Studies in Technology Enhanced Learning

Journal homepage: **stel.pubpub.org**

Article type
Full paper, double-blind peer review.

Publication history
Received: 28 April 2023. Revised: 16 May 2023.
Accepted: 25 August 2023. Online: 02 December 2023.

Cover image
Badly Disguised Bligh via flickr.



Special issue Parents/guardians, education and digital technologies | **More at** https://doi.org/10.21428/8c225f6e.8e9598c2

Working parents home-schooling children with special educational needs during a pandemic: How best can mainstream schools help through digital technologies?

Barbara Skinner, Lesley Abbott, Samuel Taggart, Helen Hou

School of Education, Ulster University, Coleraine, United Kingdom

Keywords
Covid-19 pandemic; school closures; home-schooling; digital technologies; working parents; special educational needs; inclusion; differentiation

Citation
Skinner, B., Abbott, L., Taggart, S., & Hou, H. (in press). Working parents home-schooling children with special educational needs during a pandemic: How best can mainstream schools help through digital technologies? **Studies in Technology Enhanced Learning, 3**(3), 1-14.
https://doi.org/10.21428/8c225f6e.3cd45dab

Abstract

The competing demands of home-schooling and work commitments during the Covid-19 pandemic left working parents of primary school children with Special Educational Needs (SEN) exhausted, anxious about their ability to cope, and concerned for their children's learning and their future. This case study explored how mainstream primary schools could best facilitate the numerous challenges of home education using digital technology. Using a qualitative approach, four interviews were conducted with two parents of SEN children, one each before the first lockdown and following the second lockdown. Transcription, facilitating data analysis, was done through Otter Artificial Intelligence software. Research questions focused on the nature and extent of digital communication from schools, adjustments during the second lockdown, inclusive practices, differentiated provision, and guidance to nurture the children's emotional well-being. The results showed that online school contact with parents and children varied markedly in quality and frequency between different teachers, with more differentiated provision during the second lockdown particularly from the Special Educational Needs Coordinators (SENCOs) and Classroom Assistants (CAs). The value of these paraprofessionals establishing and maintaining online home-school links, namely, the SENCOs' online engagement with parents to identify and manage new problems, and the CAs' rapport and direct contact with the children offering practical help and coping strategies, was under-

https://doi.org/10.21428/8c225f6e.3cd45dab

lined. For future remote education, parents sought direction from mainstream schools about learning objectives, practical ways for children with special needs to understand abstract concepts, and weekly online activities with peers to work together in small groups and for social interaction. Appropriate levels of challenge were essential for SEN children linked to their developmental, physical and emotional needs, with consistent communication between parents, teachers and SENCOs, and the maintaining of records for subsequent assessment. Once schools re-opened fully, teachers needed to consider pastoral issues including coping strategies for pupils following extended periods of absence.

1. Introduction: Digitally supported home education in a global health emergency

As the Covid-19 pandemic unfolded, the impact on home learning became clear at all levels of formal education, imposing enormous pressure on parents globally. Schools in the United Kingdom (UK) were mandated to close during the first lockdown in March 2020. In Northern Ireland, they re-opened in September with pandemic restrictions in place including e-learning and no sharing of resources, followed by an extended half-term holiday (Skinner, Hou, Taggart & Abbott, 2021). The implications of a remote teaching modality for parents alongside outside work commitments were described as "twin shocks" (Andrew et al., 2020, p. 60) with "parents dealing in unknowns" (Canning & Robinson, 2020, p. 77). They felt ill-equipped to teach their children (O'Connor et al., 2020, p. 34) yet "all of a sudden [had] to take on a new pedagogical role" (Lindner et al., 2021, p. 1) with support from schools through often exclusively digital means.

The situation was greatly exacerbated for working parents, and a survey of 2,000 working adults with children at school found that two-fifths were home-schooling (Churchill, 2020), dealing with work commitments when their children were asleep (Skinner et al., 2021). Flynn et al. (2020, p. 7) reported that parents in the Republic of Ireland found "juggling multiple learning levels and work-home-children responsibilities exhausting, "impossible and unsustainable" with over half described as struggling (Office for National Statistics, 2020), "on the brink of collapse" (Hill, 2020) or "super stressed" (p. 6). Worries included "managing competing demands concurrently", guilt about not meeting children's needs, and concern about their emotional well-being and academic learning (Kallitsoglou & Topalli, 2020, p. 2).

This paper addresses the further magnified difficulties working mothers faced when single-handedly home-schooling children with Special Educational Needs (SEN) such as Autistic Spectrum Disorder (ASD). It describes how they confront specific, serious concerns about such pupils in mainstream settings (O'Connor-Bones et al., 2020), and identifies their coping mechanisms. Amidst the digital provisions by schools, parents felt unsupported and saw "a mismatch between their child's ASD features/additional health needs and the school-learning environment" (Hill et al., 2021, p. 4), yet children with special needs require and deserve individualised help. To quote Camilletti (1996, p. 39), "Bringing out the sparkle is what… differentiation is trying to achieve" adding that when it has been successful "children do light up with interest, understanding, confidence and a sense of success." For example, those children with ASD do like consistency "yet some parents do not stick with a mode of treatment long enough to see its effects" (Capanna-Hodge, 2021, cited in Ranee, 2021, p. 6). those with ASD need consistency, structure, and perseverance with a mode of treatment that does not immediately work rather than moving to another if there is no immediate effect (Capanna-Hodge, 2021, cited in Ranee, 2021, p. 6). Moreover, they do not like stressful situations that arise without warning or changes in their normal routines (Weir et al., 2020) and "face extra challenges when forced to study online" (Ranee, 2021, p. 1). Those with complex needs also require access to specialist equipment and professional support (Toseeb et al., 2020).

