

The impact of COVID restrictions on children with special educational needs in the early years: Evidence from educators' perspectives in Hong Kong

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Abstract

Children with special educational needs (CSEN) in the early years have been identified as vulnerable to the pandemic restrictions. This study explored the lived experiences of educators teaching CSEN online in Hong Kong during the COVID-19 school closures. Semi-structured interviews with 21 educators revealed that educators perceived the prolonged school closures and online learning as adversely affecting CSEN's development. In educators' observations, during school closures and upon returning to school, CSEN's academic learning was less affected compared to CSEN's social skills. Still, educators found that some autistic children coped better than CSEN with other types of needs (e.g. with attention-deficit hyperactivity disorder) in academic learning due to fewer classroom distractions and less social pressure. The insights from the educators provide key areas of focus for CSEN in the early years to recover from the aftermath of the pandemic and for future unforeseen school closures.

KEYWORDS

children with special educational needs, COVID, early years, online learning

Key Points

- The analysis sheds light on educators' views on both the challenges experienced by CSEN during the COVID-19 school closures and some positive effects of online learning.
- Educators experienced a lack of social opportunities for CSEN and viewed this as particularly problematic, as they observed deteriorated school readiness, socio-emotional and socialisation skills and heightened anxiety in CSEN upon return to school.
- Educators perceived CSEN's social skills to have deteriorated due to observing an unusual increase in disputes during playground play in lower primary students at the resumption of school.
- Educators expressed challenges in determining appropriate ways to support CSEN as educators had difficulties attributing the perceived issues to genuine impairments versus temporary issues caused by the absence of onsite schooling.

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The onset of the coronavirus SARS-CoV2 (COVID) pandemic in Hong Kong (HK) in January 2020 caused school closures resulting in online learning for children in the early years. Since being declared a ‘pandemic’ in March 2020 (WHO, 2020), school closures have played havoc on global education systems, particularly affecting vulnerable learners (UNESCO, 2022a). These closures continued intermittently as a major virus containment strategy during so-called ‘waves’ (periods of high infections). The omicron variant resulted in widespread cases of infected residents in HK, starting the fifth (and latest) wave in January 2022. This wave of infections once again triggered school closures, motivating the current study. Figure 1 shows the timeline of school closures in HK, where schools closed six times during five waves.

Even after the fifth wave had subsided and schools had reopened, virus containment strategies such as mandatory mask-wearing and health and safety protocols continued to be administered in HK schools. Only in March 2023, after 3 years, were all restrictions, including mask-wearing, lifted by the HK government (GovHK, 2023). Therefore, this study aimed to gain insight into the lived experiences of educators teaching school-aged children with special educational needs (CSEN) in the early years (2–8 years) during the COVID-induced school closures and restrictions in HK.

Early childhood is an important period with exceptional brain development, providing a critical window for education (UNESCO, 2022b). During this time, children's experiences in their daily environments build foundations that are critical for language, social, and emotional learning (Tierney & Nelson III, 2009). Thus, the youngest learners were at high risk of incurring losses and ‘falling behind’ during the pandemic school closures (World Bank et al., 2021). Additionally, the specific learning difficulties of children in the early years with special educational needs (SEN) placed them at a higher risk

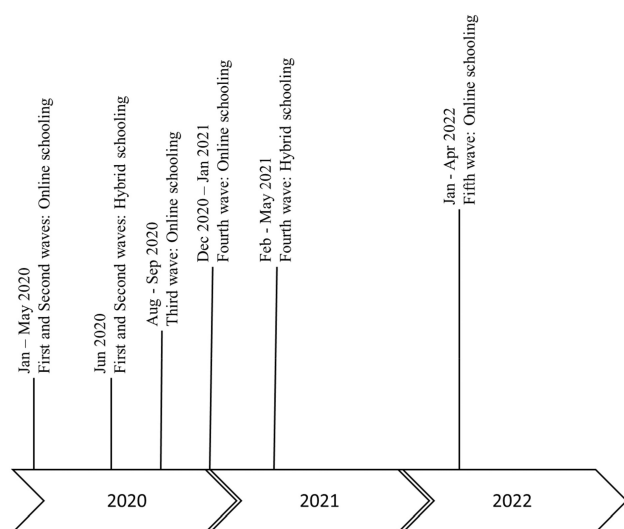


FIGURE 1 Timeline of COVID-induced school closures in HK.

than typically developing children during school closures (Genova et al., 2021). The Organisation for Economic Co-operation and Development (OECD, 2005, p. 12) defines CSEN as individuals who are:

‘Not able to benefit from the school education made generally available for children of the same age without additional support or adaptations in the content of studies. Therefore, SEN can cover a range of needs including physical or mental disabilities, and cognition or educational impairments.’

Furthermore, CSEN have been identified as a particularly vulnerable group during the pandemic, with a higher risk of developing psychosocial problems in online learning settings in the absence of the support commonly established in schools than typically developing children (Tso, Wong, et al., 2022). Therefore, it is essential to examine and understand the potential impact of the pandemic on CSEN's development in the early years.

BACKGROUND

Challenges for CSEN during the COVID-induced restrictions

Prior to the pandemic, parents and teachers had mixed views towards the role and use of technology for the development of children in the early years. For example, Plowman et al. (2011) explored parents' perspectives on technology use in children's play and learning at home. While some parents viewed children's interactions with technology as essential for development and, thus, incorporated technology in children's play, other parents considered children's engagement in traditional childhood activities (e.g. imaginative games with dolls and outdoor play) more important and noted that children could learn using technology when in school. Still, the use of computers and tablets was found to be beneficial in young children's numeracy learning, with tablets more effective in providing stimulating learning experiences than computers (Papadakis et al., 2018). The interactive elements and ease of using tablets could increase engagement and learning motivation (Blackwell, 2013). However, some SEN teachers found it challenging to identify quality learning content on tablets that can meet CSEN's specific learning needs (Blackwell, 2013). Despite these concerns, learning with technology was found to provide easier access to learning activities, opportunities for self-directed learning, increased motivation, individualised support, and improved academic performance for CSEN (Marteny & Bernadowski, 2016).

However, play (i.e. self-directed fun activities) is also essential in the early years, as it offers an interplay between developmental and educative outcomes with an

opportunity to practice and reflect on cognitive concepts and solve problems (Aras, 2016; Pyle & Danniels, 2017). In addition, play can also promote children's personal and social development (e.g. self-regulation, working and socialising with peers, learning social norms and independence; Nilsson et al., 2018). However, due to their social communication difficulties, CSEN find it more challenging to engage in social play (Kesäläinen et al., 2022). Furthermore, in school, educators successfully facilitate social play for CSEN with the flexibility and autonomy to participate in social interactions based on CSEN's specific needs (Parry, 2015). Thus, while technology may have benefits, opportunities for social interactions offered in face-to-face (F2F) learning settings are crucial for the holistic development of CSEN and children in the early years.

Yet, during the pandemic, learning switched rapidly to online platforms and significantly increased young children's exposure to technology. This increased reliance on technology for learning imposed limitations on some families of CSEN in accessibility (i.e. access to technological equipment), navigation (i.e. technological skills and expertise) and effectiveness (i.e. keeping CSEN motivated and engaged in online lessons) (Luna et al., 2022). Teachers also found it difficult to meet the needs of CSEN in online learning, particularly regarding CSEN with complex needs due to a high reliance on families' support and the absence of F2F interactions, which are deemed essential in young children and CSEN's learning (Steed & Leech, 2021). Given CSEN's pre-existing mental health conditions, the sudden changes in routines and lack of unmet support needs due to the pandemic-induced restrictions exacerbated CSEN's challenges (Toseeb et al., 2020). Many parents reported CSEN experiencing intense emotional responses, such as increased crying, nervousness, anger and sadness; CSEN were overusing technology (e.g. excessive television watching) and had reduced physical activity (Sancho et al., 2021).

