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Teaching and supporting students with special educational needs at a distance during the COVID-19 school closures in Finland: special needs teachers' experiences

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Teaching and supporting students with special educational needs at a distance during the COVID-19 school closures in Finland: special needs teachers' experiences

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Abstract

This study aimed to increase knowledge of how special needs education (SNE) in Finnish comprehensive schools was arranged at a distance during the COVID-19 school closures in the spring of 2020 and to clarify what types of challenges special needs teachers (SNTs) faced when teaching and supporting students with special educational needs (SEN). Data were collected through semi-structured interviews with 12 SNTs and the analysis was based on a thematic analytical approach. The results revealed that SNTs' experiences during the COVID-19 distance education period varied greatly. Still, it is possible to distinguish some general features across the dataset. Teaching and support arrangements for students included the use of educational technology and distance learning materials, implementation of SNE via exceptional arrangements and flexible solutions and providing SNE through differentiation, interaction, and technology. In addition, the results revealed, the SNTs faced a multitude of challenges during the COVID-19 distance education period; this included changes in their daily work life, increased stress, challenges in remote communication and collaboration and structural and organisational issues affecting SNE.

Keywords: distance education, COVID-19, Finnish school closures, special needs teacher, special needs education

Introduction

Finnish education is well-known for students' high performance, equity and equality, and highly educated teachers (OECD, 2020). The outbreak of the COVID-19 pandemic at the beginning of 2020 forced hundreds of thousands of Finnish comprehensive school students to switch from in-person instruction to distance learning. Of these students, 21.2% needed special needs education (SNE) support (Statistics Finland, 2020). Adapting to distance learning was difficult, especially because distance education has never been an integral part of basic education in Finland (Harjumaa, 2020; Koskinen, 2020). The existing research on distance learning in a comprehensive school context and/or for students with SEN focuses mainly on online learning as an optional choice for in-person instruction or as a form of complementary education only (e.g., Barbour and Bennett, 2013; Burgstahle, Corrigan and McCarter, 2004; Flores, Kiekel and Walter, 2018).

In times of crisis, comprehensive schools should be able to arrange teaching satisfactorily so that students with SEN are not significantly affected. When Finnish comprehensive schools switched from in-person instruction to distance learning, education providers were encouraged to employ local solutions to meet each student's needs (OECD, 2020). Some surveys regarding consequences of the school closure are available (Finnish National Agency of Education (FNAE), 2020a; Kröger, 2020), but research is still sparse. Most teachers experienced an increased workload, while students report negative as well as positive experiences. Kröger (2020) discovered that the transition to distance education resulted in difficulties in teacher–student interaction and challenges in providing SNE. In times of exceptional circumstances, those in need of special support suffer the most, as implementing SNE becomes extra difficult, and might end up on the verge of dropping out (Kemppainen, 2020a). Therefore, it is crucial to identify practices, arrangements, and challenges in distance learning for students with SEN.

There is far too little research on how comprehensive schools should arrange SNE during a state of emergency. To develop better functioning practices, it is necessary to learn more about the current situation of distance learning for students with SEN. Some research, mainly focused on general teachers' views, indicates difficulties in meeting SEN students' needs with distance learning (Beauoyer, Dupéré and Guitton, 2020; Basilaia and Kvavadze, 2020; Kaden, 2020; Frenette, Frank and Deng, 2020; Obrad, 2020; Pellegrini and Maltinti, 2020). To the best of our knowledge, SNTs' views are missing from the research. Lacking is an understanding of what kinds of challenges complicate the work of SNTs when forced to shift to distance learning. This gap in existing knowledge needs to be addressed before rethinking current practices. It all comes down to ensuring that SNTs can do their jobs efficiently, even in times of crisis. This current study aims to investigate how SNE was arranged at a distance during the COVID-19 school closure in Finland and to clarify what types of challenges SNTs faced when teaching and supporting students with SEN.

The three-tiered support model in Finland

In Finland, students have the right to comprehensive education in a mainstream class. For those who face learning difficulties, there is a support system that helps address these challenges. The Finnish

model of support for schooling and learning consists of three tiers: general (Tier 1), intensified (Tier 2) and special support (Tier 3) (FNAE, 2016). In autumn 2020, 12.2% of students in comprehensive school received Tier 2 support, while 9% received Tier 3 support (Statistics of Finland, 2021). All the tiers involve essentially the same support methods and tools; however, particularly in Tier 3, the intensity of applying support and SNTs' roles in implementing support increases (Author and colleagues, 2019). Students receiving Tier 3 support have an individual education plan (IEP) with individualized learning goals (FNAE, 2016)

Inclusive education and early support are guiding principles of Finland's support model. This means that a student is entitled to support through differentiation in the mainstream classroom as much as possible and immediately when a need arises. Special-class teaching is possible for students receiving Tier 3 support, and full-time special-class education is the reality for approximately one-third of students receiving Tier 3 support (FNAE, 2016; Statistics of Finland, 2021). SNTs support students at all tiers by delivering part-time SNE through individual teaching, small-group teaching or co-teaching, and by collaborating with other teachers (FNAE, 2016). Small-group teaching is the most common way of delivering part-time special education at all tiers, while the use of individual teaching increases at the higher tier. Beside this a growing number of SNTs support students at all tiers by co-teaching with general education teachers (Author et al., 2019).