2. Literature review

Throughout the pandemic, mothers undertook the unfamiliar yet crucial role of home-schooling (ACER, 2020; Andrew et al., 2020; Bozkurt et al., 2020; Villasden et al., 2020). Kallitsoglou and Topalli (2020, p. 9) underlined these gendered responsibilities – "… my husband can 'go to work' in the spare room… whereas I am always multitasking" with expectations always to be available. The inevitable resentment could be avoided by "equitable paternal involvement" resulting in a greater sense of wellbeing (p. 12). For instance, Cahapay (2020, p. 2) reported that during the pandemic home educating Filipino children with autism involved most family members, citing the disquiet of Rose et al. (2020, p.2) about "the unavoidable stress" such families may experience. An Italian study showed that where there was more than one child with SEN in a family, the burden could be shared between parents with "individual targets for each and a family schedule" (degli Espinosa et al., 2020, p.553), rather than mothers undertaking "the lion's share" (Kallitsoglou & Topalli, 2020, p. 2).

It is fully recognised that schools, too, were facing uncharted waters as they tried to manage digital learning (Nelson, 2020). Like parents, teachers at all levels, including higher education (Toquero, 2020), had to respond with immediacy to online communities of practice. Kim and Asbury (2020) identified their key stressors as the suddenness of closures, uncertainty about their duration, and lack of familiarity with online teaching and learning. A seven-country European study on help provided by schools showed that although most children with SEN received some extra support during lockdown, it was low level, insufficient and of poor quality (Thorell et al., 2021). There was limited online contact between children at home and teachers, least so in Germany and the UK (both approximately 5%), as against Italy and Sweden (about 24% and 30%, respectively). Similarly, there was minimal peer contact online in Sweden and Belgium (in turn 13% and 12%) this time outdoing the UK (about 3%). While some working mothers with SEN children had tailored support from teachers, others did not – "I have to work and help [my son] with his homework at the same time" (Kallitsoglou & Topalli, 2020, p. 9). Moreover, the parents of some SEN children were coping with worsening behaviour during the ongoing health emergency (Colizzi et al., 2020) and diminishing motivation (Nusser, 2021).

Of particular value during lockdown, however, was the help provided by Special Educational Needs Coordinators (SENCOs) and Classroom Assistants (CAs), the latter described as "pivotal in allowing schools to keep functioning… the unsung heroes of the pandemic" (Moss et al., 2021, p. 3). They fulfilled an impressively wide range of tasks including preparing resources, liaising with families, giving individual assistance to pupils with difficulties and, crucially, "bespoke support" to SEN pupils across the UK (Moss et al., 2021, pp. 3-4). More widely, Webster and de Boer (2021) underlined the global impetus for the inclusion of such pupils in mainstream schools, asserting that "the intertwining of inclusion and teaching assistants [has] become the mortar in the brickwork… hold[ing] schools together in numerous and often unnoticed ways" (p. 163). Therefore, the support of these paraprofessionals during school closures throughout the Covid-19 pandemic became all the more crucial.

2.1 Inclusive, differentiated, digital provision during lockdown

Florian (2019, p. 696) spoke of the wide parameters of "the many different… contexts in which schooling occurs", and a pressing need arose for inclusive provision for SEN children during lockdown with an appropriate model of differentiation, what Nutbrown and Clough (2006, p. 3) called "the drive towards maximal participation and minimal exclusion." Simpson (1989, cited in Abbott 2001, p. 353) "defined the purpose of differentiation as ascertaining and meeting the different needs of pupils, including the most and least able". Similarly, Loreman (2017) emphasised that differentiated instruction meant careful alignment of tasks for learners both with and without SEN, the former needing particular support when learning through digital technology during lockdown.

Inclusion in mainstream classrooms on this basis is expected but should not "unduly label or identify students as special needs learners" (Brice & Miller, 2000, p. 237). Yet, challenges arose during the pandemic as schools had to communicate with SEN children by remote and digital means, with "rapid changes of teaching formats" (Nusser, 2021, p. 59). Support of this kind could be variable (Kallitsoglou & Topalli, 2020), and ACER (2020) reported that the majority of schools failed to give parents individualised learning instructions, and resources sent home were mostly worksheets.

In Germany, where "SEN categories are highly differentiated" in regular classrooms (Nusser, 2021, p. 52) and "explicit instructions, guided exercises and clear, prompt feedback" are deemed essential (p. 53), during lockdown inclusive teaching practices in distance learning mode were found to be lacking (Letzel et al., 2020, cited in Nusser, 2021). Specifically, Wolstencroft et al. (2020, p. 15) reported concerns that "the level of work sent home was either too demanding, or not challenging enough" since what was provided for special needs children in mainstream education was the same as for typically developing peers.

2.2 Some positivity

Despite these problems and shortcomings, the literature cited in this section shows that there were good experiences for parents homeschooling special needs children during lockdown (Hill et al., 2021). Out of these benefits were spending more time together as a family (degli Espinosa et al., 2020), having a simpler lifestyle (Rose et al., 2020), the opportunity for parents to bond with their children (Couper-Kenney & Riddell, 2020) and the chance "to hold on to positives" (Rogers et al., 2021, p. 12). For parents there could be "a feeling of pride and agency… despite the difficulties" (Kallitsoglou & Topalli, 2020, p. 9) and parental interventions such as establishing a learning routine helped greatly (Hill et al., 2021). More opportunities for hobbies and leisure with less day-to-day pressure (Rogers et al., 2021) offered a glimmer of silver lining in such troubled times, what Wolstencroft et al. (2021, p. 3) called "unex-

https://doi.org/10.21428/8c225f6e.3cd45dab

pected positive consequences". Additionally, Cahapay (2020) emphasised the value of mutual encouragement from other families with autistic children, despite Covid-19 restrictions, one parent stating "Let us accept the new situation and make the most out of it" (p. 3).

The focus here is on the support through digital technology given to working mothers and their SEN children in two UK mainstream primary schools during the pandemic and two school closures. Five broad themes were addressed: communication (including feedback and its impact); changes during the second lockdown; inclusive, differentiated provision; support for SEN children's emotional well-being; and how mainstream schools could help during any future closures. The findings are still relevant in the aftermath of the worst of the pandemic, as absence from school and subsequent home schooling for any children, whether they have additional needs or not, is being supported in new, more digitally enabled ways by schools.