For example, autistic children's mental health was already affected before the pandemic. Autism, sometimes referred to as autism spectrum disorder (ASD), is 'a collective term for a group of heterogeneous disorders characterised by impairments in social interaction and verbal and non-verbal communication, and repetitive and stereotyped behaviours' (Van Wijngaarden-Cremers et al., 2014, p. 627) and an inability to empathise and infer the minds of others (Baron-Cohen, 2009). Indeed, when Wong et al. (2021) interviewed social service professionals to assess the experiences of families caring for autistic children in HK, the results showed that autistic children displayed more problematic emotional behaviours, and that these children even regressed in social and self-control skills during the pandemic, as reported by the social service professionals (Wong et al., 2021).

While Wong et al.'s (2021) study examined the views of an important stakeholder group in the education of CSEN, the present study expanded that scope. In

particular, the current study aimed to assess the challenges of CSEN during online learning observed by *teachers* as they were experiencing first-hand the day-to-day difficulties faced by CSEN. Moreover, teachers' experiences of teaching CSEN online likely differ depending on the severity of their students' SEN. For example, the multi-item 'COVID-19 experiences and perceptions survey' with educators in Turkey found the perceived level of COVID impact for CSEN to be significantly higher than the hypothesised mean, which was defined as the scale mean ('medium impact') on a five-point Likert scale, regardless of the type of disability. Autistic students and students with intellectual disabilities were impacted the most by the pandemic distress, followed by students with attention-deficit hyperactivity disorder (ADHD), according to educators' reports (Yakut, 2021).

The current study expanded on the perceived levels of impact on CSEN reported in Yakut (2021). In addition, rather than studying a specific group of CSEN (e.g. autistic children; Wong et al., 2021), it further explored the lived experiences of HK educators teaching CSEN with different types of needs. The views of HK teachers warrant further investigation because they are the key group alongside parents responsible for ensuring CSEN's continued learning during school closures.

Potential positives for some CSEN during the COVID-induced restrictions

There were also potential positive aspects of school closures for a minority of CSEN. For example, CSEN experienced reduced school pressure and more free time for creative play at home (Chawla et al., 2021). Moreover, Paterson et al.'s (2024) scoping review showed improved mental health for a minority of children (reported by parents in 13 of the included 21 studies) due to the less demanding routines and less pressure during school closures, resulting in improved sleep and mood, relaxed demeanour and less challenging behaviour. Online learning could also reduce the social pressure and demands on CSEN imposed in school settings (Hill et al., 2021; Ludgate et al., 2021), as many CSEN find it more challenging to engage in social interactions at schools, such as play, than their peers (Kesäläinen et al., 2022). The nature of online learning also motivated educators to re-evaluate previously used teaching practices towards more creative and individualised learning approaches to keep CSEN engaged (Gomez et al., 2022).

Yet, despite some potential benefits for academic learning, the lack of social interactions and disruption in routines caused by the pandemic could lead to differing outcomes for CSEN (Hill et al., 2021; Paterson et al., 2024; Tso et al., 2023). In fact, a majority of the 17 studies related to home learning reviewed by Paterson et al. (2024) reported negative experiences of CSEN pertaining to technology and the nature of online work.

The potential benefits experienced by CSEN were dependent on parental support at home, communication with the school and the level of support offered by schools to CSEN and families (Hill et al., 2021). Another study of school-aged CSEN (6–11 years) found that a deterioration in the quality of life after school resumption was not directly associated with CSEN's worsened emotional and behavioural functioning; instead, it was associated with worsened parental worry and emotional functioning (Tso et al., 2023). Moreover, most studies reporting some benefits of learning from home focused on autistic children (Paterson et al., 2024). It is unclear whether children with other types of SEN also experienced these benefits, warranting further exploration of the potential benefits of online learning on academic and socio-emotional learning for CSEN with different types of needs.

Another potential positive outcome of school closures for CSEN are reduced bullying incidents and peer meanness while learning from home (Chawla et al., 2021; Hill et al., 2021; Wong et al., 2021). Bullying is the repeated exposure to intentional negative actions by a single student or a group of students with an imbalance in strength and power (the victim has difficulty in self-defence against the students who harass), which may be in the form of direct bullying (physical and aggressive attacks) or indirect bullying (social isolation and exclusion from a group) (Olweus, 1994). Studies have shown the occurrence of bullying in young children (3–6 years), with CSEN more susceptible to bullying than children without SEN (Kirves & Sajaniemi, 2012; Repo & Sajaniemi, 2015). In a study with children aged 4–5 years in Norwegian kindergartens, play and friendships were the most important experiences for children (Helgeland & Lund, 2017). In the kindergarteners' views, bullying emerged as intense teasing and social exclusion from play, experiences that were more common among children who appeared to be 'different' (e.g. loud, unable to participate in social games, socially awkward, poor language skills) (Helgeland & Lund, 2017). The playground has also been found to be the space where most bullying incidents occur in primary school students (Andreou et al., 2015). However, in the absence of F2F schooling and due to social distancing requirements, young children and CSEN had very limited playground experiences, if any. Capturing educators' observations of young children's social interactions during school closures and at the resumption of F2F schooling can shed light on the perceived trends in bullying and peer meanness among young children when they were removed from the place where they would be most exposed to these experiences, and what happened once they could return to the playground.

However, while physical bullying experiences may have been limited when learning primarily took place online during the school closures, the potential occurrence

of cyberbullying must also be considered as a possible downside of extended screen time. Cyberbullying can be an extension of bullying already occurring at school or on the playground or between people who have never met F2F; it is committed through electronic means (smartphones, computers, laptops, tablets) and can take forms such as threats, intimidations, name-calling, harassment, exclusion or posting personal data (Anti-bullying Alliance, 2015). Research on adolescents found those with SEN to be more likely to be perpetrators or victims of cyberbullying than peers without SEN (Barringer-Brown, 2015; Beckman et al., 2020; Cavallini & Cavallini, 2021; Eden et al., 2013). In addition, a study in an American context found that 60% of the primary and secondary school teachers surveyed reported a decline in bullying/cyberbullying in asynchronous online learning (Martene & Bernadowski, 2016). Yet, 40% of the teachers did not observe any decline in bullying/cyberbullying during asynchronous learning, possibly because it can be difficult to detect bullying in online environments independent of the learning mode unless reported by students or parents (Martene & Bernadowski, 2016). However, there is less research on cyberbullying in CSEN and preschool children. By exploring the perspectives of educators teaching kindergarten and primary school CSEN in their online classes, the current research will expand the limited knowledge on cyberbullying from the observations of educators, to whom also children or parents may report cyberbullying instances.

Adverse developmental outcomes of COVID-induced restrictions on CSEN

As education systems return to normalcy, studies investigate the adverse developmental outcomes of school closures on children's attainment. For example, a World Bank study features evidence of learning loss (in terms of knowledge and skills) in school-aged children (Patrinos et al., 2022). Accordingly, the first wave of school closures already resulted in an average student losing one-third to half years' worth of learning, thus limiting opportunities for progression to higher levels of schooling. Moreover, given that the HK school closures were longer than other countries, longer-term consequences will likely be more severe for children in HK.

Studies have shown learning losses for a general population of school-aged children with younger and vulnerable learners, such as CSEN, who are already at a higher risk of experiencing learning losses (United Nations Children's Fund (UNICEF), 2022). However, there is limited research on the specific learning losses in CSEN in HK. The Society for Community Organisation (SoCO, 2022) estimates 82,858 CSEN in HK, representing 8.09% of all children in the city. This number

excludes children suspected of SEN as they have yet to be formally diagnosed, suggesting that the true figure is likely higher. Hence, CSEN represent a significant percentage of HK children. Insights from HK can provide valuable knowledge for SEN and early years education globally to understand, based on educators' experiences, the potential long-term effects of pandemic-related restrictions on learning for vulnerable groups and point towards ways for redressal.