The job description of SNTs includes teaching students, conducting screening, assessment, and pedagogical documentation, offering consultation to classroom and subject teachers on a variety of learning issues and collaborating with students, guardians, principals, teachers, student health services, children's welfare services and other parties outside school (Takala, 2010). SNTs also have significant responsibility for designing the IEP for Tier 3 students (Author et al., 2019). In summary, SNTs can be described as spiders in the middle of the web: connecting people, finding solutions, and coordinating necessary multi-professional collaboration.

SEN arrangements during the COVID-19 school closure in Finland

The first COVID-19 case in Finland was diagnosed in January 2020, after which the pandemic spread (Mäkinen, 2020). On 16 March 2020, the Finnish government decided on several measures to stop the spread (Prime Minister's Office, 2020). One measure was to close school buildings and continue teaching in alternative ways to the widest extent possible. Exceptions were made for students receiving Tier 3 support who required contact teaching according to their IEP. Parents and guardians were strongly advised to arrange childcare at home. Initially, the regulations were to remain in force until 13 April, but the restrictions were later extended until 14 May (FNAE, 2020b). Although some students receiving Tier 3 support were entitled to in-person instruction even after the nationwide school closures, SNE was mostly arranged remotely via different means of distance education (FNAE, 2020a).

The FNAE (2020b) highlighted that providing support for students with SEN is every teacher's responsibility. The suggestion was that SNTs could provide distance education to SEN students according to a pre-agreed schedule. In addition, they could agree on specific 'on-call' times, during which any student or guardian could be in contact with an SNT regarding SEN or other related matters.

School staff were encouraged to take the initiative and actively maintain sufficient contact with both students and their guardians during the distance education period. Most students in Finland had a digital device that enabled them to follow distance teaching. Even though teachers had digital devices, only half had a work phone that helped them keep in touch with students, parents and colleagues (FNAE, 2020a).

Distance education for students with SEN – benefits and challenges

In Finland, as well as in many other countries, the guiding principle for SNE provision is inclusion (FNAE, 2016). Digital technology can promote inclusive education, as the use of digital tools and distance education can make education accessible for diverse groups of learners (Nigmatov and Nasibulov, 2015). However, in order to reach this goal, education providers need to place special attention on students with disabilities and/or special needs. Research on distance education experiences before COVID-19 school closures reveals a range of benefits and challenges for students with SEN. Nigmatov and Nasibulov (2015) discussed the huge potential that educational technology has for inclusive distance education. They believe that educational technology creates equal opportunities; for some students, online learning platforms remove barriers to communication, and cultivates motivation and confidence. However, these technologies need to have a design, which makes them accessible for all students, including those with functional diversity.

Burdette, Greer and Woods (2013) discussed potential obstacles related to distance learning arrangements for SEN students. Practices and policies should be adjusted to enable high-level education in a non-restrictive, inclusive manner within online learning environments. Problems regarding distance education are likeliest to occur if the SNTs are not well prepared to serve students with SEN, if there are insufficient support services available or if the curriculum is not accessible enough. It is especially important that several school personnel have knowledge and resources to support students with SEN. Gordon et al. (2010) claimed that if schools provide teachers and students with necessary technical equipment, offer them IT support, and prepare for pandemic events in advance by creating training materials, manuals and recorded online guides, it is likely that fewer problems and less inequality will occur.

Research based on teachers' views show that the main challenges with distance learning are the workload and the fact that some students cannot keep up with others (Barbour and Bennet, 2013; Flores et al., 2018). Flores et al. (2018) recognised that distance education made it more difficult to meet the individual needs of students. Another major challenge regarding distance learning is isolation. Getting the most from distance education requires self-discipline and concentration. This is much required, especially with younger students whose frontal lobes are not yet fully developed and students with concentration difficulties (Tarullo, Obradović and Gunnar, 2009).

The COVID-19 pandemic led to school closures worldwide. In each country, distance learning was organised in slightly different ways depending on which method best suited the region's educational situation. For example, in Italy, distance learning was arranged via radio and television in the form of podcasts, instructional television channels and programmes meant for educational purposes (Pellegrini

and Maltinti, 2020). Relying on traditional media was an effective way to reduce the impact of the digital divide and its related effects, such as low digital skills in families of low socioeconomic status. Online lessons were arranged via video conferencing platforms, such as *Microsoft Teams* and *Zoom*. Email and *WhatsApp* were used to keep in touch with students and to maintain good teacher–student relationships.