3. Research design

This case study adopted a qualitative approach to elicit "detailed accounts" (Ary et al., 2006, p. 485) from working parents who home-schooled their SEN children throughout the first and second extended school closures in the UK. It isolates and amplifies their experiences at two different primary schools and draws on findings from a wider study during the first lockdown (Skinner et al., 2021) [focusing] on individual actors… to understand their perceptions of events" (Cohen et al., 2011, p. 290). Case studies allow rich data to be gathered "particularly when experimentation and other quantitative methods are not possible or desired" and allow complex areas like special education to be explored (Nath, 2005, p. 396). It was further justified as no other participants were available (Zainal, 2007). Whilst they can follow the interpretative paradigm and "[see] the situation through the eyes of participants" (Cohen et al., 2011, p. 293), findings cannot be widely generalised.

The dataset consisted of transcripts from approximately four hours of semi-structured interviews. The first two were gathered in June 2020, the second two in April 2021, aligning with the beginning and end of extended school closures. In seeking to address the importance of authenticity in qualitative research, it was essential to ensure that its "conduct and evaluation" were "genuine and credible" in terms of the "participants' lived experiences" as working parents of SEN children (James, 2008, p. 44). Garnering their views, therefore, was both timely and congruent with their realities through each period of home-schooling using often unfamiliar technology.

3.1 Data analysis

Interviews were recorded and transcribed automatically using Otter Artificial Intelligence software. When using such software, it is essential to consider aspects including data protection and security issues (Bokhove & Downey, 2018). No identifiable information was collected during the interviews, and assurances to participants regarding confidentiality and anonymity could be honoured. Interviewees could withdraw at any time without giving a reason. Data analysis was by repeated reading of the transcripts generating key themes and sub-themes (Cohen et al., 2011), with selected verbatim quotes to illuminate the data (Braun & Clarke, 2006). Full ethical approval complying with BERA's (2018) guidelines was granted by the University extending the original study on working parents and home education (Skinner et al., 2021) to include those with SEN children.

3.2 Participants

This wider study on remote learning (Skinner et al., 2021) recruited participants through social media parent groups in Northern Ireland (n=19). The present follow-up research identified three mothers who had SEN children, and two accepted the invitation to be interviewed with a specific focus on SEN, anonymised here as Parents A and B (PA and PB, respectively). Both were married and had full-time work commitments.

Parent A had a part-time job and also did freelance work. She had an 8-year-old daughter with ASD, diagnosed during the second lockdown with the more serious form of the condition known as Pathological Demand Avoidance (PDA). It is on the autistic spectrum and is characterised by resisting and avoiding ordinary demands and, in so doing, displaying a range of strategies including aggression (PDA Society, 2022). Parent A also had a 5-year-old son in a wheelchair with congenital muscular dystrophy. Parent B was a full-time PhD student. She had 8-year-old twins, a boy and a girl. Her daughter had ASD and Type 1 diabetes.

4. Findings

4.1 Communication

4.1.1 Nature and frequency of digital communication during first lockdown

Both mothers confirmed that their husbands left home education to them, commenting, respectively, "He's been working shut off in his little world… nine to five every day" (PA) and "Camped out in his office… expecting everything to go on as normal" (PB). This was combined during the first lockdown with variable teacher-pupil and teacher-parent digital communication or else none. The nature and extent of digital communication depended on the class teachers, and PA spoke of two vastly different experiences of online support. For example, whilst her daughter's teacher sent daily work via Microsoft Teams, there was almost no live online contact and emails were invariably ignored. By contrast, this parent found the quality and frequency of digital communication from her son's teacher in reception class (4-5 years old in UK primary schools) to be "outstanding".

The participants voiced serious concerns about their children's motivation due to the monotony of emailed worksheets – "A work sheet dump every Sunday night… no face-to-face at all… even the last week of term 59 sets of worksheets. Nothing creative… totally demotivated" (PA). PB also mentioned the sole emphasis on literacy and numeracy with less attention paid to other curricular areas. For example, her twins' class was studying Ancient Egypt but little material was sent home – "My wee boy is obsessed with history… would have been right up his street" and she resolved to raise this once school resumed.

4.1.2 Digital feedback from schools

There was further disparity in the digital feedback children received on work submitted, with the reception class teacher again excelling and described as "amazing" (PA). She used an online communication tool for Early Years Education called 'Tapestry' for contact between school and parents. Children's work was uploaded and every day there were encouraging responses. Conversely, for her 8-year-old daughter with PDA (see Sub-section 3.2) there was no reply from the teacher to either parent or pupil emails or interest in work sent, the eventual response showing no recognition that PA was finding the situation very difficult – "really disappointed in the level of contact." This exacerbated the isolation felt when shielding at home for some 10 weeks because of her son's muscular dystrophy:

> the supposed end of shielding was very close… The government were ignoring questions about [it], were not mentioning us in any of the daily briefings… we felt completely cut off, then for the teacher to be ignoring us as well.

Similarly, PB reported no digital feedback on work submitted – "None". Worksheets were sent without answer sheets, but with a teaching background, this mother could mark work. Others she knew could not, however, asking for example "What the hell's an obtuse angle?" Answer sheets began to arrive but again with "no personal feedback."

4.1.3 Impact of digital feedback

The impact of feedback varied from excellent to non-existent, but its effect, particularly during remote learning, is crucial as a basis for progress. While PB's children received none during the first lockdown, the regular online messages for PA's 5-year-old son in a wheelchair had a palpable, positive effect on him, together with two certificates for projects he had worked on himself – "He was thrilled… the fact [his teacher] had done this for him." Although unable to return to school, she continued to provide him with online lesson plans, comments and auxiliary support. Thoughtful, inclusive practice was exercised as videos her son made at home were shown to the class "so they kept him in mind and he didn't feel left out – absolutely brilliant."

