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Classrooms going online: Nordic lower secondary teachers' readiness at the COVID-19 outbreak

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Abstract

The aim of this article is to make visible Nordic lower secondary teachers' experiences of the initial period of the COVID-19 pandemic, guided by three research questions: 1. What challenges and strategies can be identified in teachers' descriptions of teaching during the pandemic outbreak? 2. What appears to be the role of digital technology in these challenges and strategies? 3. How can we understand the readiness and educational priorities of these Nordic schools in this time of crisis? Theoretically, we draw on the three main domains of purposes of education coined by Biesta (2015); qualification, socialisation and subjectification. The empirical data consists of online qualitative interviews with 17 lower secondary teachers from Denmark, Finland, Iceland and Sweden, teaching in different school subjects. A thematic content analysis was conducted, finding three main areas of challenges in relation to organisation of teaching, classroom dialogue and assessment of student learning. Our analysis makes visible how besides digital readiness, the readiness of the studied schools relied on the teachers' ability to act independently in finding professional solutions in a time of crisis. The teachers did not just sit and wait for instructions on what to do, but took initiatives and managed the situation as best as they could drawing on their professional competence.

Keywords: COVID-19, digitalization, emergency remote teaching, teaching practices, teacher experiences

Introduction

At the outbreak of the COVID-19 pandemic in the beginning of 2020, it soon became clear that schools and teachers were facing far-reaching challenges difficult to overview (UNESCO, 2020). All over the world, societies responded to the pandemic out-break with lock-down strategies that in many countries also involved home schooling and emergency remote teaching, as early responses to the new and at this time not yet a crisis fully known. According to UNESCO, the European average was about 17 weeks of school closures during the first year of the pandemic (2021). The responses to this extensive world-wide disruption of school-based education meant that education systems in many countries rapidly implemented strategies for schooling pupils from home with digital solutions. These efforts have been described in terms of emergency remote teaching (ERT), not to be equated with planned online learning that has been deliberately developed and established over a longer period (Barbour et al, 2020; Hodges et al, 2020). However, a survey made by the OECD involving respondents in 98 countries reveals large differences between nations when it comes to infrastructures, support and access to the necessary digital technology (Reimers and Schleicher, 2020). In comparison with the OECD average, schools in the Nordic countries turn out to be well equipped in terms of digital infrastructure with the majority of students having access to both internet connection and – in a global perspective – good opportunities to find a quiet place to study at home (ibid.). Still, the favourable technological situation in the Nordic countries does not automatically mean that educational responses to the crisis were without challenges in these countries. Besides the necessary digital access, there are deeper dimensions related to teachers' professional autonomy and capacities of salient importance for understanding teachers' and schools' readiness in a pedagogically very complex situation.

This article takes an interest in the readiness of Nordic education at the pandemic outbreak from the perspective of lower secondary teachers (that is, teachers for students aged 13-15). The reported interview study is part of the Connected Classroom Nordic project, focusing on digitalisation and teaching qualities in so called digitally rich classrooms. In early spring 2020, COVID-19 entered the scene and the planned data collections were interrupted as the schools closed for visitors and most countries switched to home schooling and ERT. Instead, an individual (online) interview study was conducted with the teachers, specifically focusing on their experiences of the situation at that time.

At the time of the interviews, lower secondary schools in all Nordic countries except Sweden had moved into emergency remote teaching. In Sweden, schools remained open but were to some extent also working out hybrid solutions to make teaching accessible both online and in the classrooms, solutions that involved a great deal of work and became much debated in the teacher union organisations (Skolvärlden, 2020). Since then, we have gradually learnt more about the consequences of school closures, but what was the situation for teachers at the time of the outbreak? How did they experience the challenges they were facing, and what priorities were made in their everyday teaching in relation to the new circumstances? In this article, we address these questions in terms of teachers' readiness at the very beginning of the pandemic and suggest that a reminder of how teachers perceived and managed the situation at this time of immediate crises is timely and warranted. The aim of this article

is to make visible Nordic lower secondary teachers' experiences of the initial period of the pandemic, guided by the following research questions:

1. What challenges and strategies can be identified in teachers' descriptions of teaching during the pandemic outbreak?
2. What appears to be the role of digital technology in these challenges and strategies?
3. How can we understand the readiness and educational priorities of these Nordic schools in this time of crisis?

