. Amir's academic performance was impacted by how his teachers related to him. Farouk (F3) said:

He [Amir] just needs to be motivated. Usually the teacher plays an important role here. Everytime he's comfortable with the teacher he will wake up, he will get ready early for the class, but you know the Economics class, the teacher that has negative response to him, he will be demotivated, sometimes he didn't even attend school.

(Farouk, F3)

Teachers' instructional and technical skills, student-teacher interaction and teachers' attitudes reveals the various aspects which influence the learning of children with dyslexia in online classes.

Interactive Teaching Aids

Various learning materials were used in the online classes, from conventional schoolbooks and teaching aids to PowerPoint slides, game-based activities, and videos. Only one family (F1)

reported the use of schoolbooks and teaching aids in online learning. Melati and Din (F1) found the use of schoolbooks in online learning to be ineffective for Sheila. Both parents were doubtful the teaching aids used were effective but they agreed that the materials helped to ‘*retain the children's attention towards the screen*’ (Melati, F1). Two families (F1, F2) mentioned the use of interactive game-based activities. Melati observed that of all the learning materials, Sheila responded most positively to game-based activities:

So it's a game, so she answer answer answer, and then there's a game function to it, and at the end she can see the score because it is game basis. So that one is totally fine, she likes it. (Melati, F1)

In Hana and Zul's (F2) experience, interactive game-based activities served more than an academic purpose. Both parents found the activities to also offer Fadly an opportunity for peer interaction.

The game homework, and they got score...ya (laughs)...and the points they can collect, so basically he will compete with his friends la, whenever he got that type of homework, he will get excited and he will sure do it (laughs). (Hana, F2)

All three families reported the use of videos in online learning. However, their responses to the effectiveness of videos is varied. Melati (F1) felt that some videos were too lengthy and therefore, unable to sustain the child's attention. Hana and Zul (F2) observed that their child did not find all videos to be attractive. Videos containing Power Point teaching slides did not engage the child's attention (Zul, F2). Hana (F2) observed that Fadly had found videos with ‘*very simplified infographics*’ attractive. Similarly, Amani and Farouk (F3) observed that their child learned best with visual aids accompanied by audio. Power Point slides with just words were not effective for their child (Amani, F3).

Parents' Perception of their Child's Academic Progress during Online Learning

Loss of Learning

Two families (F1, F2) observed that their child's learning had deteriorated during online learning, using descriptions such as ‘*cannot remember*’ (Melati, F1), ‘*doesn't understand*’ (Melati, F1), and ‘*everything dropped*’ (Hana & Zul, F2). Din (F1) described Sheila as ‘*getting a bit backward...some of the things that normally she can do previously before the MCO (Movement Control Order) start, before the online class learning start, some of it she forgot how was it*’ (Din, F1). Hana and Zul (F2) noticed that compared to in-person schooling before the pandemic, Fadly's

academic performance had deteriorated drastically during online learning. Compared to their other two children who do not have dyslexia, Din (F1) felt that online learning was harder for Sheila who has dyslexia. Melati (F1) observed that Sheila has made progress since resuming in-person learning, *‘Back then even simple calculation she cannot do. Spelling, reading, all she cannot do... But during face-to-face she can memorise and then she can know...ah ah ah...which day is Monday, which day is Tuesday and everything’*. Similarly, Zul (F2) commented that Fadly is *‘picking up again’* academically since resuming in-person learning.

In contrast to F1 and F2, Amani and Farouk (F3) felt that while Amir has made *‘tremendous progress’* since resuming in-person learning, his overall academic progress was determined more by his own sense of self-motivation, content mastery, and the teachers’ attitudes towards him. Both Amani and Farouk (F3) noted that Amir had acquired a sense of self-motivation only in the year he turned 17 years old (i.e., 2022), *‘whatever happens before 2022, there was no motivation, no self-confidence, there was no...nothing la...’* (Amani, F3).

Social Isolation

Two families (F1, F2) perceived their child to prefer in-person schooling, primarily for the peer interaction. Parents viewed the social isolation during online learning to have impeded their child’s motivation to attend online classes, leading to behavioural challenges such as boredom, absenteeism, and sleeping in front of the computer during class. On the other hand, Amani and Farouk (F3) felt that Amir would be acceptable of online learning, although the parents’ themselves preferred in-person schooling.

Parents’ Experiences in Supporting their Child’s Online Learning

Parents’ descriptions of their experiences were organised into two groups, that is, parents’ roles in providing learning support, and the challenges they encountered in their child’s online learning.