Whilst the affordances of digital technologies went some way towards promoting engagement for shielding pupils, they also supported remote engagement through 'real world' connections. Thus, under social distancing restrictions, this teacher visited one afternoon, bringing not only artwork materials needed, but also news from school – "He was showing her things… she interacted really nicely with him and kept a conversation going with me as well." Wider ranging benefits extended to her daughter and to herself: "All three of us felt so boosted by the visit". However, PA was deeply disappointed in the minimal feedback from the class teacher for her 8-year-old daughter with PDA – "so disengaged" - since this teacher knew she was struggling. Ongoing teacher contact and constructive feedback were thus highly beneficial for SEN pupils both academically and therapeutically, and also for parents synchronously managing home-schooling, digital learning and full-time work.

https://doi.org/10.21428/8c225f6e.3cd45dab

4.2 Changes in school digital support during second lockdown

Both parents spoke of helpful changes in home-schooling during the second lockdown. PA, however, described increasingly serious features of her daughter's condition now manifesting itself in violent behaviour at home. She emailed her teacher three times during the first lockdown to convince the school that her daughter (now 9 years old) was genuinely struggling, but without acknowledgement, then sought a private referral with a paediatrician who diagnosed PDA (see Sub-section 3.2). This complex form of autism is characterised by high anxiety levels whereby simple, everyday demands become overwhelming – "… so anxious that [the child] has one of four responses, fight, flight, freeze, or fawn", but becomes skilled at masking their symptoms in school. "Freezing" means the child is physically incapable of complying with a request unless an option is given:

> Because masking or fawning is so sapping of energy, [persuading] her to get ready for school increases her anxiety… if I say "Put your shoes on", she actually can't.

Thus, a crisis situation had worsened, but it helped when school re-opened and PA's own interventions began to take effect, particularly "not making too many demands on her… developed patience I never knew I had." Normal parenting techniques do not work with PDA, though, nor do those advised for 'normal autism' – "Nothing very much works for more than about six weeks… then you have to try something new." PA was helped by the SENCO; she read about the condition, attended online parenting courses, then put the recommended measures into practice. Thanks to the SENCO and a different class teacher, digitally enabled feedback was forthcoming during the second lockdown. The SENCO signposted parent workshops and kept in email contact to monitor progress which was a greatly improved arrangement – "We had a big meeting… me, the teacher and the SENCO… [now] much quicker responses to emails and much more support." This different class teacher "instantly stepped in to help" by arranging specific times to contact the child directly, encouraging her, lowering his expectations, and communicating all this clearly by email, indicating a clear indication of the digital theme:

> He was great and she was then very firmly under the SENCO's radar [who] kept in touch and made sure that [my daughter] knew what was going on and, once we got the diagnosis, offered me all sorts of help.

A marked change for PB in the second lockdown was the increased amount of schoolwork normally accompanied by practical activities in class, whereas at home it was 'straight to the abstract' which the twins (now 9 years old) found challenging:

> previously after [learning] about perimeter and area [they'd] be coding out centimetre squares in different 2D shapes or walking around the school playground with the Trundle Wheel, measuring. That stage was completely skipped, straight to… calculating the length and breadth.

More supportive technology systems in place resulted in better live communication and emotional support in lockdown two, reflected in discussion with other mothers – "much happier with how things worked than in the first one."

4.3 Inclusive, differentiated, digital provision for SEN children

After PA's daughter's diagnosis of PDA, the class teacher differentiated by requiring her to spend just 45 minutes on each lesson, with no expectation to catch up the next day. As well as help from the SENCO, a CA digitally provided "a little sort of debrief with her at the end of most days." Joining the parents' group created by the SENCO helped greatly for those dealing with a diagnosis of autism – "Lines of communication were good and she's very open to having a chat, receiving emails" all of which fostered differentiation and inclusive practice in a remote context.

What did not work for this parent, however, in sharp contrast to tailored provision from some other staff, was the headteacher's attitude. Having heard of her daughter's recent violent behaviour at home, he refused to recognise her diagnosis or provide any support, dismissing any attempt to make things easier for her. This unsympathetic stance greatly upset PA, given her extreme difficulties with two SEN children – "It makes me furious. It upsets me horribly. And it worries me for the future." The matter was resolved only when she copied the SENCO into all her emails to the headteacher.

Concerning differentiation, PB too praised the assistance from the SENCO and the CA assigned to her autistic daughter, particularly the latter. There were "a couple of phone calls" from the SENCO asking if anything specific was needed, but during the second lockdown it was the CA who used digital technology to work with the child on a one-to-one basis and contacted her weekly, providing a valued link. "She really enjoyed that because the two of them have a great relationship… great for her to still have that link with the CA who is very bubbly and super enthusiastic."

ASD also affects social interaction "and that definitely took a nosedive." During lockdown, PB's daughter's attention levels were lower and her twin brother was her saving grace in terms of interaction. The CA, therefore, very effectively fulfilled a triple role by providing vital social contact online, offering help with work, and preparing practical materials. All this she did very skilfully and on a friendly, informal basis while still focusing subtly on specific learning needs – "general chitchat… quite casual and informal, but every once in a while, throwing out a question related to work":

> "How was your week? Have you been out anywhere nice for a walk? What about the work you've been doing? Have you been OK or do you think you might need a wee bit more help?" She prepared a few resource packs… and I'd collect them from the school office so that was good.

PB also explained that her daughter's Type 1 diabetes had an impact on her learning to a point. Low and high blood glucose can affect concentration and mood, respectively, both of which are quickly recognised at home but less so by staff in school. There was room for improvement, too, in regard to differentiation in the reading level of books from school with adjustment needed for both twins – "Mummy, the stories are really, really boring. They're baby books." Books of their own choice were much more challenging (PB), an issue by no means confined to SEN children but of key importance during remote learning.

4.4 Digital support for SEN children's emotional well-being and coping strategies

Concerning support for children's emotional well-being, PB spoke positively about better levels of contact with the school including regular liaison with the SENCO and the CA:

> I speak to her classroom assistant every couple of days… regular meetings with the school and SENCO for annual reviews and writing Individual Education Plans. Even when the children were returning to school, the classroom assistant was really talking it up to so that [my daughter] wouldn't be anxious or worried.