Background

As it quickly became clear that the pandemic crisis would affect countries all over the world at all levels, educational researchers soon started to raise questions about the new situation that was sometimes described as a 'great on-line learning experiment' (Zimmerman, 2020) or as 'a digital boost' (Stenliden et al., 2021) with a potential to advance understandings of digital competence. At a very early stage of the pandemic in a Learning, Media and Education editorial, Williamson et al. (2020) pointed out that education and educational technologies in this situation "have been positioned as frontline emergency service" (Williamson, Eynon and Potter, 2020, p.107) as distance education "has become a widespread matter of concern," not least in relation to questions of digital inequalities and its relation to equal access to education for all. Williamson et al. also problematize the idea of viewing the crisis as a great remote online experiment, arguing that it is discourse that mainly works in the interest of education data science companies. Also, Hodges and colleagues (2020) took on a critical position arguing that there are reasons to be cautious about jumping to conclusions when it comes to the potential for digital development in this unique situation. Instead, they say, the consequences should rather be described in terms of Emergency Remote Teaching (ERT), as an answer to a very specific and demanding crisis with no guarantees that it would lead to sustained advancement for education (see also Barbour et al., 2020).

Arguably, ERT, which is the term we mainly use to describe the rapid shift to online remote teaching during the pandemic, entails both challenges and opportunities for education at large. In a literature review and meta-analysis including publications from 2000–2020 about on-line teaching in general, Mäkelä and colleagues (2020) have identified both challenges and opportunities that they argue provided support for developing ERT strategies also during the COVID-19 pandemic. Most of the selected studies were published after 2010 and about half of them focused on K-12 education in English speaking countries. Nine qualitatively different opportunities and nine challenges for online education were identified. The opportunities include aspects such as *flexibility, individualization/personalization, high-quality instruction, improved learning outcomes and skills, benefits of using ICT, online collaboration and social networking with peers, higher administrative efficiency, providing student support,* and *ensuring education in exceptional times*. The identified challenges were *online education requiring a change in teaching methods, teachers and parents changing roles, difficulties in learning, teachers' negative attitudes toward technology, lack of ICT competency and support, lack of up-to-date ICT infrastructure, lack of social contact,* and *negative effects on pupils' health*. Hence, even if this

literature review does not claim that these aspects occur in all educational contexts, there seems to be quite a wide spectrum of possible consequences of ERT.

By now, several Nordic studies have also been conducted regarding teaching during the initial pandemic period (c.f. Bergdahl and Nouri, 2020; Bubb and Jones, 2020; Goman et al., 2021; Gudmundsdottir and Hathaway, 2020; Qvortrup, Christensen and Lomholt, 2020). Using the Teacher's Readiness Online (TRIO) survey, Gudmundsdottir and Hathaway (2020) examined the activation of Norwegian and American teachers' (N=813) agency, i.e. the teachers' own perceptions of their readiness in transiting to online teaching, during the first weeks of the pandemic outbreak in spring 2020. Drawing on four dimensions (pedagogical, ethical, attitudinal and technical) of teachers' attributes to teach online during the school closures, the findings show that despite the lack of experience, the teachers reported a remarkably positive attitude and were willing to try out new ways of teaching. Also Bubb and Jones (2020) found that teachers in addition to having improved their digital skills had also been facilitating tasks more creatively than usual (Bubb and Jones, 2020). Stenliden et al. (2021) conclude that when teachers' digital competences are put to the test in this emergency, many show a so called qualitative digital competence based on subjective, emotional and relational processes.

However, several studies also show how organizing and planning the teaching have been more challenging than before for many teachers, and there is still an evident need to develop teachers' digital competences (Goman et al., 2021). The global pandemic has highlighted the social nature of teaching, emphasizing the importance of maintaining good and preventive relationships with students, their families, and the teacher community (Bergdahl and Nouri, 2020; Kim and Asbury, 2020). In parallel studies to the present article, both Nilsberth et al. (2021) and Slotte et al. (submitted) found that both Swedish upper-secondary and Finnish primary and lower-secondary teachers to a large extent took into consideration the compensatory mission in education to ensure fair and equal assessments, relational aspects and students in need of support. Carretero Gomez and colleagues (2021) conclude in a policy report focusing on five EU-countries that while ERT may serve as a complement to conventional classroom teaching it cannot fully replace in-person teaching and learning, due to its relational and social limitations.

In summary, even if the still early studies have reported positive effects, it seems as if the school closures in 2020 presented teachers with considerable challenges, involving the need to adapt to a new situation with consequences for the organization of teaching as well as for the social aspects of interaction. As Sahlberg (2020) points out, the crisis will highlight many of the already existing problems and shortcomings in education in terms of social inequities, unequal access to digital resources and a strong grip of traditional teaching that makes changes difficult. Hence, gaining insights from this pandemic crisis can inform us further about the prevailing conditions and educational values and priorities in contemporary Nordic teaching, and what this means in terms of readiness to face unexpected situations. This article contributes to this knowledge by focusing on how some teachers describe and reflect on their experiences in this unique situation.

