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Special issue

THEORY AND PRACTICE IN REMOTE TEACHING, ONLINE LEARNING, AND DISTANCE EDUCATION FOR K-12

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CONTACT US

E-MAIL
editor@jdsr.se

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SPECIAL ISSUE: THEORY AND PRACTICE IN REMOTE TEACHING, ONLINE LEARNING, AND DISTANCE EDUCATION FOR K-12

Fanny Pettersson[a], Jörgen From[a] and J Ola Lindberg[a]

ABSTRACT

There are many situations where digital technology has served as the lifeline or salvation for society. Unexpected and unpredictable situations like catastrophic floods, blizzards, earthquakes, and more recently the Covid-19 pandemic have forced families to stay home, meaning that digital technologies have become important tools for people to work and learn. Other examples are societal and regional challenges such as lack of qualified teachers, diminishing birth rates, and difficulties in filling classrooms that force digital and educational development. The symposium held in May 2021, which resulted in this special issue, was intended to explore possibilities for ensuring equal access to education in rural schools using remote teaching. At the symposium, different strategies to increase access to education in the context of K-12 using digital technologies was presented and discussed. It brought together researchers from Europe and North America, all represented in this issue.

Keywords: Digitalization, Digital technologies; School.

[a] Umeå University, Sweden.

1 REMOTE, ONLINE AND DISTANCE EDUCATION FOR K-12

The digitalization of society is one of the fundamental challenges for the future. The development and broad availability of digital technologies has created new unique challenges, opportunities and pitfalls for rethinking and reinventing learning, education, and collaboration in the digital age. However, the existence of, and access to, new information technologies is necessary but not sufficient (Fisher, Lundin & Lindberg, 2020). Of complementary importance is who will be empowered to participate, design, create, invent, and choose to use technologies to enhance their individual and professional learning (Fransson, et al, 2019).

There are many situations where digital technology has served as the lifeline or salvation for society. Unexpected and unpredictable situations like catastrophic floods, blizzards, earthquakes, and more recently the Covid-19 pandemic have forced families to stay home, meaning that digital technologies have become important tools for people to work, learn and keep contact with the rest of society (Bond, 2021; Ilomäki & Lakkala, 2020; Yandell, 2020). These situations of immediate character have on one hand forced digital and educational development but have on the other hand required an instant readiness for conversion and adjustment without time for reflection.

Except from these sudden and extraordinary occurrences, there are historical, societal, and regional changes that require innovative and flexible digital solutions (From, Pettersson & Pettersson, 2020; Stenman & Pettersson, 2020). As already expressed by Lindfors and Pettersson (2021), before Covid-19, challenges of urbanization such as a lack of qualified teachers, diminishing birth rates, and difficulties in filling classrooms are such examples that "have forced digital and educational development, often led, innovated, and accelerated in rural areas" (p. 250).

The symposium held in May 2021, *Theory and practice in remote teaching, online learning, and distance education for K-12 schools,* which resulted in this special issue, was intended to explore possibilities for ensuring equal access to education in rural schools using remote teaching. At the symposium, different strategies to systematically and proactively increase access to education in the context of K-12 using digital technologies was presented and discussed. It brought together representatives from European as well as North American universities, complementing the Nordic countries, and initiated a discussion about the conditions for remote teaching that have bearing on education before, during, and beyond the Covid-19 pandemic.

In the first article, "Looking Back to See Ahead: An Analysis of K-12 Distance, Online, and Remote Learning During the Pandemic," Michael K Barbour goes back into the history of online K-12 learning and positions the Covid-19 pandemic in a perspective of previous disruptions on a global scale. He uses this as a backdrop to further our understanding of the current situation, and through this he provides an argument for what the future might hold for education. His

argument can be summarized as that the way in which both practitioners and scholars have made sense of what has occurred over the past 18 months will impact both regular schooling and how we prepare for future crises.

The second contribution stems from Scotland. "Shifting selves and spaces: Conceptualising school emergency remote teaching as a third space" by David H Johnston, Mark Carver, Katrina Foy, Aloyise Mulligan and Rachel Shanks, provides one such account of how teachers have perceived that their work has changed during the pandemic. The pandemic is here viewed as a catalyst, the unprecedented change when school classrooms suddenly moved online is in focus. In the article, the authors use the framework of Bhabha's third space (1994) as a way of re-imagining the new spaces (both physical and virtual) which were created in response to the pandemic. The data reported comes from two research studies in Scotland conducted during the 2020-21 academic year covering both the 2020 and 2021 lockdown (stay at home) periods. Across both studies, digital technology played a key role in how this third space was mediated. Technology facilitated the emergency response, but questions remain as to what the legacy of this forced shift will be.