Although the school did not arrange online, face-to-face sessions with class mates, her twins had each other for company, settled into a 'coping routine', did their work, watched television then played outside. They missed their friends but another parent stepped in, organised Zoom calls to keep in touch, a treasure hunt and an end-of-term party, all of which contributed substantially to their emotional well-being.

PA, however, struggled to alleviate her daughter's emotional difficulties with mixed results. She had found that the more freedom she gave her during home-schooling "the better she did". To this end, she bought her a Netbook to independently access her lessons with help as necessary but this changed - "Now I'm finding the opposite… she'll only do anything if I'm physically helping her which makes it quite difficult because [my son] is at a stage in his education where he needs constant help as well."

> By comparison, the coping strategy of her son with muscular dystrophy was in the form of his numerous "passions… an encyclopaedic knowledge of dinosaurs." Considerable learner autonomy blossomed, although differentiation was still needed especially at a distance.
>
> He's learned to read quite quickly… quite advanced in maths… very interested in things like Blaze and the Monster Machines which introduce a lot of STEM [Science, Technology, English and Mathematics] concepts. Gets bored with the speed they go at in class.

His teacher, though, showed great interest when he "went off on a tangent", ensuring he was included in classwork, even though shielding, greatly helping motivation and morale, "especially since others were back at school… sent me lesson plans… a few worksheets on dinosaurs obviously for him… made him enjoy it more." The Occupational Therapist helped with his physical needs due to his neuromuscular condition. He had difficulty controlling a pencil and extreme fatigue, so pencil grips were provided and his mother bought a writing slope. In fact, shielding during home schooling meant his general mobility and strength improved and he was 'signed off' by the physiotherapist.

In the second lockdown, when PA explained very simply to her daughter about her PDA diagnosis and the reasons for her anxiety levels, the SENCO recommended Kuypers's (2011) Zones of Regulation, a successful coping mechanism with four colours assigned to different feelings:

> the Blue Zone is where you're tired, a bit bored, a bit disengaged. The Yellow Zone is kind of a warning… you're starting not to cope so well and the Red Zone is where… you're actually in full meltdown and can't get out of it. The Green Zone is where you want to be, where you're active and engaged.

Negative criticality of the school during second lockdown emerged, however, when PA learned that three teachers, who were aware of her daughter's separation anxiety, were no longer at the school and had kept no records. There was

https://doi.org/10.21428/8c225f6e.3cd45dab

no evidence of measures taken to help learning and ongoing mental health when she had her assessment. PA was even more aware of the need for regular email contact with the SENCO as well as a paper trail.

4.5 How could mainstream schools help during future closures?

Reflecting on the lessons learned from schools' digital pivots to support learning remotely, the parents identified measures to be taken into serious account to help children with complex, multiple, additional needs in terms of support from mainstream schools and, moreover, to fortify their own efforts as working parents. It is fully acknowledged that such measures should be seen through "a specific lens of inclusion that takes account not only of students with special educational needs but of all students in the classroom" (Lindner et al., 2021, p. 4). The parents identified the following as areas of technical, pedagogical and pastoral need:

- give parents information about school routines to be emulated at home, such as providing online copies of visuals in order to replicate practice;
- provide parents with more online direction about learning objectives including not only activities and exercises, but essential knowledge and skills to be acquired;
- allow flexibility for children with special needs to acquire skills in a more hands-on way – "What can they do in a more practical way so they're not just stuck in the 'classroom' with me pretending to be their teacher? My son's teacher was very happy for us to do [this]… planting seeds… whereas my daughter's teacher wanted it all done in her book" (PA);
- organise weekly online activities when the children could work in small groups – "see the faces of their classmates, speak to them and learn with them… to achieve something and allow social interaction" (PB);
- introduce a model or framework to make creative writing easier for working parents to manage at home, "a wee template in Google Classroom… children could use that if they needed to" (PB);
- establish meaningful, ongoing, digital feedback to nurture academic and emotional well-being;
- ensure greater differentiation to help SEN pupils according to specific needs, but without obvious labelling;
- guarantee a consistent avenue of digital communication and engagement between parents, teachers and SENCOs, essential to inform staff about help needed at the beginning of the school day (PA);
- foster to the maximum the relationships between different CAs who are familiar with SEN pupils' learning and emotional needs, and provide training that can be cascaded to other staff; and
- consider the pastoral side of returning to school following lockdowns and the impact of this on pupils' mental health.

5. Discussion

Because of the unavoidably small sample (n=2) available from the wider study (n=19) (Skinner et al., 2021), the intention was to avoid "profound theories" or "selective reporting" (Cohen et al., 2011, p. 290). Both the exemplary help from schools and gaps to be filled were identified and the working parents of these SEN children provided candid insights into the impact of school closures. A vivid picture was painted of mothers single-handedly managing synchronous roles (Villasden et al., 2020; Kallitsoglou & Topalli, 2020), and of how two mainstream primary schools facilitated or hindered home-schooling through digital technology, themselves struggling with the new teaching and learning modality (Nelson, 2020) and the use of digital tools and platforms.

To summarise, insufficient or sporadic online communication was a widespread problem in one school (Thorell et al., 2021) yet could be outstanding in the other. Worksheets from teachers during the first lockdown predominated, but they markedly diminished pupil motivation (Nusser, 2021; ACER, 2020). Striking differences emerged between teachers who made imaginative use of digital tools, although technology cannot replace classroom interaction (Pozas et al., 2021), and those who failed to liaise with parents about an SEN child's day-to-day struggles which could be acute but on which digital learning depended.

The second lockdown brought welcome support for the parent whose daughter had a complex form of autism, her special needs hitherto ignored despite a worsening situation. Home-schooling measures such as more independence in home learning had limited success, but radical changes emerged with a different class teacher alongside specialised assistance from the SENCO who introduced an effective coping mechanism to recognise and manage aspects of anxiety (Kuypers, 2011) although perseverance was essential (Capanna-Hodge, 2021). However, no records were retained from the first lockdown for ongoing assessment, although the SENCO facilitated a paper trail for the future. There

was an absence of practical activities to support abstract concepts, but parental provision helped. In general, though, there was better home-school communication attributed to negative feedback from parents following the first lockdown.