Parent as Learning Aide

Two families (F1, F2) provided learning support to their child during online learning. Din and Melati (F1) took turns *‘to sit next to her [Sheila] and assist her during class’*. Similarly, Hana (F2) undertook the role of a learning aide to *‘sit with him, read passages to him, help with homework...it’s just that ya, I recorded a few videos also’*. Amani and Farouk (F3) did not personally assist Amir in his academic learning. Instead, they engaged external help for Amir, *‘he also has special tuition which is more prepared in managing students like Amir’* (Farouk, F3).

Parent as Motivator

All families expressed providing motivational support to their child, both explicitly and implicitly. *'So to get him to go the class, we need to make sure he's in a good mood physically'* (Hana, F2)

Parent as Advocate

Amani and Farouk (F3) also took on the role of being advocates of Amir's learning at school, *'I made it clear to them [the school] in the application form, I mentioned that Amir is dyslexic. I made it clear how Amir needs to be handled'*. (Amani, F3)

Challenges reported by parents relate to their own work commitments, lack of learning resources, and the child's challenging behaviours.

Work Commitments

All participants reported being stressed with juggling between their own work commitments and supervising their child in online learning. *'I have to work, even though I was at home it doesn't mean I can also attend to him'* (Amani, F3). Melati (F1) expressed that *'it was a very challenging time for parents because we're juggling between work and the online classes, then for the children as well, they seem to lost interest and concentration.'*

Learning Resources

One family (F1) had difficulties with the lack of schoolbooks and teaching aids for their child's online learning. Due to the sudden lockdown, Melati and Din (F1) did not have the schoolbooks on hand to help Sheila at home because the schoolbooks had been kept at school just before the lockdown, *'we were lacking of tools at home to actually help our children with the online learning'* (Melati, F1).

Child's Challenging Behaviour

All participants reported experiencing challenging behaviour in their child, especially Family 1 and Family 2. Challenges included sense of demotivation, absenteeism, social isolation, screen addiction, and presentation of co-morbidities. Parents described their child's challenging behaviour

as *'she didn't want to wake up'* (Melati, F1), *'she wasn't motivated'* (Melati, F1), *'lie to us and didn't attend class'* (Hana, F2), *'he gets frustrated'* (Zul, F2), *'if the teacher ignores him, he will drift off'* (Amani, F3), *'if he doesn't want to go to the class, he just don't'* (Amani, F3).

During the period of online learning, Fadly (F2) developed symptoms of Tourette's Disorder, which was very challenging to both himself and his parents. The parents are concerned if the onset of the symptoms could be associated with the excessive amount of screen time during the period of lockdown and online learning.

Benefits of Online Learning

Participants largely viewed online learning to be of little benefit. Two families (F1, F2) perceived online learning to be difficult and ineffective, *'With online learning, I don't see the fun there. So as a parent, I don't think it's fun, so I think if I myself find it is rather difficult, I believe my children feel the same as well.'* (Melati, F1). One family (F2) viewed online learning to be beneficial only for the time-efficiency. *'Only thing I will agree on the time, whereby we don't need to rush la, rush to send him to the class, for example, for tuition'* (Hana, F2).

DISCUSSION

For efficient discussion, findings are rearranged to align as closely as possible with themes that emerged from literature review for coherent discussion.

Parents' Perception of their Child's Academic Progress during Online Learning

Teacher instruction in online learning during the pandemic had remained unchanged from in-person schooling prior. No accommodations were given or assistive tools used in daily lessons. It is therefore reasonable to interpret the data as saying that standardised instruction was used for the students in online learning. This interpretation is further supported by data on the types of learning materials used in online learning. From participants' descriptions, it appeared that each student had received the same standardised materials as their classmates. Additionally, participants have found schoolbooks, conventional teaching aids, and text-rich Power Point slides to be ineffective for their child in online learning. As mentioned previously, text-rich media impede access to learning by children with dyslexia in online environments (Pang & Chen, 2017; Woodfine et al., 2008), particularly when there are no accommodations (Knoop van-Campen et al., 2018; Pang & Chen, 2017; Woodfine et al., 2008, Le Cunff et al., 2024). In contrast, data indicated that

the children had shown significant engagement with interactive game-based activities and videos. However, data also cautioned that text-rich videos are unlikely to engage children with dyslexia in learning. In conclusion, the data suggest that standardised instruction during online learning had impeded learning accessibility for children with dyslexia.

Interestingly, participants were not particularly concerned about the standardised instruction in online classes. Instead, participants expressed greater concern at teachers' lack of skills in fostering classroom interactions in the online class. In particular, families with primary school children felt that the lack of classroom interactions in online learning had caused their child to disengage from online class. Incidences of disengagement included absenteeism, non-attention, and non-participation. Participants' concerns about classroom interactions affecting student engagement in online learning is not unfounded. Previous research has shown that classroom interactions are significant factors to enhancing student learning outcomes in online learning (Baye et al., 2019; Bolliger & Martin, 2018; McTigue et al., 2020).