Basilaia and Kvavadze (2020) studied distance learning in a private school in Georgia. They noticed that the transition from in-person to distance instruction went rather smoothly and stated that an online learning format could prove useful even after the pandemic event, especially when teaching students with SEN. Other research shows the opposite reality. Pellegrini and Maltinti (2020) and Kaden (2020) observed that teachers and principals perceive differentiation via distance learning as the greatest challenge in distance education. The exceptional situation had a particularly negative effect on vulnerable students, including those with SEN. Research indicates that one of the major issues during the COVID-19 outbreak was social inequality and related challenges in low socioeconomic status households in which technical skills, availability of personal digital devices (e.g., computer, smart phone, etc.), or access to the internet are often lower than average (Beunoyer et al., 2020; Frenette et al., 2020; Pellegrini and Maltinti, 2020). Those living in overcrowded houses can lack quiet study and working space. Even inadequate technical infrastructure, mostly in remote areas, has a negative influence on the digital learning experience (Huber and Helm, 2020; Lassoued, Alhendawi and Bashitialshaaer, 2020). Also, distance learning during the initial COVID-19 outbreak caused teacher stress resulting from an increased workload, adopting the usage of new technologies, teaching tools and learning materials, and working at home—all while dealing with uncertainty stemming from the pandemic phenomenon (Obrad, 2020).

Huber and Helm (2020) investigated how the transition to distance education affected school situations in Germany, Austria and Switzerland. They found that during COVID-19 school closures, student commitment varied greatly. Some students did well, perhaps because they managed their day, maintained a regular daily routine, exercised at home, and rose early enough. Other students reported putting a small amount of effort into learning activities. In addition to self-regulation skills, a factor that correlated positively with students' engagement in remote learning was teachers' consistent management of school tasks and assignments. Huber and Helm (2020) also noticed that teachers with high technical skills and capacity for distance education were better at providing individual learning support. This reveals the importance of preparing teachers for crisis events in advance. To manage SNE in future extreme situations, it is possible to learn from SNTs' experiences regarding support arrangements and their experienced challenges.

Methods

Research questions

Two research questions guided this study:

1. What teaching and support arrangements for comprehensive school students with SEN were made during the COVID-19 school closures in spring 2020?

2. What work-related challenges did Finnish SNTs face during the COVID-19 distance education period in spring 2020?

Study design

This study used a qualitative approach. The empirical data were collected from 12 semi-structured video interviews during May, June, and August 2020. The interviews were conducted via video communication services *Skype*, *Zoom* and *Google Meet*, depending on each respondent's preference. Most of the respondents were at home during the interview, while a few of them sat in a quiet room in the school. The length of the interviews varied from 30 – 65 minutes. An interview guide was the basis for the interviews, enabling follow-up questions according to each respondent's answers. Central themes in the interview guide were practical arrangements, tools and learning materials, implementation of SNE and challenges for SNTs and students.

Participants

The target group for this research was Finnish comprehensive school SNTs who had to resort to distance instruction during the COVID-19 pandemic school closures. To find respondents working as comprehensive school SNTs, a research invitation letter was published on two *Facebook* groups aimed at Finnish SNTs. During the study, Finland was still in a state of emergency due to the spread of COVID-19. Thus, it was particularly important that the respondents were volunteers with enough energy to answer the interviewer's questions.

Table 1: Participant information

SNT	School size	Grade	Support tier
Eevi	300	Grade 3-4	Tier 1-3
Sofia	800	Grade 7-8	Tier 2-3
Venla	400	Grade 7-9	Tier 1-2
Lilja	900	Grade 7-9	Tier 2-3
Aino	500	Grade 5-6	Tier 2
Saga	300	Grade 7-9	Tier 1-3
Olivia	200	Grade 7-9	Tier 1-3
Alma	400	Grade 8 (mainly)	Tier 1-3
William	100	Grade 3-4	Tier 2-3
Astrid	300	Grade 4-6	Tier 1-3
Stella	750	Grade 7-9	Tier 1-3
Frida	School 1: 200 School 2: <100	School 1: P-3 School 2: 1-6	Tier 1-3

Note: SNTs name = assumed names, School size = number of students, P = preschool

Twelve Finnish comprehensive school SNTs who had resorted to distance instruction during the school closure period responded to the research invitation, two of whom worked part-time and ten full-time.

The respondents came from southern, southwestern, and western Finland. All of them were qualified SNTs, and some had earlier experience of working as general teachers. The oldest and most experienced respondent was 60 years old and had worked as an SNT for 47 years, while the youngest was 25 and had worked as an SNT for one year. The respondents worked in both lower and higher school grades depending on their job positions. School sizes differed greatly: the smallest village school had fewer than 100 students, while the largest schools in a metropolitan area had over 800 students. Eight respondents taught students in all support tiers, while three taught students at tier 2 and 3 and one only taught students at tier 2 (Table1).