Work provided online could still be "too demanding or not challenging enough" (Wolstencroft et al., 2020, p. 15), although parents thought differentiation had improved for their autistic children. Inclusion overall was progressing with the help of SENCOs and especially CAs in both schools, who were singled out for their perceptive, tailored support and regular online contact (Moss et al., 2021).

Should emergent variants of Covid-19 require home-learning again using digital technology, particularly for highly vulnerable children who may require shielding, the participants called for consistent liaison of this kind between parents, teachers, SENCOs and CAs, with weekly online activities for children to connect with peers, and clear direction for parents about learning objectives to replicate school practice. Moreover, there needs to be regular, meaningful, digital feedback for children's academic and emotional benefit, the fostering of maximum assistance from CAs who understand SEN children's needs, pastoral support for school re-opening, and further improved differentiation within inclusive practices.

The data show that SENCOs and CAs can be the bedrock for SEN pupils and their parents (Moss et al., 2021; Webster & de Boer, 2021). The affordances of digital technologies should be harnessed to provide regular, high-quality, remote contact and a daily debrief, with thought put into their further training that could be disseminated among staff and parent groups for those with SEN children. Both working mothers have striven to see positivity in SEN children being schooled at home: 'Nice but hard' (Wolstencroft et al., 2021, p. 10). Encouragingly, and despite major challenges for working mothers, both parents established helpful home learning routines. PA's daughter with PDA learned to cook, sew and develop more imaginative play. Her son with muscular dystrophy developed skills to research and pursue his numerous interests, such as the solar system, drew illustrations, then made videos for his teacher to share with the class, something she had instigated earlier in lockdown. The need for a weekly treat was emphasised – "a nice memory."

6. Conclusions

This research laid emphasis on the need for mainstream schools to provide differentiated technical and pedagogical support to the SEN children of working parents as they navigate remote learning using digital technologies (Nelson, 2020). Future research should explore the teachers' perspectives on how best to do so following their experiences of two extended school closures. The pandemic has changed how absence is perceived and managed in life and in schools, and teacher agility in being able to 'send work home' has become more digitally responsive. This is the case whether children are impacted by Covid-19 and its future variants or whether they are struggling to attend school for other more traditional reasons.

Crucially, the pandemic is still with us, as are other factors leading to school closure such as industrial action or even adverse weather. Associate Professor of Epidemiology, William Hanage of Harvard University (2022) states: "This ended pandemic is still three times as bad as something we would ordinarily consider pretty bad, and I think that's important, especially because we expect cases to tick up in the autumn and the winter". Therefore, with the likelihood of more Covid-impacted home learning, at least for some of the most vulnerable pupils, it is essential that the findings here, highlighting working parents' needs for a range of digital support for their SEN children – "those who do not realize that they may dream" (Gould, 1981, p. 28) - are considered with immediacy at leadership level and, as Hill et al. (2021) advise, with flexibility and willingness.

References

Abbott, L. (2001). Differentiation in teaching and learning: Aspirations and reality in primary education. PhD thesis. Ulster University.

ACER (Autism Centre for Education and Research). (2020). *Research summary: Covid-19 and the impact on families with autistic children.* University of Birmingham, Autism Centre for Educational Research. Accessible at: https://www.birmingham.ac.uk/research/acer/research/covid-19-and-the-impact-on-families-with-autistic-children.aspx

Andrew, A., Cattan, S., Costa Dias, M., Farquharson, C., Kraftman, L., Krutikova, S., Phimister, A., & Almudena, S. (2020). *Family time use and home learning during COVID-19 lockdown*. Institute of Fiscal Studies.

Ary, D., Jacobs, L.C., Razavieh, A., & Sorenson, C. (2006). *Introduction to research in education* (7th ed.). Thomson Wadsworth.

BERA. (2018). *Revised ethical guidelines for educational research* (4th ed.). British Educational Research Association.

Bokhove, C., & Downey, C. (2018). Automated generation of 'good enough' transcripts as a first step to transcription of audio-recorded data. *Methodological Innovations*, *11*(2), 1-14. doi.org/10.1177/2059799118790743

Bozkurt, A., I. Jung, J., Xiao, V., Vladimirschi, R., Schuwer, G., Egorov, S.R., Lambert, M., et al. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis." *Asian Journal of Distance Education*, *15*(1), 1-126. doi.org/10.5281/zenodo.3878572

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. doi.10.1191/147808870qp063oa

Brice, A., & Miller, R.J. (2000). Case studies in inclusion: What works, what doesn't. *Communication Disorders Quarterly*, *21*(4), 237-241. doi.org/10.1177/152574010002100405

Cahapay, M.B. (2020). How Filipino parents home educate their children with autism during COVID-19 period. *International Journal of Developmental Disabilities*, *68*(3), 395-398. doi.org/10.1080/20473869.2020.1780554

Camilletti, S. (1996). Bringing out the sparkle. In S. Hart (ed.). *Differentiation and the secondary curriculum: Debates and dilemmas* (pp.30-38). Routledge. https://doi.org/10.4324/9780203989609

Canning, N. & Robinson, B. (2020). Blurring boundaries: the invasion of home as a safe space for families and children with SEND during COVID-19 lockdown in England. *European Journal of Special Needs Education, 36*(1), 65-79. https://doi.org/10.1080/08856257.2021.1872846

Capanna-Hodge, R. (2021). Interviewed by Luminara Serdar. Accessible at: https://www.facebook.com/autismtransformed/videos/3036969103255509

Churchill, F. (2020). Two-fifths of working parents balancing homeschooling with a full-time job, Survey Finds. *People Management*, May 21. Accessible at: https://www.peoplemanagement.co.uk/article/1747061/two-fifths-of-parents-balancing-homeschooling-with-a-full-time-job

Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education* (7th ed.). Routledge.