Data also showed that participants have generally perceived teachers to lack the technical skills for online teaching. This interpretation is derived from data indicating teachers' lack of proficiency with how digital technology works, thereby hampering the quality of instruction. Some studies have suggested a plausible link between teachers' digital technology competency with classroom interaction in online learning (Ain, 2022; Bolliger & Martin, 2018; Norehan & Mahaliza, 2021).

Parents' Perception of their Child's Academic Progress during Online Learning

All participants have perceived deterioration in their child's academic progress during online learning. In one family where there was comparison with typically developing siblings, online learning was more difficult for the child with dyslexia. All participants concurred that their child performed better academically in in-person schooling than in online learning. Parents' perception of their child's academic deterioration is well supported by various research on student learning outcomes in the pandemic. Although many studies were not specific to online learning and children with dyslexia, evidence have associated pandemic school closures with significant learning losses in children (Angrist et al., 2021; Engzell et al., 2021; Schuurman et al., 2021). Learning loss is the loss in knowledge and skills, due to a disruption in the learning process (Angrist et al., 2021; Kuhfel et al., 2020; Boulay & McChesney, 2021). Learning loss is particularly concerning for Malaysia due to the prolonged school closure. The Asian Development Bank (2021) had projected Malaysia to have one of the largest learning losses in Southeast Asia. Research have also shown children

with special needs to be particularly at greater risk of learning loss (Patton & Reschly, 2013; Schuurman et al., 2021; The World Bank, UNESCO, & UNICEF, 2021).

Parents have perceived social isolation as a key factor that negatively impacted instruction effectiveness in online learning. Parents attributed social isolation to their children being disengaged from online classes, thereby leading to losses in learning. Consequently, two families with primary school children in this study have perceived their child to prefer in-person schooling for the social interaction. However, the third family whose child is in secondary school, were neutral about their child's perceived preference. Participants' dissimilar perceptions are consistent with research which revealed that while most students preferred in-person schooling, a very small number of students preferred online learning (Asadullah, 2022). Importantly, this study's finding that the secondary child would not mind online learning is consistent with research evidence that students who perceive online learning positively are likely to be older and more self-directed (Maurer-Smolder et al., 2021; Shaw et al., 2021). Despite the dissimilarities in the participants' perception of their child's respective preferences, all participants themselves preferred in-person schooling for the social interaction.

Parents' Experiences in Supporting their Child's Online Learning

All participants have perceived online learning to be difficult for themselves. Participants took on the roles of being learning aides, motivators; and in the case of one family, being advocates for their child's learning. While some of these roles may have preceded the pandemic, the significant increase in these roles have presented challenges to parents who were working from home during the pandemic. Challenges included juggling between their child's online learning and their own work commitments, the lack of learning resources, and the child's challenging behaviours. Additionally, from preceding sections, it is evident that parents have demonstrated great concerns with their child's social isolation during online learning. The description of roles and challenges faced by parents is echoed in numerous studies examining parents' experiences in online learning during the pandemic (Amir & Mohd, 2022; Farah & Manisah, 2022; Jumareng et al., 2022; Misirli & Ergulec, 2021; Mohd et al., 2021).

Although Table 1 (see above) appeared to show that parental involvement was consistent across all three families; however, participants' descriptions suggested that parental involvement is higher at the primary school level than secondary. This is consistent with findings from Pastori et al. (2021) that younger children with special needs require more parental assistance in online learning, compared to older children. Participants' descriptions of their experiences indicated that online learning had been stressful for both the parents and the children, particularly children in primary school. Therefore, it is not unexpected that participants had largely found very little benefit

in online learning, except for one family who had found efficiency in time management during online learning.

RECOMMENDATIONS FOR FUTURE RESEARCH

This study has a number of limitations which are small sample size, different school types, wide age range of children, and urban parents; which limit the generalisability of the findings. The delimitation of the study involves the researchers' in-depth analysis of each case and holistic reporting of the findings. Recommendations for future studies would be to widen the demographic background of the participants to include parents from rural areas for greater generalisability.

CONCLUSION

This study suggests that parents have found online learning for children with dyslexia during the pandemic to be difficult and ineffective, with losses seen in their child's academic learning. Study findings can serve to inform future research into instructional frameworks that can enhance accessibility in online learning for children with dyslexia, such as the UDL. More research can also be conducted into investigating learning losses that has occurred during online learning in the pandemic and how these losses can be mitigated to help students catch up on their learning. For future implementations of online learning to be sustainable, support and training for parents should be included.

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