Theoretical framing

As stated in the introduction, this article aims to make visible teachers' experiences during a very specific period when an unforeseen pandemic challenged the everyday practices in the classrooms. The challenges that the teachers identified as well as the strategies that they used to cope with the situation, reflect their professional judgements and understandings of their mission as teachers in an exceptional time. In general, times of crisis can reveal priorities and needs that are seen as more important than others when unexpected challenges arise. Therefore, we think that it is of great importance to stop and pay attention to how teachers reasoned when facing restrictions, home schooling and emergency remote teaching that had to be managed as best as possible. However, what could be considered 'the best' way of managing a crisis must be viewed in relation to the goals to be fulfilled through the different strategies and solutions that are tried out.

In our analysis of the teachers' experiences as told in the interviews, we draw on Biesta (2015), who states that education is a very specific and multidimensional human practice in relation to three main domains of educational purposes – qualification, socialisation and subjectification. The three domains represent different dimensions of the complexity of institutional practices of education that teaching staff have to take into consideration in their professional judgments. According to Biesta, education can be seen to function in relation to these three partly separate domains, which could also be understood as partly overlapping and sometimes in conflict with each other. Qualification, according to Biesta (2015, p.77) "has to do with the transmission and acquisition of knowledge, skills and dispositions". In our analysis, this domain concerns the teachers' professional judgements in relation to matters of knowledge acquisition and teaching content during the pandemic. It also has to do with what the teachers prioritised and wanted the students to do. Socialisation, in Biesta's definition, is about how education initiates young people into cultural, political and religious traditions and ways of beings, which is partly an explicit goal of education but also something that "works behind the backs of students and teachers, for example "in the ways in which education reproduces existing social structures, divisions and inequalities" (ibid., p.77). In our analysis, this domain of purposes helps us to focus on norms and values related to, for example, conduct, responsibilities, and the school institution. The third domain, subjectification, has to do with how "education also impacts positively or negatively on the student as a person" (ibid., p.77), which we think could also be the relational values that the teachers take into consideration in their management and experience of this specific situation.

In the interviews, which we understand as co-constructed conversations between researchers and interviewees (Gubrium and Holstein, 2012), the teachers more or less explicitly display and justify the professional priorities and judgments that they make in their strategies and solutions. In our analysis of the interviews, the three domains qualification, socialisation, and subjectification are used as analytical concepts for understanding the teachers' priorities and strategies as they mobilised in a difficult situation.

Method and material

As mentioned in the introduction, this study is part of the Connected Classroom Nordic project (CCN), focusing on questions about digital technologies and teaching quality in the four Nordic countries (Denmark, Finland, Iceland and Sweden). The project was designed as a three-year longitudinal study, where teachers and students are followed regularly each year with video recordings in the autumn and focus group discussions in the following spring. The schools had been selected based on the criteria of being digitally rich, meaning that they had both made investments in technology and implemented support structures on an organizational level to promote use of digital technology in teaching. At the time of the pandemic outbreak, a first round of video recordings had been made and we were about to start up focus group discussions with students and teachers in the respective countries. However, because of the pandemic restrictions, our original plans had to be revised and instead we found that we had a unique opportunity to interview the teachers about the new situation instead. As we could not meet the teachers face-to-face, we decided to do individual interviews on Zoom. Archibald et al. (2019) finds Zoom to be a viable tool for qualitative interviews that permits the participants to communicate with each other, and we found that it worked well also in our interviews.

Based on the overarching ambition of CCN to explore teaching quality in relation to digitalisation of classrooms, we developed an interview guide containing five main topics that we wanted to elucidate in relation to the current situation caused by the pandemic: 1) How the teaching was organised; 2) Possibilities and challenges of using digital tools; 3) Subject-specific issues regarding teaching (content, teaching material, priorities); 4) Social aspects of teaching and supporting students; and 5) Challenges and possibilities regarding online classroom interaction. Each theme contained a set of sub-questions allowing for the theme to be explored further. The interview guide had a semi-structured design giving a general overview of the interviewees' experiences, as well as allowing each interviewee to bring up his or her own thoughts. The teachers were mainly participants from the CCN schools that had previously participated in video recordings and focus group discussions, except in Finland, where also additional interviews were made with teachers not in the project, selected on the criteria that the schools thought of themselves as digitally rich. In total, the empirical data consisted of interviews with 17 Nordic lower secondary teachers from Denmark, Finland, Iceland, and Sweden, teaching different school subjects (table 1). All participating teachers have given their informed consent, and ethical guidelines in each country have been followed.

The analytic procedure started with a thematic content analysis (Braun and Clarke, 2006) in relation to our first two research questions, challenges and strategies in the teachers' descriptions. The local researchers at each site were responsible for doing the first close readings of their part of the data, which was followed by joint discussions in the research group to identify initial codes and to search for potential themes, and gradually also taking our second research question about the role of digital technology into consideration. As Braun and Clarke (2006) point out, this kind of thematic analysis is not a linear process, and during our recurring data sessions, we moved back and forth between different analytic stages to refine our themes in relation to the research questions and to develop as coherent interpretations across the sites as possible. The analytic process ended up in the themes presented in

the findings. As we have only a few interviews from each site and a limited number of schools, we do not make any claims that the interviewed teachers are representative for all teachers in their respective countries. Still, when relevant in our analysis, we have taken contextual background information necessary for understanding into consideration at school and national levels. For this reason, we also believe it is necessary to provide some background information about the situation in the different countries at this time.