During the COVID-19 school closure period, the informants spent most of their teaching hours teaching mathematics and languages. Five of the respondents mentioned teaching “all subjects according to need”, while a few were also responsible for general teaching in practical subjects, such as physical education or home economics.

Analysis

The transcribed data comprised 131 pages and were initially analysed by one researcher (the first author) using the thematic analysis described by Braun and Clarke (2006); the analysis was inductive, and data driven (Patton, 2015). Following the guidelines of Braun and Clarke (2006), the thematic analysis for this study progressed in six stages. First, the researcher became familiar with the collected data by reading the transcripts several times. A few preliminary codes closely related to the two research questions were written as a basis for stage two. In the second stage, systematic coding of the parts of the data that seemed relevant was conducted across the entire dataset. After identifying seemingly meaningful features from the data, the basic units of information were grouped into specific codes. In the third stage, these codes were grouped into prospective themes. To help with this step, spreadsheet tables that outlined the potential themes and related codes were compiled. During this stage, the two other researchers (the second and third author) were involved in the analysis and the codes and themes were discussed. Then, the analysis transitioned to the fourth stage, which included further examination and evaluation of the themes.

Stage five in the thematic analysis involved identifying the core of each theme and naming it accordingly (Braun and Clarke, 2006). To identify key features, some themes were combined into larger entities. To help with this stage, figures that made it easier to identify patterns that went unnoticed earlier were used. After structuring the themes into hierarchies that provide a comprehensive answer to the research questions and conducting detailed theme-specific analyses, we transitioned to the sixth stage of the thematic analysis; the themes and their subthemes were discussed, compared with the transcriptions, and redefined for the final time.

Ethical and quality considerations

The basics of research ethics outlined by the Finnish ethical principles of human rights (Finnish National Board of Research Integrity, 2019) were considered throughout the data collection and analysis process. Participation was voluntary, which was expressed explicitly in the research invitation letter sent via mail and in person before the interview. Similarly, the fact that all the interviews were recorded was

expressed several times. Special attention was paid to data protection and respondents' privacy. All information that could be traced back to the respondents was made anonymous. Trustworthiness was achieved by reading previous research, accuracy in conducting the study and a clear description of the context and process. During the analysis, trustworthiness was also achieved through critical discussions and peer debriefing between the researchers.

Results

The analysis revealed three main themes regarding SNE teaching and support arrangements during the COVID-19 distance learning period, and three main themes regarding challenges with SNE during COVID-19 distance learning. Each main theme relates to several subthemes (Table 2).

Table 2: Overview of the themes and subthemes regarding teaching and support arrangements and work-related challenges

RQ1: SNE teaching and support arrangements	RQ2: Challenges with SNE distance learning
<p>1. Use of educational technology and distance learning materials:</p> <ul style="list-style-type: none"> ● Multiple digital devices and digital communication tools ● Traditional schoolbooks combined with distance learning materials <p>2. Flexible learning solutions and SNE guidance:</p> <ul style="list-style-type: none"> ● Exceptional teaching arrangements and flexible solutions ● Guidance, consultation and collaboration <p>3. Providing SNE through differentiation, interaction and technology:</p> <ul style="list-style-type: none"> ● Differentiation on individual and group levels ● Teacher–student interaction to motivate and support ● Using educational technology to improve support 	<p>1. Changes in daily work life and increased stress:</p> <ul style="list-style-type: none"> ● Poor preparedness and rapid change ● Unsatisfactory work conditions ● Cognitive strain and mental stress <p>2. Difficulties with remote communication and collaboration:</p> <ul style="list-style-type: none"> ● Negative effects on teacher–student interactions ● Negative effects on home–school and multi-professional collaboration <p>3. Structural and organisational issues:</p> <ul style="list-style-type: none"> ● Unclear responsibilities and expectations of SNTs ● Unequal and insufficient resources ● Poor collaboration and a lack of common understanding within the school community

SNE teaching and support arrangements through flexible solutions and differentiation

Use of educational technology and distance learning materials

The SNTs and students used *different digital devices and communication tools*, such as computers, tablets and smartphones. Communication during the distance learning period took place on several social media platforms and via a multitude of channels. For distance learning and meetings, the respondents used either Google platforms, Office 365 services or Zoom. Even WhatsApp, Messenger

and *Slack* were used to maintain regular contact with students, parents and colleagues. Communication with colleagues was conducted via phone calls, online video conferencing, messages, and email.

Most students could use a computer or tablet, but some students tried to survive distance learning only with the help of their smartphones. Astrid said, "Compared to how others had it, our school was lucky. We managed to hand out a computer to everyone within a week. Some also had a tablet, so they used two devices." Computers were provided to every teacher, but the respondents mainly used their phones to maintain contact with the students. When communicating, the students preferred chat rooms and messaging. Video and phone calls caused many to feel uncomfortable, especially at the beginning, but this early clumsiness dissipated as the distance period continued. Alma expressed that, "I wish students had been bolder when answering the phone or taking a video call, but they preferred chat and messenger. I was in contact with my students several times a day, without seeing their faces or hearing their voices a single time."