Research questions

It has been established that children in their early years were particularly vulnerable to the pandemic-induced school closures, especially if they had SEN (e.g., Sancho et al., 2021; Toseeb et al., 2020; Wong et al., 2021). However, there is limited research on the short- and long-term developmental implications in HK and globally. Thus, knowledge from HK can aid education systems around the world in providing adequate support for CSEN at the resumption of onsite F2F teaching. With these aims in mind, the following research questions (RQs) were raised:

RQ1. What were the challenges experienced by CSEN, as reported by educators, during the COVID-induced restrictions?

As a first step, it is important to understand the extent to which educators perceived CSEN's existing problems as worsening and new problems emerging during the pandemic. CSEN's educators have expertise in children's education and development and experience with the children who they teach every day. The insights generated from educators' perspectives can help raise awareness, motivating schools and parents to improve online learning provisions for CSEN during future school closures, such as due to typhoons, the spread of upper respiratory tract infections, or large-scale social and political events (e.g. protests).

RQ2. Which positive aspects of COVID-induced restrictions did educators perceive for CSEN?

An in-depth understanding of the potential academic and social–emotional benefits of online learning for CSEN as observed by their educators during online teaching can help to enhance future online education provisions. It will also enable educators to integrate positive aspects of online learning in post-pandemic teaching.

RQ3. What are the (adverse) developmental outcomes of learning during COVID-induced restrictions for CSEN in the early years, as per the perspectives of educators?

Exploring educators' perspectives on the effects of school closures and online learning on CSEN's learning and development will enable schools, teachers and education departments to adapt curricula and offer adequate support catering to CSEN's current needs.

Therefore, this study will explore the views of education professionals on the potential long-term implications of school closures on CSEN.

METHODS

Participants

The participants in this study were educators from four private schools in HK (two kindergartens and two primary schools). Private schools were chosen as access to participants was possible during the COVID fifth wave (whereas it was difficult to access educators at public schools). The study focused on educators as they represent a crucial stakeholder group with professional knowledge and expertise in teaching CSEN. Participants were selected using purposeful sampling (Berg & Lune, 2017) to ensure they met the criteria of having special knowledge and expertise in teaching CSEN in the early years (2–8 years) during the pandemic. This procedure ensured the data collected was relevant in addressing the RQs. The school principals approved the study, and all participants were approached individually through email.

The interviewees comprised seven kindergarten teachers, seven primary school teachers (mainstream classroom teachers and SEN support teachers), six school leaders (e.g. vice principals or staff responsible for curriculum provision, inclusion, and family support), and one SEN professional from an agency providing private specialised services. The majority of the participants were female and between 30 and 60 years old (see Table 1). Furthermore, the interviewees came from varied ethnicities and countries of origin (i.e. the UK, India, Canada, HK, Ireland, New Zealand, and Germany).

Data collection

A brief questionnaire was administered through Google Forms to obtain the professional and demographic information of the participants to ensure they fit the criteria outlined above. Subsequently, semi-structured interviews were conducted with 21 educators. The interviews enabled in-depth exploration of the answers to the RQs (Rubin & Rubin, 2011). An interview protocol was used, providing structure to the main questions with the possibility of follow-up questions (Kvale & Brinkmann, 2009). The protocol included three open-ended questions structured according to the RQs. Follow-up questions were then asked as themes emerged to attain deeper insights. Topics discussed included the challenges, benefits, and long-term consequences of COVID restrictions for CSEN. All interviews were conducted over the virtual platform ZOOM in March 2022

TABLE 1 Participants' demographic information.

School type	Pseudonym	Role	Age	Gender
Teachers				
Kindergarten	PA	Classroom teacher	30–39	F
Kindergarten	PB	Classroom teacher	50–59	F
Kindergarten	PC	Chinese teacher	30–39	F
Kindergarten	PD	Classroom teacher	20–29	M
Kindergarten	PE	Classroom teacher	30–39	F
Kindergarten	PF	Classroom teacher	30–39	F
Kindergarten	PG	Chinese teacher	30–39	F
Primary	PH	Classroom teacher	20–29	F
Primary	PI	Classroom teacher	30–39	M
Primary	PJ	Classroom teacher	40–49	F
Primary	PK	SEN teacher	30–39	M
Primary	PL	SEN educational assistant	30–39	F
Primary	PM	Classroom teacher	40–49	F
Primary	PN	Classroom teacher	40–49	F
Leadership personnel				
Kindergarten	P1	Vice principal	30–39	F
Kindergarten	P2	SEN coordinator	40–49	F
Kindergarten	P3	Vice principal	40–49	F
Kindergarten	P4	Vice principal	50–59	F
Primary	P5	SEN coordinator	40–49	F
Primary	P6	Vice principal	50–59	F
Clinic	P7	Director	50–59	F

Note: F, female; M, male.

during the COVID fifth-wave surge in HK when schools were closed. Educators' participation was voluntary, and participants were assured confidentiality, guaranteed by using lettered and numbered pseudonyms.

Data analysis

All but two interviews were audio-recorded with participants' prior permission (two participants did not give consent to being recorded). Transcripts were generated using the ZOOM live transcription function. The transcripts were re-read in conjunction with the audio recordings to correct misinterpretations and mistakes. The computer-assisted qualitative data analysis software NVIVO was used for coding the interview transcripts.

Coding as a major grouping strategy (Maxwell, 2005) was the first step in the data analysis. Thematic analysis was chosen as the method for organising the codes into themes (Braun & Clarke, 2022). It was a suitable choice providing a mechanism to identify patterns related to educators' lived COVID teaching experiences. The analysis combined deductive and inductive procedures by using codes identified in the literature and developing new codes that originated from the data and

were not found in previous literature (Creswell, 2018). Participant quotes were included in the results verbatim with revisions only for mere grammatical relevance, providing strong evidence and grounding to the research results.

RESULTS

Differences in the type of SEN appeared to determine the severity of the impact of online learning, as reported by CSEN's educators. The most prominent SEN mentioned by the educators were autism, global developmental delay, and ADHD (see Table 2). P7, as an SEN professional, reported differential impact, with some autistic children coping better while others with ADHD found online schooling harder due to their unique learning difficulties (e.g. being unable to sit still): 'with the iPad in the background, children with ADHD were rolling on beds and somersaulting on the floor with their need for movement'. Additionally, educators perceived online learning to be detrimental for children with dyslexia, dyspraxia, language delays, and other developmental disorders. Thus, in educators' perspectives, CSEN's experiences (challenges and some positives) differed with the type and severity of SEN.

TABLE 2 Types of SEN to which the participants referred.

SEN	Participant count
Autism	6
Global developmental delay	6
Attention-deficit hyperactivity disorder (ADHD)	4
Selectively mute	3
Emotional regulation	3
Visual impairment	2
Difficulties with communication and confidence	1
Dyslexia	1
Organisational skills	1
Rare genetic condition	1

Educators' reports on the challenges faced by CSEN during the COVID-induced restrictions (RQ1)

Educators unanimously endorsed F2F learning as the most desirable mode for children in the early years and those with SEN. In educators' views, the nature of online learning made it harder for CSEN to fully access the curriculum, which educators believed impacted CSEN's overall learning experiences.

Disconnect with learning

Online learning was viewed as 'a positive distraction' (PA) and 'the need of the hour' (P3) by the majority of participants. It enabled educators to extend support and connect with children and families during the fifth wave. However, the interviewees experienced hands-on, playful, and experiential learning as essential for the optimal and holistic development of children in the early years and those with SEN. Consequently, PB noted that 'for children's social-emotional development and communication skills, online is not really the way to do it'.