Table 1: Overview of the interviews

Teacher alias	School subjects	Date of the interview	Time length
DE01	Danish (L1)	20.5.2020	73 min
FI01	mathematics and science	17.4.2020	61 min
FI02	history and social science	24.4.2020	70 min
FI03	history and social science	29.4.2020	54 min
FI04	Swedish (L1) and literature	08.05.2020	71 min
FI05	religion and secular ethics education	11.05.2020	70 min
FI06	Swedish (L1) and literature	14.5.2020	57 min
FI07	mathematics and science	14.4.2020	67 min
FI08	Swedish (L1) and literature	08.06.2020	87 min
IC01	Icelandic (L1) and social science	08.05.2020	67 min
IC02	mathematics	06.05.2020	61 min
IC03	mathematics and social science	07.05.2020 / 11.05.2020	56 min / 31 min
IC04	Icelandic (L1) and mathematics	07.05.2020	61 min
SW01	English	10.06.2020	44 min
SW02	science, mathematics	05.06.2020	50 min
SW03	Swedish, English	29.05.2020	40 min
SW04	Swedish	29.05.2020	43 min

Denmark was among the first countries to close their schools as early as on 11 March. Within two days, schools had to prepare and plan for what to do and how to cope with this situation. The new circumstances forced Danish teachers to combine outdoor activities with smaller groups of children in physical learning activities and computer-learning activities (Qvortrup et al., 2020). As for the school included in this study, it sees itself as a technologically first mover, with a BYOD policy but also with the possibility to lend students a PC to bring home if needed. Thus, from a technological point of view, the school in focus here was relatively well equipped.

In Finland, distance teaching replaced contact teaching in all schools and educational institutions from 18 March to 13 April, which was later extended until 13 May. When the pandemic broke out the compulsory schools in Finland were in the middle of a change towards a 1:1 solution (one digital device per student provided by the school), with considerable differences between the schools and between

different students in terms of access to personal devices and the internet (Goman 2021; Tanhua-Piiroinen et al., 2020). However, for the five schools included in this study, all eight interviewed teachers generally reported smooth organizing of digital devices for students and thought that they had developed digital infrastructure at the organizational level.

In Iceland, restrictions on schooling took effect on 16 March and lasted until 4 May. Teaching was maintained with limited numbers of students in each room with enough distance, and division of classes into smaller groups. The majority of schools had to rely on online teaching to some extent, but teaching days were made shorter with reduced attendance. The switch to online teaching exposed large differences in the Icelandic students' access to the internet and digital devices, and many parents lacked the digital skills to support their children (Björnsdóttir and Ásgrímsdóttir, 2020). In the school included in this study, students were provided with laptops/computers to use at home if needed, but most students used their own devices, which resulted in some differences in students' technological access.

In Sweden, only upper secondary schools were locked down completely during late spring 2020, whereas primary and lower secondary schools remained open and followed the ordinary schedule. However, as there were strong recommendations for students and teachers to stay at home if they had only the slightest symptoms, several students were expected to stay at home. As a result, many Swedish schools at this initial phase of the pandemic had a kind of hybrid solution of online as well as face-to-face teaching, resulting in a sense of double workload for teachers. In the studied school, all students had been equipped with the same kind of personal computers to use in all subjects in school as well as at home for personal use, and the school had a well-established support structure at the organizational level.

To sum up, the interviews with teachers in the seemingly similar Nordic countries are only treated as representing a country but not as being representative of a country. Even so, we need to point to some contextual differences between the countries in terms of pandemic management.

During spring 2020, Denmark, Finland and Iceland at some point in time closed the schools and moved teaching online, whereas schools kept open in Sweden. In all four countries, (most) students had access to computers at home, but there were variations in the provision of equipment ranging from only supplying to those who did not have one of their own at home (Denmark, some schools in Finland and Iceland) to giving everyone the same kind of computers (some schools in Finland and most schools in Sweden). In Denmark and Iceland, students in the studied schools were initially expected to use their own devices at home and could only borrow a school computer if necessary. Bearing these differences in mind, we maintain that the teachers in all four countries shared the experience of having to cope with challenges requiring new digital solutions. This is the reasonable assumption on which the analysis of the material was based.

Findings

In the following, we present our findings structured in relation to the three most prominent content themes that answer our first two research questions: *What challenges and strategies can be identified in teachers' descriptions of teaching during the pandemic outbreak?* and *What appears to be the role*

of digital technology in these challenges and strategies? After this follows a section in which we discuss these findings in relation to the third research question.