The third paper in this issue "In Need of Development, Learning, and Research? On the Possibilities of a Common Point of Departure for Digital and Educational Development" by From and Pettersson, explores issues related to the need for development that might come into question once a municipality decides to work towards an increasingly digital education. In this paper, the specific context for development lies within the area of remote teaching, and the changes implied are formulated as needs on a strategic level. These findings are in line with the need to be prepared in a future perspective on the now later stages of the current pandemic and other occasions that might call for similar reactions in the schools (such as partial or total lockdowns). In the paper, the development of a specific quantitative instrument is discussed as a way to generate findings and development needs relevant to both research and school development.

The fourth paper in this issue, "Through the lens of situated learning and levels of scale – theorizing development of remote teaching and the role of on-site facilitators" by Siljebo and Pettersson, provides an example and an argument for a specific theoretical understanding of the practice of remote teaching as it has emerged in a Swedish context. The aim of the paper is to contribute to much-needed theoretical development within this field, a field otherwise mostly characterized by empirical contributions. The paper has a primary focus on the practice and perspectives of the on-site facilitators working in remote teaching, and through the empirical example a theoretically informed understanding of the development and use of remote teaching in a Swedish context is provided. The interactions between systems of human activity in education and the relationships enacted in practice through their interaction is highlighted through the use of the concept levels of scale in situated learning. Levels of scale provide a means to conceptualize the historical development of remote teaching as the large scale, and

the remote learning environment as the small scale. Integrating the levels of scale and tracing the historical development of remote teaching in Sweden into the enactments taking place in a classroom of modern language teaching, a concrete theoretically informed understanding can be provided.

In the fifth paper, "A Theoretical Framework for Synchronous Remote Teaching? Reshaping the Pedagogical Triangle" by Skog, the theoretical understanding of the remote teaching context in Sweden is further conceptualised and developed through the use of educational theories from the research field of distance education. Skog explores how synchronous remote teaching can be understood as a pedagogical practice and elaborates upon a possible framework with which to understand the practice theoretically with a potential to guide a future analysis of this specific practice. This particular Swedish policy-driven practice is implemented via digital technology, and the teacher and the student are accompanied by an onsite facilitator who is present with the students. In the paper, the traditional pedagogical triangle as a model of teaching and learning is revisited, examined, and explored in relation to remote teaching as a new pedagogical practice where additional relations are added to the model in accordance with the new practice. The pedagogical triangle is therefore reshaped into a pyramid, making a place in the model for the onsite facilitator's participation in remote teaching. Skog considers this elaboration to be a first step toward establishing a theoretical understanding of remote teaching practice on its own terms.

In the final paper in this issue "A review of Indigenous Efflorescence. Beyond revitalisation in Sápmi and Ainu Mosir" by Parfa Koskinen, a further theoretical contribution for understanding a specific remote teaching practice in Sweden is presented and elaborated upon. Parfa Koskinen departs in the review from the editors' claims that it is misguiding to think that indigenous languages have vanished or disappeared. Instead, they mention that successful efforts are made all over the globe within various indigenous communities to revive, revitalise, reclaim, and engage in other re-workings of cultures and languages. In the review, Parfa Koskinen refers to the main argument for the concept of indigenous efflorescence being that it exceeds re-workings by focusing on processes and opening up different futures. To be indigenous is not to reproduce precolonial ways of being, but to translate them into the present, to draw on them as inspiration and authority for generating indigenous ways of living in the twenty-first century. Throughout the review, Parfa Koskinen provides a context for the review in her own ongoing thesis work on remote Sami education. She concludes from reading the book that enabling and that efflorescence is an interesting theoretical concept to investigate, also outside of the indigenous research community. But in the context of this special issue in particular, questions that arise are for instance how relationships to other people, the past, land or other aspects are promoted and supported in remote teaching, online learning and distance education.