According to educators, CSEN learn better with a physical presence in the classroom environment as they have access to classroom resources. The lack of physical presence made it challenging for educators to identify CSEN's needs and provide appropriate support. In the physical classroom, teachers can read children's body language and emotions, enabling appropriate needs-based adaptations, but this was difficult in remote learning settings. PB reiterated, 'you've got a barrier to the attention. If you are in the classroom, you can actually take them somewhere where you know that you can get their attention'. Online learning was less flexible with school and parental expectations to complete the assigned online lessons. In contrast, learning adaptations

were more feasible in F2F settings; for example, teachers could forfeit a lesson for play if children were unable to concentrate.

Furthermore, six educators mentioned a shorter attention span and higher distractibility of CSEN in online classrooms (usually on ZOOM), with PA declaring, 'five to ten minutes was the maximum time where we could get their attention; after that, it's too much for them to stay on the call.' Thus, it was challenging for educators to engage CSEN in online learning, as described by PF: 'The autistic child is at the computer for the sake of it and the mind is completely inattentive'. However, teachers reported higher engagement in CSEN during one-on-one online lessons delivered creatively by SEN personnel (e.g. designing activities based on individual interests such as animals or space).

Home environment: pitfalls

Learning at home presented challenges for some CSEN, as observed by educators. In educators' views, the home environment lacked routine and consistency compared to F2F classrooms. In the physical classroom, teachers are aware of distractions and can adjust their teaching to meet the needs of the students. However, the distractions in CSEN's home environment (e.g. toys and television) were beyond teachers' control.

Seven educators were also concerned with the lack of independence for CSEN offered in the home, 'there's like a hand reaching over them; they are not even able to mute or unmute themselves' (P5). Adults heavily supported children during online learning to complete assigned tasks and take care of themselves. As a result, it was difficult for teachers to assess whether the submitted work was done independently. Thus, for CSEN who had difficulties with organisational, gross and fine motor skills, PN expressed concern that 'they are backtracking because they have someone beside them doing all the work.' The teachers noted that the increased dependency of CSEN on adults during online lessons, as observed by teachers, aggravated the children's independence and self-care. Educators expressed a preference for F2F learning, as it enabled them to create opportunities for independent work and to balance the support required by CSEN.

Educators' perspectives of the positive aspects for CSEN during the COVID-induced restrictions (RQ2)

Home environment as karma space

While many educators saw the home environment as a pitfall for some CSEN, for other children with certain SEN (e.g. autism and social difficulties), it was seen to be

TABLE 3 Home environment benefits derived from the thematic analysis.

Theme	Sub-theme	Codes	SEN characteristics	Meaning
Improved attention	Distraction	Sensory overload, visual distractions, and noise (P1, P7)	Sensory integration, attention (P1) and ASC (P7)	'Small number of children have thrived. Some children with autism have loved online learning.' (P7)
	Physical space	Comfortable, calmer, and quieter, adjustable room temperature and lights (P1, P5, P6, P7, PA)	Autism and sensory integration (P7)	'They actually shine through more that comes from the fact that they are more comfortable in the environment.' (PH)
Increased expression	Sharing ideas	More expressive and responding to questions (PH)	Autism (PH, PF), reserved (PH), selectively mute and shy (P2)	'Success of being online for students who don't have the social development is that they are a lot less distressed by social interaction.' (PK)
Autonomy to deal with emotions	Reduced pressure	Fewer comparisons (PK), less pressure to socialise (PN, PF), lower anxiety (PN), difficult emotions less noticeable (PN), flexibility to cope with emotions (PD)	Lack of social development (PK, PN, PJ, PD, PF) and anxiety (PN)	'Some of them don't want everyone to see that they're having a hard time, so they have privacy.' (PD)
Flexibility to pursue interests	Free time	No timetables (PC), fewer structured activities, more time to play (PN), more creative due to boredom (PN), opportunities for deep inquiry (P6)	All CSEN	'They don't always have the opportunity at school because the days are so much more structured.' (PM) 'More creative than usual.' (PN for play with LEGO)

a 'karma space' (P1), offering several benefits for learning. Table 3 summarises the benefits attained by the type of CSEN as reported by the educators. The codes in the table show the physical characteristics of the home environment and/or CSEN's behaviours. Similar codes were clustered to form sub-themes, which were combined in conjunction with the meanings (participant quotes) to assign a label to each theme.

Improved attention: Based on educators' experiences, for some autistic children and children with sensory integration, learning from the home environment offered less sensory overload, fewer distractions, and a more comfortable physical space, thus improving attention.

Increased expression: Educators observed that a few autistic children, shy children, and those selectively mute were seen to 'come out of their shell' (P1). The educators sensed that these children were more comfortable initiating interactions and sharing ideas in online lessons.

Autonomy to deal with emotions: Educators reported that learning from home provided children experiencing anxiety and social developmental challenges the autonomy to cope with emotions in their own time and privacy. Learning from home allowed CSEN to turn off their camera without being noticed by peers while coping with sensitive emotions. Educators shared that it was common for CSEN to experience difficult emotions and meltdowns. In F2F learning, they felt conscious of being watched by their peers, which was less noticeable online, according to the interviewed educators.

Flexibility to pursue interests: Educators found that for some CSEN, the additional time whilst learning at home presented opportunities to pursue personal interests due to less scheduled school timetabling pressures and extra-curricular activities. Thus, opportunities arose for CSEN

to engage in free play and continue with inquiry-based lessons taught online at home in their personal time. In PN's observation, children at the lower primary level (5–7 years) were 'more creative' than she had seen before.

Technology skills

Although educators thought online learning was not the desired mode of learning for children in the early years, some educators felt that children had gained valuable technology skills. Furthermore, educators noted that online activities can be captivating and help CSEN connect with learning. PE shared her experience of a CSEN who was engaged during online classes utilising interactive applications, as she realised that 'when it was online was the first time when I could see the spark in his eyes'. Moreover, the increased expression that CSEN attained in their home environments aligns with educators describing technology as an alternate means of expression that increases student agency (voice and choice), such as sharing photos on Padlet, voice-to-text recording, videos, online art, and using the ZOOM chat box, with PI describing it as giving 'them the opportunity to express themselves in a less socially pressured way.'

Educators' perceptions of the adverse developmental outcomes of COVID-induced restrictions for CSEN in the early years (RQ3)

The interviewed educators viewed the prolonged nature of the COVID restrictions as contributing to adverse

developmental outcomes for many children with CSEN due to these children's existing complex needs. These perceived adverse outcomes were discussed as relevant and prominent for all children in the early years, including CSEN.

Prolonged mask-wearing

Since the onset of the pandemic, HK children and educators had to wear masks in F2F classroom settings for 3 years. Reflecting on this period, P4 explained that 'a kindergarten child today is a 3-year-old born living with COVID. Their immune system is lacking, and they haven't developed normally like a child living in pre-COVID times.' According to the interviewees, mandatory mask-wearing in schools has limited young children's natural curiosity (e.g. putting things in their mouths) that educators consider necessary for the development of healthy immunity.

Nine educators shared their perceived adverse effects of mandatory mask-wearing on CSEN's social-emotional development. With mandatory mask-wearing, educators' observed CSEN being unable to read social cues and facial expressions, which, according to the educators, affected CSEN's social and emotional skills, as outlined by P2: 'Obviously, with masks on faces, they're not used to seeing expressions; they don't know emotions'.

Primary 1 school starters

Teachers felt that most children who started primary school in 2021 lacked school readiness skills. These skills included sharing with peers, problem-solving, verbal skills for expression, anger resolution, emotional regulation and self-management. This issue was exemplarily described by PG, referring to a girl who joined the school in September 2021: 'You can tell that there is something lost, and she is not a SEN child. She just doesn't have school experience.'

In addition, P7 observed that typically developing children and CSEN attending kindergarten and primary school experienced heightened separation anxiety when F2F classes resumed. Separation anxiety is experienced by young children when they first start school and separate from their parents and fades as children settle down. However, at the resumption of F2F schooling, educators' experienced children displaying prolonged anxiety and taking longer to settle in the classroom. While PM had a few children with severe attention issues in her class, she found that the rest of the class was also unsettled and that 'it was really difficult to learn as a whole class. All 30 of them together, you can't even get a sentence out without something happening!' Prior to the pandemic, there

would be fewer unsettled children in a classroom, and teachers did not experience classrooms being this unsettled, making it challenging to deliver the curriculum effectively.