Challenges related to the organisation of teaching

One of the first, and obvious, challenges was how to organise teaching in a situation where the switch to online solutions radically changed dimensions of space and in some cases also time. As the CCN project follow so called "digitally rich" schools, all of the interviewed teachers already had experience of working with digital resources and platforms. However, the new situation demanded that they needed programs for remote teaching with some kind of video conference system (for example Teams, Zoom, Google Meet and Hangout), which they had not used before. All interviewed teachers referred to common strategies on an organizational level when they talked about what platforms they used, even if other choices might have been possible for some. One of the Finnish teachers said:

> Sure, we have some possibilities to choose certain things ourselves, but we have some general agreements, for example not to use any fairly new tools, like Zoom for instance, but we have for example Google Meet that all teachers already use within the G-suite frame. (FI01)

In the Swedish school, the new situation meant that they started more regularly to use the platform Teams, which some of them had tried out earlier, to organize teaching for the students, and to use as a platform for collegial work.

> I started to use Teams already in September. So, I was very much on track when we had to use it all over. For me personally it was not a big problem to teach on the platform. But then it was a little different when you had to have video meetings or video lessons. (SW04)

Use of platforms as the main infrastructure for teaching hinges on all students having access to internet and devices. Teachers in the Icelandic school created a website of their own, which they connected to the Google Classroom learning space that they used before the pandemic, as a way to reduce the level of complexity for the students. As far as possible, they tried to create a situation resembling normality with the help of platforms:

> We knew that this was possibly going to happen, and it was not very different for us because we normally use Google Classroom. When students could not come to school because of the pandemic, the only difference was that we did not have the students sitting right in front of us in school when they were doing their assignments on Google Classroom. (IC01)

Many of the teachers talked about how they at first simply had to find practical solutions to the tasks to give the students who worked from home. The Danish teacher described how her first strategy was to give the students a novel with study questions, which she had to prepare in a hurry:

> Yes, there's a difference, I started to read a book and prepare questions for the next day, a book we were not supposed to read yet, to send home with them. They got the book and reading and homework for a week and a half to read and solve the tasks. In return, I didn't have any other demands during this period and not in English and history either. (DK1)

This teacher apparently prioritized the described reading assignment in L1, at the expense of other assignments in the subjects English and History. However, she initially experienced some digital

challenges, as the online facilities, school network (Aula) and learning platform (My Education), became overheated in this first lockdown period. This made it difficult to follow up on the students' work:

> Their efforts to put the reading into perspective became markedly more shallow than usual. The students' reflections were very poor, especially in 7th grade, and it was very difficult online. (DK1)

The Danish teacher's comments above imply an understanding of the need to make priorities that will make teaching somewhat more restricted compared to the normal situation. This was a recurrent theme in many interviews, as for example in Iceland, where a reduced timetable was created consisting mainly of core subjects and with half as many lessons as usual, as students attended school each day only from 10:00 to 12:10. The Icelandic L1 teachers talked about how they decided to skip grammar instruction and instead focus on literature, reading comprehension and fluency. In social science all group work assignments were put on hold and instead instruction was based on the textbook and slides.

Also, the Swedish teachers talked about a feeling of emergency as they had to mobilise and prepare for the possibility that they would have to fill in for each other. On the municipal level, it was decided that all schools should work out emergency plans and all teaching staff at the school were gathered for a whole in-service training day to work out shared lesson plans for each subject.

> We made a joint planning because we didn't know how it should-, if we should become sick and so. So that we could keep going, have a common plan if a supply teacher would step in or if we would have to fill in for each other so we made a plan week by week […] We had an in-service training day when we should both learn Teams, with all that involves, and then during the afternoon plan all lessons. So, I must say that I went home and almost cried that day. (SW03)

Looking back, this led to a focus on "doing" rather than "learning" that in many ways constrained teaching so that it focused more on procedural tasks than reflection and discussion.

> We said that the only chance to do this is to plan according to the learning material we have. Then we can perhaps show something here on the whiteboard or share a document, but the basic planning must follow the material so everyone can use it. (SW02)

In Swedish schools, as well as in most Finnish schools, there was no question about changing the timetable, and the practice was that each teacher was responsible for the class during the regular schedule. Some of the Finnish teachers explicitly emphasised the importance of trying to keep the lessons as normal as possible, even if the situation was totally new for everybody, as in this example:

> I have since we began actually tried not to make any major changes more than necessary, both for the students' sake and my own, because quite quickly the work team got a lot of feedback, both from students and teachers, about what worked or not in the system. And I was rather surprised at first when I got a lot of praise, and the only thing I did was to keep on as usual. That was my magic trick […] (FI05)

Besides making priorities and trying to keep up the normal routine, some teachers also pointed at how the new situation forced them to find new and innovative ideas for their teaching. For example, the Danish teacher mentioned how activities such as drawing, cake-baking, students' filming and other multimodal activities were acceptable alternatives to writing and talking. One of the Finnish mathematics

teachers talked about how she sent out the students to do out-door excursions, something s/he would like to do more:

> With my math students in year seven – as we talked about sequences of numbers and, it was Fibonacci's sequence of numbers – I tried to have them go out into the local environment or into the forest or the yard and pick cones and flowers and count petals and so on. (FI07)

In the Swedish school, the teachers in science found new solutions to giving a home assignment for students who were in quarantine at home, to build their own cardboard loudspeakers:

> We pack a bag with the parts, we do that for them and then we take it. So, Sara and I sat here with these, brown ones [disposable paper bags for organic waste from the municipality] that households get. In them we put wires. So, we sat there the odd afternoon, evening and packed them there with ten, eleven different parts. And so, they [students working from home] had to come here in the evening, when the others had finished, to pick up the bags. (SW02)

An Icelandic teacher created videos, based on the mathematics textbook, that the students could watch and then they could solve math problems through Google Classroom:

> They worked a lot independently, in fact, they were allowed to control how they organized their time during the lesson, whether they wanted to do the Moodle projects or solve problems in the textbook, watch videos or do some drill in a quiz. (IC03)

The Finnish teachers talked about how they used pods, audio books, films, simulations and began to use new apps or software as well as activities that involved the students' home surroundings, such as interviewing a family member, or taking a walk while listening to a history pod.

As the teachers mobilised to move their teaching online, it was clear that using the learning platforms combined with additional video conference systems was by far the most salient strategy on an organizational level, also on the level of the individual teachers as they had to find solutions based on the digitally mediated platform. Many of the choices that were made in this situation involved an acceptance of a certain degree of restrictions in the teaching, more in some cases than in others. At the same time, the ongoing crisis called for creativity and innovative ideas, and there were several examples of how the teachers found strategies for engaging their students also in activities away from their screens. The general impression of the analysis in this theme is that the teachers' pedagogical decisions mainly rested on a view of the ideal physical classroom and that most of the digital solutions they turned to came out as a kind of second best compared to the ideal. In terms of the educational purpose of qualification (Biesta, 2015), the picture that emerged was that the teacher did not regard it as possible to keep up the standard in this situation. The prioritized goal in organizing teaching seemed to be to maintain some kind of everyday normality for the students, as best as possible, which indicates the importance of the social dimensions of the school.

Challenges related to classroom dialogue

As teaching moved online, many teachers talked about challenges in how to communicate with their students. In contrast to the somewhat scattered picture emerging in terms of the organisation of teaching, the picture was more coherent in all the interviews when it came to classroom dialogue that

seemed to have become very constrained. All changes made in response to the fact that assignments based on individual student work increased and many teachers found it difficult to manage giving lectures in whole class, as this Finnish teacher described it:

> So that lectures have been quite rare finally. But it is probably around ten to twenty percent. I mean, let's say thirty percent has been group work and thirty percent, forty percent has been individual work. (FI02)

One of the Icelandic teachers commented on the difference in teaching without the physical presence in the classroom:

> It is really hard to teach social science online. As a teacher you are always monitoring students' progress to see if they understand. I look at them a lot, making eye contact and I talk with my hands when explaining something. Yes, I use my body a lot when teaching. (IC03)

Among the interviewees, some of the Finnish teachers appeared to use and manage group work more than the others, as they said that they organized group work quite often and that a consequence of interacting online was that they got a new sense of control over the groups' progress:

> Now that we work remotely, it's possible to get a better system for it in a way. I have my four groups for example and then I know that's okay. In this lesson, I will have time to look at every single group and listen a little how they are doing and so on. Maybe it adds a greater structure to the whole way of how you work. (FI03)

A frequent interview topic was the difficulties in how to "read the class," something which led to the less spontaneous and more teacher led interaction, where it was rather up to the students to ask for help. The Danish teacher recounted that she normally used a great many timeouts to make the students talk briefly to each other reflecting on questions like *what did she just say? what is it about?* but that these kinds of reflective moments were lost online. The biggest issue, according to this teacher, was that this lack of dialogue made interpretations and deep reflections shorter in timespan and much more superficial:

> Have only twice had a fluent conversation, very difficult, very short sessions of interpretive conversation, of course different in groups, but interpretive conversations less, but they express many opinions, but there's no associative dialogue, students experience it as cross-boundary, a lot of teacher talk, not usually my thing. The slowness disappears, the associative disappears, some students and colleagues think it has been cross-boundary. (DE01)

Also, other teachers found it challenging to foster classroom culture online. They felt that they were not sufficiently close to the students and described it as a lack of personal relationship as they only could see their students' faces on the screen. One of the Icelandic teachers noted that the "small talk" disappeared:

> It was challenging to ignite interest and impossible to have these little conversations that one can have to monitor the atmosphere in the class, all this disappeared when teaching online. I sometimes felt like I was talking to myself when I was teaching the class online. They were listening and I did not get much feedback from them. (IC01)

The hybrid situation in Sweden caused specific challenges to classroom interaction. There were of course many practical issues, such as increased workload for the teachers, but they also discovered some specific problems related to ethical questions about public/private boundaries in the classroom and who can hear and participate in a classroom discussion. The most obvious example concerns a discussion about bodies and sexual norms, which the teacher thought was affected by the fact that they could not know if there were parents, friends or siblings present in the homes, following the teaching and the discussions. This was also an issue regarding other, maybe less sensitive, subjects such as reading aloud in Swedish:

> It was then that we realized that we didn't really know if the students were sitting at home or if parents were present. So, then we had to talk a little bit about the issue of integrity. (SW04)

The examples that we refer to in this theme about challenges related to classroom interaction show that even if teachers have access to and use digital technology in new and multifaceted ways, they all seem to find online communication insufficient and unsatisfactory compared to teaching face-to-face in the classroom. Through almost all interviews, teachers pointed out how dependent their ordinary teaching was on face-to-face interaction, including non-verbal expressions, and how the absence of physical interaction made it difficult to promote deeper analysis and reflection. The teachers mentioned issues of, for example, classroom culture, participation in dialogue, personal integrity that indicates that the physical classroom is treated as a prerequisite for purposes of socialisation and subjectification, in terms of Biesta's reasoning. The insight from the Swedish hybrid-format concerning how remote teaching changes conditions of integrity in classroom dialogue and how it becomes unclear who has access to classroom dialogue show how the teachers experience that school and home boundaries change and become somewhat blurred.

Challenges related to assessment of student learning

A third theme that emerged from our analysis concerns challenges in monitoring and assessing the students' learning process, both in terms of formative feed-back and summative grading purposes, as they could not see and communicate with the students face-to-face. The continuous formative assessment that normally takes place in the classroom was replaced with written comments, for example, as expressed by a Finnish teacher:

> So, it is not the same as in a classroom where you can get spontaneous reactions and where the students' facial expressions say a lot and body language says a lot, especially when you notice that something is new and they think about things, you can kind of stop and continue on those questions better in your teaching. […] Sure, there are marking functions and you can raise your hand and you can write in the chat with all that stuff, but the vast majority of students, I would say ninety percent of our students, did not have their cameras on (FI05).

Furthermore, the Danish teacher reflected upon the fact that she did not really know how the students received her teaching, only whether they were capable of reading an instruction or not:

> Yes, namely, the whole effect, we know nothing about it. I know something about their dictations (laughter), and they have written a newspaper article that shows that they know something about

layout and structure, etc., but in reality, it only shows if they have been able to read an assignment. (DE01)

Also, one of the Swedish teachers mentioned the difficulties in actually knowing what the students had engaged in, and also to what extent they really had worked independently with the tasks:

> The thing is that you cannot sit and, I cannot sit and judge what someone has just sat at home doing. I cannot really judge that. Just about anyone could have done that. I checked, they had to give the sources they consulted for facts about. [...] you see how someone has written before. (SW03)

Some teachers felt they had to put in small tests to a higher degree than normal, to keep control over the students' learning, but this also turned out to have some positive effects:

> We have also had to have several short tests, both in mathematics and chemistry and it has worked very well, mini-tests once a week to check that they have kept up, that they listened and it has been great and it would not be possible to have so many tests and have time to correct them if it had been as usual with a test booklet, it would not be possible to correct so many tests in such a short time, but doing it digitally with, for example, Google forms, it went smoothly and easily and I have been able to give back their results after correcting it in five minutes so they get it back even during the same lesson. (FI07)

A consequence could also be that teachers increased and developed their feedback on the student texts, as this teacher exemplified:

> We have time to evaluate the students more than ever, than before. [...] my assessments are probably really, shall we say, clearer and more structured right now? I have many assessment criteria and I know where they work, and the weak students I know. (FI03)

Assessing student learning in education today encompasses a wide variety of aims, from formative purposes and feed-back practices in the classroom to summative purposes and grading of student performances. This wide range of practices serve several functions that could be related to all the domains listed by Biesta, and it seems to be an issue that greatly concerned the teachers during this period. The general picture emerging from our analysis is that the teachers mostly found it more challenging to follow the students' learning online, compared to in the classroom. In particular, it seems as if formative assessment was challenging, which can be understood in relation to the findings in our first and second theme about difficulties in providing more skilful and analytical teaching. However, we also see examples of teachers recounting positive development in their ways of using tests, as they were forced to be more structured and clearer in their instructions. Such accounts mainly referred to summative assessment, which seemed to be less of a challenge even if aspects of supervision and control were brought up, as well as how to develop forms of assessment ensuring fair and equal evaluation in the new circumstances.