The respondents *used traditional books combined with distance learning materials; schoolbooks* were still largely used. Checking answers was carried out, for example, by having the student photograph the completed assignments and send them to the SNT. "Students did all their exercises on paper, took photos and sent them to me", Venla explained. Some respondents converted paper material into a digital format to make it easier for students to complete the exercises. Ready-made learning materials were found, for example, on *Facebook*-hosted teacher groups, school-specific internal databases, and the websites of Finnish publishing companies. The respondents made use of technology by recording oral exercises, taking digital notes, using slideshows to demonstrate their teaching, coediting text documents in real time with their students and creating statistics on students' school performance and test results. Astrid advised, "Cloud services are practical in terms of differentiation. I can create and share an exercise with students, follow in real time what they are doing, and easily edit the document if needed".

Flexible learning solutions and SNE guidance

The respondents conveyed the need for exceptional teaching arrangements and flexible solutions. As before the school closure, the respondents met some of their students at regular intervals, while others met only occasionally when a specific need emerged. During the school closure, Tier 3 students had the right to come to school to receive SNE. However, the support tier did not always give a true picture of the support needed. Therefore, students who could not cope with schoolwork remotely could come to school to do assignments with an adult.

Several informants stressed the importance of in-person instruction. Olivia announced that "by arranging contact teaching for those in need, we have saved many". For many students with SEN, the transition from contact to distance learning was challenging, which further increased the need for the contribution of SNTs. A few respondents assumed a new form of work assignment, the so-called 'on-call' duty. They allocated a daily time slot of one or two hours to be flexibly available for anyone in need of support or advice. To ensure the best possible learning, the respondents also created exceptional solutions. For example, William went to a student's home twice per week to teach the essentials in

person: “They [a parent] asked if I could come to their home to teach their child, which I did. I don’t have as many students as my colleagues, so it was not as difficult for me as it would have been for somebody else. It was the right thing to do”.

Student guidance and consultation and collaboration with colleagues became more active during the school closure. SNTs monitored students’ progress and attendance more carefully than during in-person education to ensure that no students were left behind. Aino explained that she used phone calls mainly to catch up with the students: “I called them every morning and we went through the daily programme together. I made sure they knew where to find everything and where to click and so on”.

Since there were many practical issues to solve, the importance of collegial collaboration and home–school collaboration were highlighted in many cases. Collegial consultation between SNTs and their colleagues became less spontaneous because brief in-person encounters throughout the school day had ceased. Still, classroom and subject teachers needed consultation by SNTs and collegial support. Alma said, “Usually, classroom teachers first asked if she could do this and that. I had to answer that I have quite a few students and quite a little time. Then we discussed what the teachers themselves could do instead”.

Providing SNE via differentiation, interaction, and technology

The practice of differentiation was carried out at individual and group levels, according to the same principles as before the school closures, by reducing the scope, depth and complexity of learning materials, cutting down the number of teaching exercises and giving more time to execute the exercises. In practice, this meant that the teachers prioritised basics rather than complex parts of learning content: “We practiced finding the vocabulary [in the textbook]. We practiced finding the grammar section. We contemplated where to start when reading a longer text. Basics. Just basics”, Venla said.

Students with executive function issues needed the attention and assistance of SNTs more than usual. Support for learning and concentration difficulties was needed as much or less than usual. Due to undeveloped studying and self-regulation skills, not all students could live up to the increased level of independence that remote learning requires. This increased the need for differentiation. Lilja expressed surprise: “They [students] had never needed help before, but suddenly, without warning, the need for special educational support simply skyrocketed”.

Even the importance of teacher–student interaction in motivation emerged more than usual. Having someone give small pushes helped the students to continue with their work, stay motivated and maintain a positive mood. Lilja described the importance of encouragement and feedback: “Special needs teachers are needed to underline that ‘yes, these exercises are important, and yes, the more you do, the better you get’”. An uplifting attitude and well-thought-through advice had a positive impact on the students. Astrid explained, “Every day, there was someone who called some students more often than others. When contact with a certain student was created, they started calling more often”. Teacher–student interaction even had a social function: gestures, such as enquiring students and being available for support, signalled presence and care. Routine maintenance of contact also helped SNTs to ensure that their students’ well-being did not worsen.

In terms of SNE support, the use of technology offered many great possibilities for providing support. Text documents could be coedited, oral exercises could be recorded, and instructional videos could be watched multiple times. Lilja said, "I learned some nice tricks. For example, I taped all oral exercises and sent the recordings to the subject teacher". Providing support and individual guidance became more discreet thanks to platforms and applications that enable individual communication, even in the middle of a virtual class meeting with several students. "Differentiation draws less attention thanks to private digital contact. At school, the smart ones immediately notice all special arrangements and point them out" (Aino). Also, a few respondents mentioned that they were pleased to let students be in their own element—that is, in the digital world. Astrid said, "We were all learning together. Or, well, it was some kids who were teaching us teachers".