Academic vs. social skills

The impact on CSEN's academic and social skills emerged as another perceived adverse consequence of school closures. There was a greater concern among educators for CSEN's undermined social skills than academic skills, as highlighted by P2, 'normally, it's academically when parents are saying, oh they're behind. But there's been a definite difference in social skills that needs to be worked on' (P2). P1 also elaborated on the concern for CSEN's social skills:

'Especially with the cohort that came into K1 this year, we saw a huge change compared to the cohorts we had the years before, as children really struggled to play together. Even though we have only done a little bit of assessment recently, the children are making progress and are actually achieving outcomes, but it's that play part.'

Thus, three educators (P2, P7, and PB) felt it was important to meet children 'where they are at' in their learning and to make modifications to cater to CSEN's needs in this difficult time. In these educators' views, CSEN had not reached the developmental level usually expected of them, and giving them appropriate challenges to progress would require adjustments, as clarified by P5:

'There's got to be an adjustment, we have got to teach where the kids are at and they are not at the place that they normally are. Academically, it doesn't seem to have impacted as much. But it's the social.'

Academic skills

Although assessments were harder to conduct on ZOOM, teachers felt that the limited assessments conducted would show that CSEN had progressed and continued to achieve academic outcomes. In some cases, as with PM's primary 1 class, 'academics is even stronger, maybe because they've had that one-on-one with home support' (PM). PM also explained that 'academically, an autistic child has not really needed anything.' Yet, not all educators felt the same way. On the contrary, PN reported that half of the children in

her primary 2 class had alphabet and number reversals at the start of the academic year (September 2021).

Social skills: Overwhelmingly, the most significant adverse effect of online learning for CSEN that educators experienced in their classes was the deprivation in social skills. For example, P7 reported that

‘We have seen some really unusual social patterns we have never seen before. They are finding it harder to engage and regulate during the play process. We feel like a lot of the kids are a year behind from where they should be.’

According to most educators, many CSEN face social challenges that can only be tackled through F2F interactions and exposure to social situations in school (i.e. by interacting with people they are not comfortable with). An SEN teacher remarked that ‘many of our children have less developed social interaction skills and in online learning, they struggle to practice the tools that we are trying to teach them’ (PK).

Thus, educators talked about social difficulties exacerbating in recess play when CSEN returned to school intermittently. Four lower primary teachers from three different schools shared the extensive challenges they observed on the playground due to a lack of prior socialisation. CSEN were involved in frequent playground disputes requiring teachers to mediate as ‘there were a lot of situations where it was even kind of bordering on bullying’ (PI). The playground, as a big, open, and unstructured space, was described as heightening anxiety levels and posing difficulties for emotional regulation. PK further described that ‘children now have fallouts, the older years and the younger years. There is a lot more physical reaction and crying just because they do not have the experience of playground play’.

Early intervention

Participants shared their concerns about identifying children's SEN as early as possible to provide adequate support towards improving learning outcomes. During online learning, teachers were prudent in referring children for diagnostic assessments, erring on the side of caution. It was harder for educators to assess the difficulties of children who had started primary school in September 2021 or joined school in January 2022 due to the short time spent in school. PM elaborated that

‘Potentially there are some children that I personally believe from my experience may have SEN. But I don't think that they will get assessed until later because we have been told that we need to give these children a chance.’

Some educators also feared there would be a higher chance for children showing difficulties to be missed, as indicated by P4, noting that ‘a child who's got a special need such as autism—you kind of overlook them because you put it down to be living with COVID-related and blame the speech problems to mask-wearing.’ On the other hand, there was also concern that a child continuously disengaged in online learning could develop SEN, ‘whilst you might not have a special need, it could turn into one because he is falling behind’ (PN).

Essential skills

Finally, the interviewees stressed that CSEN would need time and adjustments to adapt to school routines again. An example was given by P7 in referring to children with ADHD, explaining, ‘when they return to school, it will be a rude shock for them. To sit down and apply themselves as appropriate in the classroom.’ Thus, educators were in-sync to continue to adapt curricula in F2F teaching with significant foci on the acquisition of essential developmental skills, including social skills, expressive skills, collaborative play, building friendships, group work, independence, sense of belonging (identity), confidence to speak in front of peers, problem-solving and fine/gross motor skills. Social skills were especially highlighted by the educators, and P1 further demanded ‘to be more flexible with the curriculum and adapt the unit of inquiry towards expressing feelings, building friendships, and developing basic play and social skills rather than prioritizing academics’.

DISCUSSION

This study explored the lived experiences of educators teaching CSEN with different types of needs in HK kindergartens and primary schools during the COVID-19 school closures. The findings highlight educators' perspectives of the challenges, potential positives, and perceived adverse developmental effects of online learning for children in the early years and CSEN. While the results reiterate some findings from previous literature, new findings reveal areas of focus for schools and education departments in HK and globally towards recovering from the pandemic-induced turmoil.

Reflections on pandemic-induced positives

By investigating educators' online teaching experiences, this study identified disconnects in learning from home for CSEN (RQ1), on which previous studies have extensively focused (Sancho et al., 2021; Toseeb et al., 2020; Wong et al., 2021). However, the results also unveil some perceived benefits for a minority of CSEN during online

learning (RQ2). Expanding on Yakut (2021), who reported that teachers experienced a relatively strong impact of the COVID pandemic on CSEN (esp. for autistic children), our findings highlight that the challenges and potential positives of the COVID-induced online learning periods, as perceived by educators of CSEN, varied depending on the specific needs of these children. For instance, educators reported that autistic children coped better academically but were unable to practice social skills, and that children with ADHD were unable to concentrate for an extended period of time in online learning. Thus, rather than concluding that one group of CSEN was more affected than another or that all CSEN were affected equally, such general statements appear to be inadequate reflections of the complex diversity experienced by educators in teaching CSEN in online environments. Instead, the extent to which CSEN were perceived by their educators to be affected by the COVID pandemic must be viewed in light of CSEN's specific needs: educators viewed online learning as manageable for some CSEN regarding their academic learning, yet it was seen as unsuitable for a majority of CSEN with respect to play-based learning and the development of social skills. Although the benefits reported by the educators were limited to some children and outweighed by the challenges, retaining the valuable elements will help educators and parents inform best pedagogical practices for CSEN with a blend of technology and play-based learning.

The increased opportunities for children to engage in solo creative play (e.g. LEGO) at home were perceived by educators to have resulted in higher creativity in primary school children compared to pre-pandemic schooling. Indeed, research has shown that free time (inactivity and boredom) is valuable for the creative process (Loehle, 1990). HK children also benefited from the reduced school pressure during the pandemic (Chawla et al., 2021), with less homework, less stringent school timetables, and fewer extracurricular activities (sports and tutoring). Although school routines are important for CSEN, excessive structured activities limit children's free time, thus inhibiting creativity. Consequently, as school routines are re-established, a balance between structured and self-driven activities must be attained for CSEN to promote and strengthen pandemic-attained creative skills.

Although benefits were not observed for all children, educators reported that some autistic children coped better than some other CSEN (e.g. ADHD) in learning from the comfort of their home 'karma space'. Using technology to teach CSEN has proven to improve motivation, engagement and academic performance (Blackwell, 2013; Marteney & Bernadowski, 2016; Papadakis et al., 2018). Although this study did not find explicit links between technology use and academic performance, educators' accounts suggest that technology provided an 'alternate means of expression' that could

improve social confidence and expressive skills for some CSEN. Educators reported that F2F interactions could be intimidating and overwhelming for autistic children, children who are reserved, or are selectively mute. Integrating the 'pandemic-evolved technology' (e.g. video recordings, Padlets and voice-to-text) can provide less intimidating yet effective platforms for CSEN to share their thoughts with confidence.