Readiness and educational priorities in the Nordic schools

How can these findings be understood in relation to our third research question, that is, what do the interviews tell us about the readiness and educational priorities of these Nordic teachers in times of

crisis? We find it interesting that in these Nordic schools, selected as examples of digitally rich schools, online teaching was treated as an inferior alternative to regular teaching. Keeping in mind that the technology in these schools made it possible to maintain teaching in a way that would not have been possible ten years earlier, digital technology in itself does not stand out as particularly problematic, which partly (from the Nordic perspective) contradicts reports about the need to develop teachers' digital competence based on the ERT experiences (Carretero Gomez et al., 2021; Goman et al, 2020). On the other hand, the emergency is not referred to as a golden opportunity either, not even as a catalyst for digital development. Instead, digital resources are referred to as already in use, of which some – most clearly learning platforms and video conference systems – now became more implemented. The challenges that seemed to occupy the teachers most were rather what to put in the hands of the students, how to activate them in conversations and how to monitor their learning activities and learning outcomes. To achieve this, digital technology was a prerequisite in a situation where social distance was called for, but in these teachers' stories early in the pandemic, we saw little expectations or promises of any profound or long-term digital development. Instead, it seemed that the absence of the physical classroom challenged the teachers most in this situation, and how to accomplish good enough quality in their teaching without meeting the students face-to-face.

What then were the educational priorities appearing in the teachers' reflections about their teaching, if seen in relation to Biesta's (2015) three domains of qualification, socialisation, and subjectification? To start with, regarding the domain of qualification, that is, matters of knowledge transmission and acquisition, it seems that the overarching goal was to keep up the normal teaching as far as possible with as few major changes as possible. Still, there seemed to be a reluctant acceptance of a somewhat constrained and restricted teaching with more routine assignments and not that much deep reflection or analysis. Even if there were examples of creativity and innovation of teaching, routine tasks seemed to dominate at the early stage of the pandemic even if there are variations and differences between different teachers' stories. When it comes to the domain of socialisation, which we here mainly treat as matters of conduct, responsibilities and social interaction, our findings indicate that these were issues that seemed to be comparatively more challenging for the teachers. The picture emerging from the interviews is that the learning platforms and video conference systems used to replace the physical teaching constrained the students' participation in classroom interaction (cf. Carretero Gomez et al., 2020; Nilsberth et al., 2021; Stenliden, 2021). This in turn makes it very challenging for the teachers to maintain classroom dialogue and to supervise the students' work and catch up if someone falls behind. Also, regarding assessment, the teachers' possibilities to monitor that students actually had carried out their assignments themselves were brought to the fore. This suggests that educational priorities related to the management of social work routines and supervision were something that teachers initially perhaps saw as most challenging in this situation. As for the third of Biesta's domains, subjectification, and how the teachers took issues of students' identity and personality development into account, this was not very prominent in our data. There were some accounts of how students did not want to show themselves on camera, and reflections on integrity issues, but mainly, education as an arena for subjectification was not the most foregrounded domain during this initial phase of ERT.

Conclusion

The aim of this article is to make visible Nordic lower secondary teachers' experiences of the very first stage of the pandemic. Since then, we have experienced how this crisis has developed for more than a year, and we now know that home-schooling and online teaching have constituted a large part of many students' total schooling during the pandemic. But this was not the prevailing perspective at the beginning of the pandemic. Instead, in line with previous research (for example, Bubb and Jones, 2020; Gudmundsdottir and Hathaway, 2020), the focus was on making the best of a difficult situation with all available means. Also, in these Nordic schools, selected as examples of digitally rich schools in terms of digital technology investments, online teaching is viewed as a second-best option compared to teaching in the physical classroom. In this situation, digital technology should provide valuable means for remote online teaching but is mainly described as an inferior solution compared to the normal situation (see also Bergdahl and Nouri, 2020; Carretero Gomez et al., 2021; Goman et al., 2021; Nilsberth et al., 2021). Even though equal access to digital technology is a necessary condition for digitalisation processes, our study shows that it is not enough to accomplish high quality teaching in relation to the many purposes of education related to qualification, socialisation, and subjectification (Biesta, 2015).

What stands out as equally important as access to technology is how the teachers display a readiness to develop their own coping strategies and solutions for planning, conducting and evaluating teaching and communication with the students. Of course, they had to take into account solutions at the school and national level, but from our analysis we conclude that all of these teachers, in different ways, took on an individual professional responsibility in working out solutions in this extreme situation, and that priority was given to the social aspects of education. To sum up, our findings make visible that the readiness of Nordic schools, besides digital readiness, mainly depended on teachers' ability to act independently in finding and implementing professional solutions. An implication of this study is that developing conditions for a strong teacher profession with a large degree of professional autonomy seems to be an important dimension of educational readiness, besides investments in digital technology, in case of future crisis and emergencies.

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