In addition to the empirical knowledge contributions in this issue, the articles provide valuable knowledge in terms of methodological and theoretical

development. As K-12 schools around the world now are entering what Barbour in his article calls Phase 4 (Emerging New Normal, with unknown levels of online learning adoption), such knowledge is very much needed (see also Barbour, 2019). This may involve studies of new forms of education and pedagogy that emerge when digital technologies are used for both unpredictable and historical reasons. One such example is immersive learning technologies and hybrid learning classrooms with a cohesive class but with students enrolled in learning both from different physical locations ("roomis" and "zoomis" [see Barbour's article in this issue]). Predicting the future is an impossible task, but a reasonable conclusion, based on this special issue, when it comes to K-12 schools, seems to be that parts of the teaching will go back to pre-pandemic business as usual, some practices developed during the pandemic will survive, and new post-pandemic practices will be developed. The question is what those might be.

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LOOKING BACK TO SEE AHEAD: AN ANALYSIS OF K-12 DISTANCE, ONLINE, AND REMOTE LEARNING DURING THE PANDEMIC

Michael K Barbour[a]

ABSTRACT

While the use of distance and online learning had been used for over a century in the K-12 setting (including in isolated ways during previous pandemics and natural disasters), the complete worldwide closure of schools focused attention on the use of distance and online tools and content to provide continuity of learning in a remote context. The way in which both practitioners and scholars make sense of what has occurred over the past 18 months, and what is likely to continue into the future, will impact both regular schooling and how we prepare for future crisis. This article explores this pandemic pedagogy, with a goal of situating the events since March 2020 within the broader field and providing guidance on a path forward.

Keywords: K-12 distance learning; K-12 online learning; emergency remote learning; remote learning.

[a] Touro University, United States.

1 INTRODUCTION

The 2020-21 school year was just beginning to wind down when I delivered a keynote at the *Skola och utbildning utanför 50-skyltarna. Vad har hänt i omvärlden under pandemin. Vägval, effekter och diskussioner i vår omvärld* research symposium hosted by *Aktuell Skolpolitik*. At this stage of the pandemic, the world had witnessed the closed of schools worldwide in the Spring of 2020, as well as the rapid transition to the use of distance and online tools and content that followed. Scholars were also in a position to assess the actions taken by school authorities to prepare to open schools in the Fall of 2020. While the school year was still in progress, it was in the waning most in most jurisdictions that followed the Fall to Spring school calendar, and scholars were just starting to examine how the 2020-21 school year had unfolded.

This article provides an overview of the main concepts contained in that keynote presentation, along with new ideas that have become apparent as school authorities begin their second complete school year during this pandemic. Many of these ideas have been presented in isolated and disconnected fashions in a series of previous publications (see Barbour et al., 2020a; Barbour & LaBonte, 2020; Nagle et al., 2020a; Nagle et al., 2020b; Nagle et al., 2021).[1] In this combined and expanded effort, I begin by providing some background and history on the use of distance and online learning – both during regular times and in crisis situations. I continue by outlining the distinction between online learning and emergency remote learning, and how the transition that occurred during the Spring 2020 was an example of the latter. Next, I provide a framework to situate the events of the Spring as the first of four phases that school authorities engaged in towards the goal of a 'new normal' in the delivery of K-12 education. This framework also sets the stage for a discussion of the 2020-21 school year, including the various learning models that occurred and the impact those models had on the local epidemiology of the pandemic. I conclude with some speculation, as well as a warning, for the coming 2021-22 school year.

2 K-12 DISTANCE AND ONLINE LEARNING IN THE CONTEXT OF DISASTERS

The concept of providing K-12 schooling at a distance or in an online format is not a new concept. In fact, it is a concept that has been around for well over a century. Saettler (2004) indicated that the first documented use of distance learning in the K-12 context in the United States was the use of instructional film around 1910. The following decade saw documented uses of correspondence education and educational radio being used in Midwestern state like Nebraska, Ohio, and Wisconsin (Bianchi, 2002; Broady et al., 1931; Saettler, 2004). These initiatives

[1] All of which were published under a Creative Commons Attribution-Non Commercial-Share Alike 4.0 license, for which I have permission to revise in this fashion.

were not limited to the United States. There were documented uses of correspondence education and educational radio in places like Australia, Canada and New Zealand (Dunae, 2006; Moore & Kearsley, 1996; Rumble, 1989; Stacey & Visser, 2005; Stevens, 1994). In fact, Barbour (2018) argued that the development of K-12 distance education opportunities evolved from correspondence education to "various media (e.g., radio, instructional television, telematics, videoconferencing, etc.) to online learning, and then blended learning" in many international jurisdictions (p. 23). Throughout the early 2000s, many scholars documented the K-12 online and blended learning capacity of nations all around the world (e.g., Bacsich et al., 2012a; Bacsich et al., 2012b; Barbour et al., 2011a; Barbour et al., 2011b; Powell & Patrick, 2006).