Bullying incidents and peer meanness

Teacher reports from our study also suggest less exposure to bullying incidents and peer meanness for CSEN (Chawla et al., 2021; Hill et al., 2021; Wong et al., 2021) as a temporary benefit during school closures; yet upon return to school, in educators' experiences, all children including CSEN in kindergarten and lower primary displayed greater social-communication challenges than before the school closures.

In the current study, primary school educators from multiple schools reported intense playground disputes and a lack of emotional regulation in CSEN and lower primary school children upon the intermittent resumption of F2F schooling, also referred to as 'bordering bullying' by one participant (P1). At primary school age, most bullying incidents involving CSEN can be observed on the playground (Andreou et al., 2015), and the specific age or educational level may also matter. For example, a large-scale cross-sectional population study of families in HK (Tso et al., 2023) found that school-aged children and adolescents with SEN showed a poorer quality of life and more emotional and behavioural difficulties in comparison to preschool children (Tso et al., 2023). However, bullying has also been found at kindergarten age (Kirves & Sajaniemi, 2012), representing itself as intense teasing, social exclusion from play and the denial of friendships, resulting in unpleasant feelings of hurt, humiliation and sadness in the victimised children (Helgeland & Lund, 2017).

Upon the return to F2F teaching, educators observed challenges in emotion regulation among kindergarten and primary school children. Still, due to their social communication difficulties, CSEN generally have more challenges engaging in social play (Kesäläinen et al., 2022). Educators in this study further reported less developed school readiness and social skills in children starting primary 1 (due to a lack of F2F attendance in kindergarten), posing difficulties for all children and specifically CSEN to engage in effective social play at the start of primary school. Thus, it is difficult to deduce whether the playground disputes in lower primary school children reported by the interviewed educators in the current study were temporary displays of exacerbated social-communication difficulties as an effect of online learning or deliberate intentions of harm in young children's play and social interactions

that continued and/or worsened post-pandemic and which may qualify as 'bullying incidents'. Thus, further research is recommended to deeply understand peer meanness and bullying incidents in lower primary school children and kindergarteners (including CSEN) after the resumption of F2F schooling and upon settling into regular school routines.

Besides bullying in the physical space, repeated exposure to intentional negative actions can also be observed online (Anti-bullying Alliance, 2015). While there is little research on cyberbullying among CSEN in the early years, pre-pandemic research reported that almost a third of the surveyed HK students in lower primary school had already experienced or committed cyberbullying (Reichert et al., 2020; Tso, Reichert, et al., 2022). Furthermore, studies have shown that adolescent students with SEN are more likely to be perpetrators or victims of cyberbullying than peers without SEN (Barringer-Brown, 2015; Beckman et al., 2020; Cavallini & Cavallini, 2021). In addition, research in America found that a sizeable proportion of teachers (40%) did not observe a decline in cyberbullying in asynchronous learning among CSEN, which could be attributed to the generally low rate of and difficulty in educators identifying cyberbullying incidents unless these are reported by students or their parents (Martene & Bernadowski, 2016).

On the one hand, the current study seems to fit that picture, as cyberbullying was not mentioned by the interviewed educators, raising the question of the occurrence and extent of cyberbullying (if any) for CSEN during online learning. On the other hand, CSEN's (esp. primary school children's) increased exposure to electronic devices to complete synchronous and asynchronous learning tasks warrants consideration of the occurrence of cyberbullying in online learning environments. Given cyberbullying through electronic devices can be an extension of bullying already occurring at school (Anti-bullying Alliance, 2015) and taking into account that adolescents with SEN experience higher rates of cyberbullying than other adolescents (e.g. Cavallini & Cavallini, 2021; Eden et al., 2013) and that lower primary students were already exposed to cyberbullying prior to the pandemic (Reichert et al., 2020; Tso, Reichert, et al., 2022), it is relevant to explore whether children in lower primary school (at ages 5–8, and including CSEN) encountered cyberbullying in online environments during the pandemic-induced school closures and, perhaps more important, afterward when less monitored by their parents. Educators reported CSEN to be heavily supported by adults during online learning, thus, cyberbullying among kindergarten and primary 1 students would hardly go unnoticed. However, not all parents and caregivers could spend all online classes with their children (esp. older primary students), and exposure to digital devices may be even less monitored by parents after the pandemic. Therefore, further studies may consider

exploring the prevalence of cyberbullying (not limited to COVID-19 school closures) through the accounts of children themselves and their parents, to supplement research on educators' perceptions.

In sum, childhood bullying can result in adverse educational (e.g. lack of belonging, school absences and drop-out, and performance anxiety) and health-related outcomes in both victims and bullies, and the impact can continue in the long term into adulthood (e.g. mental illnesses, suicide ideation and criminality) (Armitage, 2021). As teachers may not notice bullying instances during online learning, further exploration is needed to understand the true nature of CSEN's (cyber-) bullying experiences in the early years as a result of the pandemic, both during online learning and upon return to school. A better understanding of cyberbullying for children in the early years and CSEN is essential for schools, educators and education departments, given the permeation of digital technology across almost all aspects of life, to adequately support and protect all young children and CSEN from adverse mental health and developmental outcomes.

Perceived adverse developmental outcomes

Similar to the deprivation in academic knowledge and skills acquisition identified in school-aged children (Patrinos et al., 2022), the educators interviewed in the present study also felt that the school closures had an adverse effect on the developmental outcomes for some children in the early years; these were perceived being more significant for CSEN (RQ3). On the one hand, academic learning was affected, but the exact losses incurred were inconclusive and not measured in this study. On the other hand, in educators' online teaching experiences, the deterioration in CSEN's social skills appeared to be more prominent than that in academic learning, as observed by educators upon the intermittent resumption of F2F schooling. Educators observed these in CSEN's lacking ability to understand emotions, follow school routines and engage in playground play. From educators' perspectives, mandatory mask-wearing in HK schools also adversely affected CSEN's social skills acquisition, as CSEN were unable to see the facial expressions of others, inhibiting their understanding of emotions.

Educators further reported reduced social skills acquisition, posing challenges in assessing the severity of the needs of young children, especially those just starting primary school, thereby creating a dilemma for early identification and intervention by the educators. According to the educators in our study, children who had just started primary school had also missed consistent F2F kindergarten learning. In educators' views, this limited their acquisition of social and school readiness skills, posing challenges for educators

in identifying the underlying causes of the displayed social-communication difficulties as COVID-related or genuine neurological causes that would require professional support. Therefore, at the resumption of F2F schooling, teachers highlighted a shift from ‘filling in the gaps’ in academic knowledge for children in the early years and CSEN towards fostering ‘essential life skills’ to facilitate CSEN's adjustment in regular schooling and to ensure the right supports are offered to each child to ‘meet children where they are at in their learning’.

Limitations

This study has some limitations. First, only educators from private schools were interviewed. The inclusion of educators from public schools could have enabled comparisons within the two school sectors with varying socioeconomic student populations. Children from disadvantaged backgrounds (e.g. low socioeconomic status) were also vulnerable to online learning, similar to children in the early years and CSEN (Mphahlele & Jikpamu, 2021). In this study, P6 acknowledged her school being privileged as families had access to technology and devices, which may not be the case across the city. Hence, additional factors might require consideration for CSEN studying in public schools. Comparative studies of children at different school types could further illuminate the long-term impacts of the pandemic-induced restrictions on CSEN.

Additional methods, such as online classroom observations, could further validate the experiences shared by the educators. Due to the uncertainties and high stress levels during the COVID fifth wave, getting permission for such observations was not feasible. The challenges experienced were measured via teacher interviews and were not cross-validated with parents' or children's views. Similarly, the long-term implications were examined based on educators' perspectives and not tested directly on CSEN. Future research could aim to triangulate different types of data from various sources; such studies could also further our understanding of parent involvement in CSEN's online learning. The value of the current study lies in extending existing knowledge on CSEN's education during school closures and offering valuable insights on the adverse developmental impacts of pandemic-related restrictions from the perspectives of education professionals.