Colizzi, M., Sironi, E., Antonini, F., Ciceri, M. L., Bovo, C., & Zoccante, L. (2020). Psychosocial and behavioral impact of COVID-19 in autism spectrum disorder: An online parent survey. *Brain Sciences*, *10*(6), 341, 1-14. https://www.mdpi.com/2076-3425/10/6/341/htm

Couper-Kenney, F., & Riddell, S. (2021). The Impact of COVID-19 on children with additional support needs and disabilities in Scotland. *European Journal of Special Educational Needs*, *36*(1), 20-34. doi.org/10.1080/08856257.2021.1872844

degli Espinosa, F., Metko, A., Raimondi, M., Impenna, M., & Scognamiglio, E. (2020). A model of support for families of children with autism living in the COVID-19 lockdown: Lessons from Italy. *Behavior Analysis in Practice*, *13*, 550-558.

Florian, L. (2019). On the necessary co-existence of special and inclusive education. *International Journal of Inclusive Education*, *23*(7-8), 691-704. doi.org/10.1080/13603116.2019.1622801

Flynn, N., Keane, E., Davitt, E., McCauley, V., Heinz, M., & MacRuairc, G. (2020). *Schooling at home in Ireland during COVID-19: Perspectives and experiences of primary and second-level students and their parents*. School of Education, National University of Ireland, Galway.

Gould, S.J. (1981). *The mismeasure of man*. W.W. Norton and Company.

Hanage, W. (2022). *The Latest on the Coronavirus*. Harvard School of Public Health. Accessible at: https://www.hsph.harvard.edu/news/hsph-in-the-news/the-latest-on-the-coronavirus/

Hill, A. (2020). Brink of collapse: Parents of disabled children buckling under 24-hour care. *The Guardian*, May 15. Accessible at: https://www.theguardian.com/society/2020/may/13/parents-disabled-children-buckling-under-24-hour-care-coronavirus

Hill, A., Keville, S., & Ludlow, A.K. (2021). Inclusivity for children with autism spectrum disorders: Parents' reflections of the school learning environment versus home learning during COVID-19. *International Journal of Developmental Disabilities, 69*(4), 546-554. https://doi.org/10.1080/20473869.2021.1975253

James, N. (2008). Authenticity. In L.M. Givan (ed.). *The SAGE encyclopedia of qualitative research methods* (pp. 44-45). Sage Publications.

Kallitsoglou, A., & Topalli, P-Z. (2020). Coping with homeschooling and caring for children during the UK COVID-19 lockdown: Voices of working mothers. Accessible at: doi.org/10.21203/rs.3.rs-333649/v1

Kim, L.E., & Asbury, K. (2020). 'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, *90*(4), 1062-1083.

Kuypers, L. (2011). *The zones of regulation: A curriculum designed to foster self-regulation and emotional control*. Think Social Publishing.

Letzel, V., Pozas, M., & Schneider, C. (2020). Energetic students, stressed parents, and nervous teachers: A comprehensive exploration of inclusive homeschooling during the COVID-19 crisis. *Open Educational Studies*, *2*, 159-170. doi.org/10.1515/edu-2020-0122

Loreman, T. (2017). Pedagogy for Inclusive Education. In: *Oxford Research Encyclopedia of Education*. Accessible at: https://oxfordre.com/education/view/10.1093/acrefore/9780190264093.001.0001/acrefore-9780190264093-e-148

Lindner, K-T., Letzel, V., Tarinig, G., & Schwab, S. (2021). When home turns into quarantine school – new demands on students with special educational needs, their parents and teachers during COVID-19 quarantine. *European Journal of Special Needs Education*, *36*(1), 1-4. DOI: 10.1080/08856257.2021.1874153

Moss, G., Webster, R., Harmey, S., & Bradbury, A. (2021). *Unsung heroes. The role of teaching assistants and classroom assistants in keeping schools functioning during lockdown.* University College London Institute of Education.

Nath, J.L. (2005). The roles of case studies in the educational field. *International Journal of Case Method Research & Application XVII, 3*, 396-400.

Nelson, A. (2020). *How COVID-19 has affected special education students*. Accessible at: How COVID-19 Has Affected Special Education Students | Tufts Now

Nusser, L. (2021). Learning at home during COVID-19 school closures – How do German students with and without special educational needs manage? *European Journal of Special Needs Education*, *36*(1), 51-64. doi.org/10.1080/08856257.2021.1872845

Nutbrown, C., & Clough, P. (2006). *Inclusion in the early years*. Sage.

O'Connor-Bones, U., Bates, J., Roulston, S., & Taggart, S. (2020). *Northern Ireland parent surveys: Experiences of supporting children's home learning during COVID-19.* UNESCO Centre, School of Education, Ulster University.

Office for National Statistics. (2020). *Coronavirus and homeschooling in Great Britain: April to June 2020*. Analysis of homeschooling in Great Britain during the coronavirus (COVID-19) pandemic from the Opinions and Lifestyle Survey. Accessible at: Coronavirus and homeschooling in Great Britain - Office for National Statistics (ons.gov.uk)

PDA Society. (2022). *Identifying and Assessing PDA*. Accessible at: Identifying & Assessing PDA – PDA Society

Pozas, M., Letzel, V., & Schneider, C. (2021). Homeschooling in times of Corona: Exploring Mexican and German primary school students' and parents' chances and challenges during homeschooling. *European Journal of Special Needs Education*, *36*(1), 35-50. doi.org/10.1080/08856257.2021.1874152

Ranee, A. (2021). *Autism spectrum disorder (ASD) children and challenges during COVID-19 pandemic: Some solutions*. Accessible at: AUTISM_SPECTRUM_DISORDER_CHILDREN_FACE_CHALLENGES_DURING_THE_COVID_PANDEMIC_REVISED08AUG2021-libre.pdf (d1wqtxts1xzle7.cloudfront.net)

Rogers, G., Perez-Olivas, G., Stenfert Kroese, B., Patel, V., Murphy, G., Rose, J., Cooper, V., Langdon, P.E., Hiles, S., Clifford, C., & Willner, P. (2021). The experiences of mothers of children and young people with intellectual disabilities during the first COVID-19 lockdown period. *Journal of Applied Research in Intellectual Disabilities*, *34*(6), 1421-1430. doi.org/10.1111/jar.12884

Rose, R., Willner, J.P., Cooper, V., Langdon, P.E., Murphy, G. H, & Stenfert Kroese, B. (2020). The effect on and experience of families with a member who has intellectual and developmental disabilities of the COVID-19 pandemic in the UK: Developing an investigation. *International Journal of Developmental Disabilities*, AHEAD-OF-PRINT, 1-3. doi.org/10.1080/20473869.2020.1764257

Simpson, M. (1989). *A study of differentiation and learning in primary schools*. Northern College of Education.