While these historical developments have been focused on how K-12 distance and online learning could be used to provide opportunities for students that for a variety of reasons were unable to gain equitable access to learning in the face-to-face classroom, this isn't the only way in which we have seen distance and online learning used in the K-12 environment. Many scholars have argued over the past decade that K-12 distance and online learning could be used as an option to maintain instructional time during short term school closures such as snow days (Haugen, 2015; Hua et al., 2017; Milman, 2014; Morones, 2014; Swetlik et al., 2015). In fact, only six weeks prior to the beginning of the current pandemic, the schools in the capital of my home province of Newfoundland and Labrador in Canada were closed for 10 days after experiencing a record-setting 76.2 centimeters of snow in one day (CBC News, 2020a; Erdman, 2020). Unfortunately, schools in the area were not equipped to provide K-12 online learning to ensure continuity of learning, and the students lost two weeks of school.

The use of K-12 distance and online learning has also been used to maintain continuity of learning in other forms of natural disaster. For example, following major earthquakes from two different faults in the span of six months in the Christchurch region of New Zealand, Mackey et al. (2012) described how "the immediate post-earthquake challenges of redesigning courses using different blends of face-to-face and online activities to meet the needs of on-campus, regional campus, and distance pre-service teacher education students" (p. 122). Similarly, Schwartz et al. (2020) described that distance and online learning could be used as "a way to continue instruction in emergencies" following the 2017 hurricane season in the United States (p. 2). However, it would be wrong to give the reader the impression that this concept was a new idea born out of a digitally connected world that is experiencing more significant climate-induced disasters.

In fact, even the use of distance learning to address issues of instructional continuity during a pandemic is not a new concept. For example, in an article for the online news site *The 74*, McCracken (2020) described how the telephone – a technology that was only 40 years old at the time – was being used to provide access to instruction during the Spanish flu pandemic for high school students in Long Beach. McCracken wrote that, "the fact that California students were using it as an

educational device was so novel that it made the papers" (para. 2). Another example of distance education being used to provide continuity of learning for K-12 students was during the 1948 polio epidemic in New Zealand. The epidemic was responsible for closing all of that country's schools (German, 2020). At the time the Correspondence School provided traditional correspondence education by sending lesson packages to every household, and the Government also used educational radio to broadcast lessons on public stations.

More recently, online learning helped facilitate continued access to instruction in Hong Kong in 2003 when schools had to close due to the SARS outbreak (Alpert, 2011). Following this experience, K-12 schools began to better plan for a more formal use of online learning for future school disruptions, which was evident during the H1N1 outbreak in Hong Kong in 2008. Latchem and Jung (2009) described how online learning allowed approximately 560,000 K-12 students to continue learning during that pandemic-induced school closure. In fact, the use of online learning to address continuity of learning is so pervasive in some Asian countries that it has simply become a part of the standard learning calendar.

> …In Singapore online and blended learning was so pervasive that teaching in online and virtual environments was a required course in their teacher education programs and schools are annually closed for week-long periods to prepare the K-12 system for pandemic or natural disaster forced closures (Barbour, 2010, p. 310).

While these examples come from what are essentially city-states in Asia, these aren't the only illustrations available.

When Boliva experienced high levels of absenteeism during their own H1N1 influenza pandemic in 2009, a number of private schools developed their own virtual classrooms and trained teachers on how to teach in that environment following (Barbour et al., 2011a). The report specifically noted that this trend was not carried over to the public school system, as it had in places like Hong Kong and Singapore. Similarly, the SARS outbreak in 2003 also closed four schools in Canada's largest jurisdiction – the Toronto District School Board. Interestingly, reports at the time suggested that the "district didn't implement a full-scale virtual-learning program. But they did gather online learning links from the Canadian Ministry of Education on the district's Web site for access to material supplementing students' classwork" (Borja, 2003, para. 15). The superintendent was also quoted as saying, "we had homework provisions [online] for these kids…. They need to keep up with their classwork and keep engaged" (para. 17). In her reporting on the impact of the pandemic on K-12 schools, Borja also used examples from mainland China and Japan as a part of her argument that American schools needed to ensure that the use of distance and online tools for continuity of learning was included in their crisis planning.