CONCLUSION

This study weighed two juxtaposed aspects of the pandemic, challenges and positives for CSEN, through the lenses of their educators amidst the COVID restrictions

in HK. With a deeper understanding of the challenges for most CSEN and a focus on the positives experienced by some CSEN, online education can be improved for CSEN in future unforeseen school closures. According to educators, the prolonged school closures may have resulted in deteriorated social skills for children in the early years and those with SEN. This study also highlights areas that warrant further exploration, such as bullying involving CSEN in the early years. For example, cyberbullying (during school closures and beyond) is generally harder to identify for educators; hence, supplementary research on students' and parents' experiences is warranted. Educators' perceptions of less developed social skills after the resumption of F2F learning also demand post-pandemic explorations of bullying among young CSEN. Following the global COVID pandemic is a new post-pandemic era in which the essence of early years and SEN education remains crucial and valid. While there is a desire for ‘normalcy’, we must meet CSEN ‘where they are at’ in their development. The foundation of CSEN's academic and personal success must be based on F2F, hands-on, exploratory, and social learning, as well as blending some of the relevant positives experienced during the pandemic school closures.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

The research was undertaken with ethical considerations for qualitative research.

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REFERENCES

- Andreou, E., Didaskalou, E. & Vlachou, A. (2015) Bully/victim problems among Greek pupils with special educational needs: associations with loneliness and self-efficacy for peer interactions. *Journal of Research in Special Educational Needs*, 15(4), 235–246. Available from: <https://doi.org/10.1111/1471-3802.12028>
- Anti-bullying Alliance. (2015) *Our definition of bullying*. London: National Children's Bureau. Available from: <https://anti-bullyingalliance.org.uk/tools-information/all-about-bullying/>

- [understanding-bullying/definition#:~:text=The%20repetitive%2C%20intentional%20hurting%20of,Anti%2DBullying%20Alliance](#)
- Aras, S. (2016) Free play in early childhood education: a phenomenological study. *Early Child Development and Care*, 186(7), 1173–1184. Available from: <https://doi.org/10.1080/03004430.2015.1083558>
- Armitage, R. (2021) Bullying in children: impact on child health. *BMJ Paediatrics Open*, 5(1), e000939. Available from: <https://doi.org/10.1136/bmjpo-2020-000939>
- Baron-Cohen, S. (2009) Autism: the empathizing–systemizing (E-S) theory. *Annals of the New York Academy of Sciences*, 1156(1), 68–80. Available from: <https://doi.org/10.1111/j.1749-6632.2009.04467.x>
- Barringer-Brown, C. (2015) Cyber bullying among students with serious emotional and specific learning disabilities. *Journal of Education and Human Development*, 4, 50–56. Available from: https://doi.org/10.15640/jehd.v4n2_1a4
- Beckman, L., Hellström, L. & Kobyletzki, L. (2020) Cyber bullying among children with neurodevelopmental disorders: a systematic review. *Scandinavian Journal of Psychology*, 61(1), 54–67. Available from: <https://doi.org/10.1111/sjop.12525>
- Berg, B.L. & Lune, H. (2017) *Qualitative research methods for the social sciences*, 9th edition. Harlow: Pearson.
- Blackwell, C. (2013) Teacher practices with mobile technology integrating tablet computers into the early childhood classroom. *The Journal of Educational Research*, 7(4), 1–25. <https://cmhd.northwestern.edu/wp-content/uploads/2014/07/Blackwell-JEDR-Final.pdf>
- Braun, V. & Clarke, V. (2022) Thematic analysis. In: *Thematic analysis: a practical guide*. London: SAGE.
- Cavallini, M.C. & Cavallini, F. (2021) Online risks in children with special educational needs: an exploratory study. *Journal of Clinical & Developmental Psychology*, 3(1), 58–68. Available from: <https://cab.unime.it/journals/index.php/JCDP/article/view/2919>
- Chawla, N., Sharma, P. & Sagar, R. (2021) Psychological impact of COVID-19 on children and adolescents: Is there a silver lining? *The Indian Journal of Pediatrics*, 88(1), 91. Available from: <https://doi.org/10.1007/s12098-020-03472-z>
- Creswell, J.W. (2018) *Qualitative inquiry and research design*, 4th edition. Thousand Oaks: Sage.
- Eden, S., Heiman, T. & Olenik-Shemesh, D. (2013) Teachers' perceptions, beliefs and concerns about cyberbullying. *British Journal of Educational Technology*, 44(6), 1036–1052. Available from: <https://doi.org/10.1111/j.1467-8535.2012.01363.x>
- Genova, H.M., Arora, A. & Botticello, A.L. (2021) Effects of school closures resulting from COVID-19 in autistic and neurotypical children. *Frontiers in Education*, 6, 1–9. Available from: <https://doi.org/10.3389/feeduc.2021.761485>
- Gomez, D., Kunze, M., Glenn, E., Todis, B., Kelley, K., Karns, C.M. et al. (2022) Professionals' perspectives on service delivery: the impact of COVID-19 on early childhood special education providers. *Topics in Early Childhood Special Education*, 42, 1–11. Available from: <https://doi.org/10.1177/02711214211073964>
- Helgeland, A. & Lund, I. (2017) Children's voices on bullying in kindergarten. *Early Childhood Education Journal*, 45(1), 133–141. Available from: <https://doi.org/10.1007/S10643-016-0784-Z>
- Hill, C., Keville, S. & Ludlow, A.K. (2021) Inclusivity for children with autism spectrum disorders: parent's reflections of the school learning environment versus home learning during COVID-19. *International Journal of Developmental Disabilities*, 69, 546–554. Available from: <https://doi.org/10.1080/20473869.2021.1975253>
- Kesäläinen, J., Suhonen, E., Alijoki, A. & Sajaniemi, N. (2022) Children's play behaviour, cognitive skills and vocabulary in integrated early childhood special education groups. *International Journal of Inclusive Education*, 26(3), 284–300. Available from: <https://doi.org/10.1080/13603116.2019.1651410>
- Kirves, L. & Sajaniemi, N. (2012) Bullying in early educational settings. *Early Child Development and Care*, 182(3–4), 383–400. Available from: <https://doi.org/10.1080/03004430.2011.646724>
- Kvale, S. & Brinkmann, S. (2009) *Interviews: Learning the craft of qualitative research interviewing*, 2nd edition. Thousand Oaks: Sage.
- Loehle, C. (1990) A guide to increased creativity in research: inspiration or perspiration? *Bioscience*, 40(2), 123–129. Available from: <https://doi.org/10.2307/1311345>
- Ludgate, S., Mears, C. & Blackburn, C. (2021) Small steps and stronger relationships: Parents' experiences of homeschooling children with special educational needs and disabilities (SEND). *Journal of Research in Special Educational Needs*, 22(1), 66–75. Available from: <https://doi.org/10.1111/1471-3802.12542>
- Luna, A., Zulauf-McCurdy, C.A., Harbin, S. & Fettig, A. (2022) Latina mothers of young children with special needs: personal narratives capturing the impact of the COVID-19 pandemic. *Topics in Early Childhood Special Education*, 42(4), 302–314. Available from: <https://doi.org/10.1177/02711214221129240>
- Marteney, T. & Bernadowski, C. (2016) Teachers' perceptions of the benefits of online instruction for students with special educational needs. *British Journal of Special Education*, 43(2), 178–194. Available from: <https://doi.org/10.1111/1467-8578.12129>
- Maxwell, J. (2005) *Qualitative research design: An interactive approach*, 2nd edition. Thousand Oaks: Sage.
- Mphahlele, R.S.S. & Jikpamu, T.B. (2021) Re-imagining pedagogy for early childhood education pre-service curriculum in the face of the COVID 19 pandemic. *Journal of Interdisciplinary Studies in Education*, 10(1), 118–138. <https://www.ojed.org/index.php/jise/article/view/3445>
- Nilsson, M., Ferholt, B. & Lecusay, R. (2018) 'The playing-exploring child': Reconceptualizing the relationship between play and learning in early childhood education. *Contemporary Issues in Early Childhood*, 19(3), 231–245. Available from: <https://doi.org/10.1177/1463949117710800>
- Olweus, D. (1994) Bullying at school: basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry*, 35(7), 1171–1190. Available from: <https://doi.org/10.1111/j.1469-7610.1994.tb01229.x>
- Organization for Economic Co-operation and Development (OECD). (2005) *Students with disabilities, learning difficulties and disadvantages*. Paris: OECD Publishing. Available from: <https://www.oecd-ilibrary.org/docserver/9789264009813-en.pdf?expires=1725316326&id=id&accname=guest&checksum=206BB621AEFF9C186DB54C7FC9FF326>
- Papadakis, S., Kalogiannakis, M. & Zaranis, N. (2018) The effectiveness of computer and tablet assisted intervention in early childhood students' understanding of numbers. An empirical study conducted in Greece. *Education and Information Technologies*, 23(5), 1849–1871. Available from: <https://doi.org/10.1007/s10639-018-9693-7>
- Parry, J. (2015) Exploring the social connections in preschool settings between children labelled with special educational needs and their peers. *International Journal of Early Years Education*, 23, 1–13. Available from: <https://doi.org/10.1080/09669760.2015.1046158>
- Paterson, J., McCarthy, M. & Triantafyllopoulou, P. (2024) The impact of the coronavirus pandemic on the lives of children and young people who have special educational needs and/or disabilities in the UK: a scoping review. *Journal of Research in Special Educational Needs*, 24(1), 12–24. Available from: <https://doi.org/10.1111/1471-3802.12608>
- Patrinos, A.H., Vegas, E. & Carter-Rau, R. (2022) *An analysis of COVID-19 student learning loss (policy research working paper, 10033)*. Washington, DC: World Bank Group. Available from: <https://openknowledge.worldbank.org/handle/10986/37400>
- Plowman, L., Stevenson, O., McPake, J., Stephen, C. & Adey, C. (2011) Parents, pre-schoolers and learning with technology at home: Some implications for policy. *Journal of Computer Assisted Learning*, 27(4), 361–371.