Challenges with SNE distance learning

Increased stress, poor collaboration and structural unclarities as work-related challenges

The respondents expressed how challenging poor preparedness and rapid change were, and they wished there had been more time to prepare for the distance education period. Students with SEN would have benefitted from the possibility of practicing, at their own pace, the use of digital devices and online learning platforms. Astrid said, "It would have been nice for students to familiarise themselves with these platforms beforehand in a small group where they don't feel ashamed of their low skill level." Moreover, SNTs had to rethink their job descriptions. Suddenly, they were forced to work in different ways, use different learning materials and sometimes even teach different subjects than usual. Ensuring the best possible learning for students with SEN became difficult since new regulations and recommendations came into effect weekly, meaning that educational practices had to be repeatedly reconsidered.

The respondents also expressed that unsatisfactory working conditions were a challenge. Everyone worked at home on digital devices. Prolonged sitting negatively impacted their physical well-being. Not only SNTs but also their students needed proper 'home offices' with ergonomic furniture and enough room for work. The presence of family members and pets sometimes distracted both children and SNTs from their work. A looser daily schedule and changed routines posed a considerable challenge, especially for teachers whose students could not organise their daily rhythms. Some students altered sleep rhythms (due to not having to go to school physically) interfered with the schedules of SNTs and complicated the implementation of support: "Some students didn't answer my calls before 11 a.m. I called their parents, who then sent their granny or grandpa or someone else to wake up the oversleepers", Stella said.

The respondents also brought up a variety of mental stress and cognitive strain issues stemming from school closures and the overall situation, many of which negatively affected their coping and general well-being. Venla summarised her feelings: "It has been such a roller coaster of different emotions, from doubts to trust, from the feeling of everything going well to the feeling of completely failing in everything". Some respondents experienced a spectrum of emotions: tiredness, powerlessness, loneliness, inadequacy, and frustration. Awareness of the important function that teachers have in society leads them to feel increased pressure to do well. Stress over accountability was intertwined with feelings of

uncertainty, insecurity and self-doubt: "I found myself worrying if I had called them [students] often enough—if I had really shown that I am here for them" (Eevi).

Distance education was cognitively exhausting because it required constant thinking. Everyday working life was uncertain and with unpredictable challenges, which forced SNTs to prepare backup plans as precautions. "The increase in workload was not the hardest part. Rather, it was the fact that I was forced to rethink everything and constantly try to find new ways to work. Nothing I did before could be done in the same way" (Stella). Both SNTs and their students suffered from information overload and felt the need to disconnect: "Many students were frustrated because their phones were constantly beeping. They just switched off, stopped answering altogether, didn't have the energy to check their messages", Venla said. Many respondents expressed their brain working overtime and they had trouble relaxing.

Difficulties with remote communication and collaboration

The respondents experienced the negative effects of physical distance on teacher–students' interaction. Students' avoidance behaviour caused considerable trouble for teachers. Some students were unwilling to follow instructions and daily schedules. Others refused to seek support or accept the help offered. In a few cases, a lack of physical presence affected teacher–student interactions, making it difficult to reach out to those in need of SNE. The respondents mentioned having a hard time determining whether students understood the subject matter, identifying the reasons behind problematic student behaviour and recognising students' emotional states. Also, many students felt discomfort when using video platforms, which disturbed communication even more. Astrid explained: "When a student told me that they had technical problems, I was unsure if that was true or if it was just that he was tired and couldn't cope anymore. The students sharpened up when I called them, but when I contacted their parents, it turned out that there had been a lot of crying and rebellion and tiredness in the air".

Physical distance negatively affected home–school and multi-professional collaboration. The respondents accustomed to communicating with their colleagues face to face were surprised by how time-consuming collaboration and information sharing were at a distance. Even the smallest things seemed to require extra effort. "It [communication with colleagues] was terribly slow and frustrating! When I'm at school, I can just walk to the teachers' common room and get ten different things done in five minutes. Now, I had to take care of every single little thing separately, either call or send a message, which took much more time" (Sofia). When the response time between messages was prolonged, the decision-making processes became slower.

When talking on the phone with parents, interactions stayed mundane instead of cutting to a deeper level. Even arranging parent–teacher online conferences and requesting necessary signatures for official documents posed a challenge. A few informants expressed concern over social welfare authorities' and student health services' slow execution of necessary interventions. Inefficacy and delays frustrated SNTs, especially if a certain child's home and school situations required immediate action. Eevi constantly worried about her students: "I don't want to use my time mulling over whether

there is anyone to help them [students with SEN] or not. I want to trust that someone else is taking care of the most serious of issues”.