Unfortunately, these lessons were often short lived. For example, following the SARS outbreak in Canada, Christensen and Painter (2004) summarized an editorial in the Canadian Medical Association Journal (2003) by stating:

> whether the right structure, both medical and political, was in place for fighting epidemics like SARS. It questions whether the local and provincial health authorities had the training and the resources they needed and the proper surveillance and reporting system in place (p. 37).

One could replace the word 'medical' with 'educational,' 'health authorities' with 'school authorities,' and 'surveillance and reporting' with 'teaching and learning;' and the sentiment would continue to be accurate.

> Whether the right structure, both *educational* and political, was in place for fighting epidemics like SARS. It questions whether the local and provincial *school authorities* had the training and the resources they needed and the proper *teaching and learning system* in place.

For example, in their report *Learning from SARS: Renewal of Public Health in Canada*, the only time the word 'school' appears is to describe the schools that were closed due to the outbreak, and then the role of closing schools to contain a future outbreak (Health Canada, 2003). There was no discussion at all to how continuity of learning could be provided for K-12 students when public health authorities decided to close the schools, or the potential impact on children of these closures.

Regardless if it was due to weather, natural disaster, or pandemics, in all of these illustrations the authors often described the aspects that schools needed to plan for in case they found themselves in the position of having to temporarily transition to distance and/or online learning to "sustain school operations when a disaster makes school buildings inaccessible or inoperable for an extended period of time" (Rush et al., 2016, p. 188). The list of topics included issues surrounding connectivity, device distribution, teacher preparation, instructional modalities, content creation/curation, etc.. Simply put, the potential to use K-12 distance and online learning to ensure continuity of learning in both the short-term and long-term has been both studied by scholars and utilized on numerous occasions. Which begs the question of why the world was so unprepared for March 2020?

3 THE ONSET OF THE PANDEMIC AND THE EMERGENCE OF EMERGENCY REMOTE LEARNING

On March 11th, 2020, the World Health Organization (WHO) declared SARS-CoV-2 (more commonly known as COVID-19) a global pandemic (WHO, 2020). Within days jurisdictions all around the world began to close schools. In the weeks following the closure of schools, education authorities began to explore the use of distance and online content and tools to provide some measure of continuity of learning for K-12 schools and post-secondary institutions. This type of learning became referred to as 'emergency remote teaching' or 'emergency remote learning.'

In what quickly became a seminal piece of scholarship related to this pandemic pedagogy, Hodges et al. (2020) described emergency remote teaching as:

> a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. The primary objective in these circumstances is not to re-create a robust educational ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis (para. 13).

This was contrasted with online learning, which was based on purposeful instructional planning, using a systematic model of administrative procedures and course development. Online learning also requires the careful consideration of various pedagogical strategies and determination of which are best suited to the specific affordances and challenges of local delivery mediums as well as the purposeful selection of tools based on the strengths and limitations of each one. Finally, careful planning for online learning also requires that teachers be appropriately trained to use the tools available and apply them effectively to facilitate student learning.

These lessons from these earlier illustrations were forgotten in most contexts. In contrast to the earlier SARS or H1N1 pandemic examples, or even the illustrations from weather-related or natural disasters, where online learning had been deployed to provide continuity of learning during these crisis situations, there was very little planned distance and online learning during Spring 2020. Many teachers found themselves unprepared for the challenges of using online content and tools to provide their students effective and meaningful learning experiences – a situation that has been foreseen for many years. For example, in the United States numerous studies have documented the lack preparation related to K-12 distance, online, and/or blended learning during their university-based teacher education programs and professional development provided by both brick-and-mortar and online schools (Archambault et al., 2016; Kennedy & Archambault, 2012; Rice & Dawley, 2007; Smith et al., 2005). Archibald et al. (2020) reported similar results in the Canadian context. These consistent findings over the two decades underscore the reality that the vast majority of teachers have had little or no exposure to K-12 e-learning or how to enact effective pedagogy and/or instructional design in that environment.