Skinner, B., Hou, H., Taggart, S. & Abbott, L. (2021). Working parents' experiences of home-schooling during school closures in Northern Ireland: What lessons can be learnt? *Irish Educational Studies, 42*(3),339-358. Accessible at: https://doi.org/10.1080/03323315.2021.1964566

Thorell, L.B., Skoglund, C., de la Peña, A.G., Baeyens, D., Fuermaier, A.B., Groom, M.J., Mammarella, I.C., et al. (2021). Parental experiences of homeschooling during the COVID-19 pandemic: Differences between seven European countries and between children with and without mental health conditions. *European Child & Adolescent Psychiatry*, *32*(8), 1-13. DOI: 10.1007/s00787-020-01706-1

Toquero, C.M. (2020). Challenges and opportunities for Higher Education amid the COVID-19 Pandemic: The Philippine context. *Pedagogical Research, 5*(4), em0063.

Toseeb, U., Asbury, K.., Code, A., Fox, L., & Deniz, E. (2020). *Supporting families with children with special educational needs and disabilities during COVID-19*. Pre-print accessible at: https://psyarxiv.com/tm69k/

Villadsen, A., Conti, G., & Fitzsimons, E. (2020). *Parental involvement in home schooling and developmental play during lockdown - Initial findings from the COVID19 survey in five national longitudinal studies.* University College London Centre for Longitudinal Studies.

Webster, R., & de Boer, A. (2019). Teaching assistants: Their role in the inclusion, education and achievement of pupils with special educational needs. *European Journal of Special Needs Education, 34*(3), 163-157. DOI:10.1080/08856257.2019.1615746

Weir, E., Allison, C., & Baron-Cohen, S. (2020). Autism in children: Improving screening, diagnosis and support. *Prescriber*, *31*(1), 20-24. doi.org/10.1002/psb.1816

Wolstencroft, J., Hull, L., Warner, L., Akhtar, T.N., Mandy, M.W., IMAGINE-ID consortium, Skuse, D., et al. (2021). "We've been in lockdown since he was born": Experiences of families caring for children with intellectual disability during the Covid-19 pandemic." *BMJ Open*, *11*(9), 1-22. doi.org/10.1136/bmjopen-2021-049386

Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan bil 9, 5*(1). Accessible at: https://jurnalkemanusiaan.utm.my/index.php/kemanusiaan/article/view/165

About the authors



Barbara Skinner

Prof Barbara Skinner's research and teaching focuses on TESOL and teacher education. She is a member of council for the British Educational Research Association (BERA); an editor of BERA Blog and convenor of BERA's Language and Literacy special interest group. Recently, her research interests have explored minority language pupils - their educational attainment and home-school partnership between schools and migrant parents. Her passion for supporting overseas students to do their best during their studies in UK higher education contexts also plays out in her research interests.

b.skinner@ulster.ac.uk 0000-0003-2829-8243

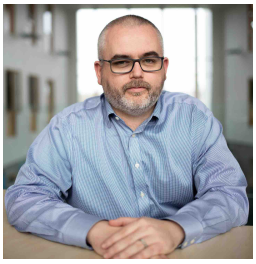
@Barbara134134



Lesley Abbott

Dr Lesley Abbott is an Honorary Fellow of Ulster University and an Educational Research Consultant, previously a Research Fellow. Her PhD focused on differentiated provision in primary schools. She was awarded the Brian Simon Educational Fellowship by the British Educational Research Association. Her research interests and publications include teacher education, the needs of student teachers and newly qualified teachers including induction, young pupils', their teachers' and classroom assistants' experiences of iPads and the professional needs of learning support assistants. Her recent publications focused on integrated education in Northern Ireland also including religiously separate schools that have transformed to integrated status.

l.abbott@ulster.ac.uk



Samuel Taggart

Sammy is a teacher educator in Technology and Design Education at Ulster University, Northern Ireland. Having taught in a NI grammar school for 13 years and as Head of Department for a number of years, Sammy joined Ulster University in 2017. His research interests focus on the use of educational technologies to support learning and teaching, particularly within Initial Teacher Education. In 2021 Sammy received the Distinguished Education Excellence Award for his work during lockdown.

s.taggart@ulster.ac.uk 0000-0001-8076-8607

@Sammy__T

https://doi.org/10.21428/8c225f6e.3cd45dab



Helen Hou

Dr Helen Hou has been working at Ulster University since her appointment to the lectureship in MA TESOL in the School of Education in 2010. Before joining in Ulster University, she held a role as a teacher trainer for a period of years in China. She earned her PhD in Education from the University of Manchester in 2012. Her primary research interests include online communities of practice and student teachers learning, ELT methodology, e-pedagogy and teacher education, educational technologies in the language classroom, Chinese learners, and qualitative research methodology and design.

h.hou@ulster.ac.uk

0000-0002-6391-3726

@Henghou

Open Access (CC BY 4.0)

© 2020 The Authors. This article is distributed under Creative Commons Attribution 4.0 International licence.

You are free to

- Share — copy and redistribute the material in any medium or format
- Adapt — remix, transform, and build upon the material for any purpose, even commercially.

Under the following terms:

- Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.
- No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

The full licence conditions are available at: **https://creativecommons.org/licenses/by/4.0/**