Structural and organisational issues affecting special education

In general, the job description of SNTs is relatively free and flexible, alternating in terms of work assignments, roles, and responsibility areas. During the school closures, SNTs' unclear responsibilities and expectations were highlighted. A few informants described how their work roles merged into a fusion of many work assignments and duties, some of which were technically not part of their job descriptions. Astrid explained: “There are these unrealistic expectations that we [SNTs] need to take full responsibility for certain students, which is totally in conflict with the three-tiered support model”. Lack of explicit directions confused, for example, who was responsible for differentiated instruction, and at which point the SNT should be informed about student-related difficulties. These issues were more or less bearable with in-person teaching; however, during the COVID-19 distance education period, adverse effects on decision-making processes and the implementation of SNE were built up as never before.

During the school closure, inequality and insufficient resources became more evident. The differences applied to available learning materials, personnel resources and working hours, potential economic cuts, and device policies. Internet connections turned out to be both faster and more stable in urban areas than in rural areas. Venla described students' difficult position: “This is a rural school with a good-for-nothing internet connection. During the distance learning period, some students were completely in the dark. They could attend none of the online meetings due to internet connection drops. No wonder they were so irritated”.

Under the ordinary circumstances of contact teaching, the impact of socioeconomic status on educational outcomes can be equalised so that all children have the same chances. However, during school closures, the digital divide put some students at a disadvantage compared with their peers. In families where several people had to work remotely at the same time, excessive broadband usage led to internet overload. Network speed and digital devices depended somewhat on the financial situation of the students' families. Frida said, “There was this family with three children who all worked on the same computer. It became a puzzle to find a time slot when that computer was free so that I could have my lesson with one of the siblings. I had to check with three different teachers when their lessons were and then time my lesson outside those hours”.

Another challenging aspect the respondents highlighted was poor collaboration and a lack of common understanding within the school community. During the distance learning period, if this kind of work community problem had already been an issue with in-person teaching, the negative consequences for SNTs' work had culminated more than ever. Astrid explained: “After major changes and stressful situations, all those little things that haven't worked before become extra difficult to manage. So, if collaboration between teachers has always been an issue, it gets even worse during periods like this”. Another respondent complained that subject teachers value their subjects over everything else and thereby found it difficult to see the bigger picture. The transition to distance learning meant that

everyone focused on their workload without giving a thought to collaboration: “Most learning difficulties went unnoticed. Whenever an assignment was not submitted, the subject teachers thought, ‘Oh, this student just didn’t bother to do this exercise’” (Alma).

Even though the three-tiered support model has been in force for years, it has not been established in every school. This manifests in many ways. In some schools, different diagnoses among the students and the concept of differentiation are understood neither in theory nor in practice. SNTs’ expertise is not valued, nor is their advice taken seriously: “I told the principal that the digital competencies of these students are not at the level that they imagined. My message was downplayed. They just said, ‘Oh, your students just do not bother; they are being lazy’”, Venla said. In other schools, attitudes towards students with SEN are negative. Astrid expressed that “some classroom and subject teachers see the implementation of special educational support measures only as an additional workload”.

Discussion

The results regarding the first research question dealing with teaching and support arrangements during the distance learning period, revealed that the SNTs mostly worked on the same tasks as before. However, they were forced to adopt new methods. Alongside differentiation and teacher–student interaction—both essential for helping students with SEN—technology use became an integral part of SNE. Also, traditional schoolbooks, a multitude of devices, applications, platforms, and websites were used for teaching, communication and support. During the initial stages of the pandemic, SNE was conducted mostly at a distance. Transitioning to distance learning required SNTs to create and adopt new learning materials, choose which platforms and applications to use, select the best communication channels and decide on practical arrangements to improve distance learning. Even though the SNTs experienced that the use of technology offered many differentiation possibilities they also noticed that it was difficult for students with SEN to handle the increased level of independence that remote learning requires. This result is in line with earlier research claiming that distance teaching is demanding for young students and students with learning difficulties (Tarullo, Obradović and Gunnar, 2009). For those in absolute need, in-person instruction in small groups at schools was arranged by the SNTs. SNTs also used new arrangements that can be regarded as extreme, such as visiting students’ homes and being always available. This shows how the SNTs, in the best way, tried to support those students that did not cope with distance learning, as well as SNTs’ deep engagement with students.

Distance learning is also an arrangement that needs to be discussed regarding SNE and SNTs’ roles. The results regarding the SNTs experienced work-related challenges show in accordance with earlier research (Barbour and Bennet, 2013; Obrad, 2020) that all new tasks led to a sudden peak in teachers’ workloads and gave rise to feelings of uncertainty. With this in mind, current study substantiates the claim expressed in previous literature (Burdette et al., 2013; Gordon et al., 2010) that both distance learning readiness and pandemic preparedness are of high importance in securing the best possible learning for all students. In the best-case scenario, well-designed technology-based distance education solutions can foster inclusion, create equal opportunities (Nigmatov and Nasibulov, 2015) and benefit

students with SEN (Basilaia and Kvavadze, 2020) and other students and teachers (Burgstahler *et al.*, 2004).