- Pyle, A. & Danniels, E. (2017) A continuum of play-based learning: the role of the teacher in play-based pedagogy and the fear of hijacking play. *Early Education and Development*, 28(3), 274–289. Available from: <https://doi.org/10.1080/10409289.2016.1220771>
- Reichert, F., Lam, P., Loh, E.K.Y. & Law, N. (2020) *Hong Kong students' digital citizenship development: initial findings*. Hong Kong: The University of Hong Kong. <https://doi.org/10.25442/hku.22085726.v1>
- Repo, L. & Sajaniemi, N. (2015) Bystanders' roles and children with special educational needs in bullying situations among preschool-aged children. *Early Years*, 35(1), 5–21. Available from: <https://doi.org/10.1080/09575146.2014.953917>
- Rubin, H.J. & Rubin, I.S. (2011) *Qualitative interviewing: The art of hearing data*. Thousand Oaks: Sage.
- Sancho, B.N., Mondragon, I.N., Santamaria, D.M. & Gorrotxategi, P.M. (2021) The well-being of children with special needs during the COVID-19 lockdown: academic, emotional, social and physical aspects. *European Journal of Special Needs Education*, 37(5), 776–789. Available from: <https://doi.org/10.1080/08856257.2021.1949093>
- Society for Community Organization (SoCO). (2022) SoCO releases a survey regarding charges for the supporting services for children with SEN. <https://soco.org.hk/en/pr20220123/>
- Steed, E.A. & Leech, N. (2021) Shifting to remote learning during COVID-19: Differences for early childhood and early childhood special education teachers. *Early Childhood Education Journal*, 49(5), 789–798. Available from: <https://doi.org/10.1007/s10643-021-01218-w>
- The Government of the Hong Kong Special Administrative Region (GovHK). (2023) *Government lifts all mandatory mask-wearing requirements*. Hong Kong: GovHK. <https://www.info.gov.hk/gia/general/202302/28/P2023022800677.htm>
- Tierney, A.L. & Nelson, C.A., III. (2009) Brain development and the role of experience in the early years. *Zero to Three*, 30(2), 9–13. <https://pubmed.ncbi.nlm.nih.gov/23894221/>
- Toseeb, U., Asbury, K., Code, A., Fox, L. & Deniz, E. (2020) Supporting families with children with special educational needs and disabilities during COVID-19. *PsyArXiv*. Available from: <https://doi.org/10.31234/osf.io/tm69k>
- Tso, W.W.Y., Leung, L.K., Chow, M.S.C., Wang, Y., Li, C., Hui, K.Y. et al. (2023) Mental health of children with special educational needs and the return to in-person learning after the COVID-19 pandemic. *JAMA Network Open*, 6(12), e2346106. Available from: <https://doi.org/10.1001/jamanetworkopen.2023.46106>
- Tso, W.W.Y., Reichert, F., Law, N., Fu, K.-W., de la Torre, J., Rao, N. et al. (2022) Digital literacy as a protective factor against gaming addiction in children and adolescents: a cross-sectional study. *Lancet Regional Health*, 20, 100382. Available from: <https://doi.org/10.1016/j.lanwpc.2022.100382>
- Tso, W.W.Y., Wong, R.S., Tung, K.T.S., Rao, N., Fu, K.W., Yam, J.C.S. et al. (2022) Vulnerability and resilience in children during the COVID-19 pandemic. *European Child & Adolescent Psychiatry*, 31(1), 161–176. Available from: <https://doi.org/10.1007/s00787-020-01680-8>
- United Nations Children's Fund (UNICEF). (2022). *COVID-19 scale of education loss 'nearly insurmountable', warns UNICEF*. New York: UNICEF. <https://www.unicef.org/press-releases/covid19-scale-education-loss-nearly-insurmountable-warns-unicef>
- United Nations Educational Scientific Cultural Organization (UNESCO). (2022a) *Education: from school closure to recovery*. UNESCO. <https://www.unesco.org/en/covid-19/education-response>
- United Nations Educational Scientific Cultural Organization (UNESCO). (2022b) *Early childhood care and education*. UNESCO. <https://en.unesco.org/themes/early-childhood-care-and-education>
- van Wijngaarden-Cremers, P.J.M., Van Eeten, E., Groen, W.B., van Deurzen, P.A., Oosterling, I.J. & van der Gaag, R.J. (2014) Gender and age differences in the core triad of impairments in autism spectrum disorders: a systematic review and meta-analysis. *Journal of Autism and Developmental Disorders*, 44(3), 627–635. Available from: <https://doi.org/10.1007/s10803-013-1913-9>
- Wong, P.W., Lam, Y., Lau, J.S. & Fok, H. (2021) The resilience of social service providers and families of children with autism or development delays during the COVID-19 pandemic—a community case study in Hong Kong. *Frontiers in Psychiatry*, 11, 561657.
- World Bank, United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Children's Fund (UNICEF). (2021). *The state of the global education crisis: A path to recovery*. Washington D.C., Paris, New York: World Bank, UNESCO, and UNICEF. <https://www.unicef.org/media/111621/file/%20The%20State%20of%20the%20Global%20Education%20Crisis.pdf%20.pdf>
- World Health Organization (WHO) (2020, March 11). *WHO director-General's opening remarks at the media briefing on COVID-19*. WHO. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
- Yakut, A.D. (2021) Educators' experiences in special education institutions during the COVID-19 outbreak. *Journal of Research in Special Educational Needs*, 21(4), 345–354. Available from: <https://doi.org/10.1111/1471-3802.12533>

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