The school closures had many direct effects on SNTs' work-life, from an abrupt change in their work environment to the spectrum of emotions that arose because of the exceptional situation. Time management challenges that negatively influenced the respondents' work—prolonged working hours, limited time and resources, constantly changing timetables, overlapping schedule and prolonged time-on-tasks—resulted in cognitive strain and exhaustion. Several researchers have identified a link between distance education and time management challenges (Barbour and Bennett, 2013; Flores *et al.*, 2018). Because teachers' working conditions may affect student learning, SNTs' (and other school personnel's) heavy workload should not be ignored.

Based on the literature (Lassoued *et al.*, 2020; Burdette *et al.*, 2013; Burgstahler *et al.*, 2004; Flores *et al.*, 2018), it can be assumed that staying on top of SNTs' and students' workloads would have been easier for them if enough technological training and sufficient IT support had been provided. Nigmatov and Nasibulov (2015) and Basilaia and Kvavadze (2020) see information technology as a possible solution to meeting diverse needs and adapting to changing situations, given that these technologies are designed to benefit everyone despite functional diversity.

The results of the second research question do not directly dispute or verify this view but describe why it is still excessively idealistic to think that distance education was a ground-breaking learning solution for students with SEN. The abrupt pandemic outbreak in the spring of 2020 disclosed that school systems, in Finland or in other countries, were not prepared to meet students' diverse needs at a distance. Online SNE may become a common trend (Ludlow, 2014), but this is unlikely to happen before the challenges of distance learning have been addressed.

When comparing the literature (Barbour and Bennett, 2013; Kalamkovic *et al.*, 2013), many similarities can be found. The respondents in this current study preferred helping their students in person, disliked the lack of personal contact, worried about student absenteeism and felt that staying connected with others was difficult when only using means of remote communication. The informants experienced that they sometimes had difficulty identifying their students' actual needs. This agrees with Flores *et al.* (2018), who considered differentiation to be one of the major challenges when teaching students remotely. This study demonstrated that if a school community's roles and responsibility areas are unclear, this illegibility and related confusion will only worsen during exceptional situations. It would be beneficial to clarify vague roles and responsibility areas within schools, to ensure that both teachers and principals understand the concepts of the three-tiered support model and differentiation, and to better define SNTs' job descriptions so that SNE can be organised as efficiently as possible, even during exceptional situations. Such clarity was already called for by Burgstahler *et al.* (2004), who deem clear institutional policies, available information, clear guidelines, and support from above to be prerequisites for a well-functioning distance education system. This could increase the sense of autonomy and motivate teachers who work remotely, as proposed by Flores *et al.* (2018) and Barbour and Bennett (2013).

A theme that often emerges in the literature is digital inequality (Lassoued et al., 2020; Beaunoyer et al., 2020; Huber and Helm, 2020; Obrad, 2020; Pellegrini and Maltinti, 2020). Even in Finland, unevenly distributed technological resources have given rise to a multitude of challenges. This has become visible at multiple levels of society. Regarding geographical inequality, rural schools, in particular, are in an underdog position compared with urban schools, not least because of inadequate internet infrastructure. On an institutional level, technological inequality between schools can be noticed when looking at, for example, a school's resources in terms of digital devices, available online learning materials, habituation in using online platforms and the quality of IT support. At the family level, the impact of the home environment on learning, especially in terms of socioeconomic status, is apparent.

The strength of the Finnish school system has been explained by its focus on equity (OECD, 2020). The fact that Finnish students did not have equal opportunities to succeed in distance learning during the COVID-19 school closures does not coincide with the ideal of 'the best school system in the world'.

Limitations and Further Research

This study has several limitations. The sample was small, and the participants participated voluntarily via a request in two *Facebook* groups. This might mean that the SNTs who were most involved in distance education and had reflected a lot on arrangements and challenges participated. Therefore, it is not possible to guarantee statistical generalisability or transferability. In further research, quantitative research in the form of questionnaires could be of use to examine if there are differences in special education distance learning and support arrangements and related challenges between SNTs working at different school levels and regions. Also, further research needs to determine the psychological effects of school closures on school personnel, how teachers' occupational stress and other work-related issues impact student learning and what can be done to counteract the potential negative effects that teacher exhaustion has on students.

Conclusion

This study contributes to the knowledge on an under-researched subject matter: SNE in times of crisis for students with SEN. The results also contribute to an overall understanding of digital teaching for this group of students. A key finding of this study is the great demands that the distance learning period posed on both students and SNTs. SNE distance learning was clearly not suitable for all school subjects and all students with SEN. However, the SNTs were aware that an exceptional situation requires exceptional arrangements. Both teachers and students with SEN should have access to technology and receive training to manage it as well as training in how to learn and teach with the use of technology. This is a key prerequisite for avoiding inequality between schools and between students from families with different socioeconomic circumstances and learning possibilities. If these aspects are not considered, digital teaching during crisis as well as during normal circumstances can lead to exclusion rather than inclusion.

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