While there are many examples of responding to school and university closures in a time of crisis by implementing models that were contextually more feasible (e.g., correspondence, radio, television, mobile learning, etc.), these examples tended to be quite isolated in nature. For instance, places like Nebraska and New Zealand were able to fall back on using the postal mail system to provide paper-based packets developed for a correspondence model of education that had over a century of experience in delivering learning at a distance (German, 2020).

The Los Angeles Unified School District announced a plan with PBS SoCal/KCET to be able to pull educational programming from the network's library that would be broadcast throughout the school day to help provide access to instruction for students before the decision was even made to close any schools in March (Kohli & Blume, 2020). The difficulty was that these examples were the exception, as opposed to being part of a planned, robust response by school authorities. As Geerlof (2020) accurately summarized:

> The sobering reality, however, reflects the extent to which our leaders were ill-prepared for a pandemic of this magnitude: most of our leaders seemed to be taken by surprise. Many public leaders and governments had not taken the necessary health care precautions, and a majority of business leaders never anticipated having to lead their companies in a paused economy (para. 5).

The same can be said for school leaders. The majority had never anticipated, nor were they prepared, to lead their schools when they were closed indefinitely. Similarly, the majority of government officials had never anticipated how to provide public education when schools were closed indefinitely.

4 K-12 RESPONSE TO THE PANDEMIC

Emergency remote learning flourished during the Spring of 2020 when jurisdictions scrambled to provide online tools, online course content and devices to all teachers to provide some modicum of continuity of learning for students when schools suddenly closed in March (Nagle at al., 2020a). This emergency remote learning was the first and, in some cases, the second of the four phases of education's response to the pandemic (Barbour et al., 2020a).

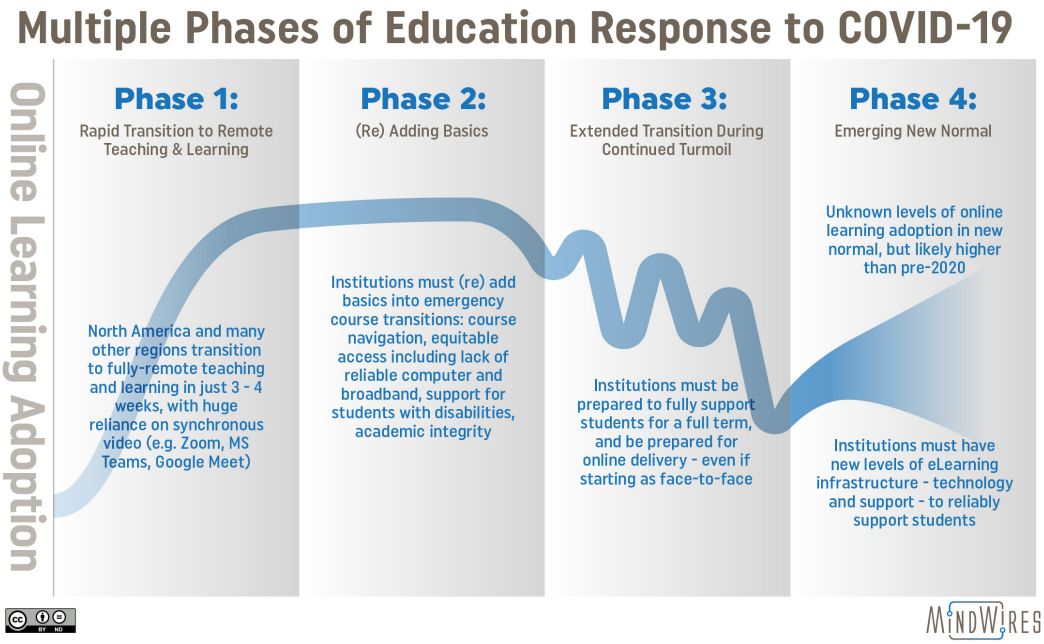

Figure 1. Four phases of educational response to COVID-19 in terms of remote and online learning adoption.

Each of these phases are described in the sub-sections below.

4.1 Phase 1: Rapid Transition to Remote Teaching and Learning.

Schools making an all hands on deck movement to remote delivery, often relying on synchronous video, with massive changes in just four weeks. Teachers do whatever they can to have some educational presence for all classes online. People have rightly pointed out that students' and teachers' health and safety are more important than worrying about quality course design or even equitable access. Think of this phase as "Put everything on *Zoom* and worry about details later." Substitute *Microsoft Teams* or *Webex* or *Collaborate* for *Zoom*, as so many teachers opted for the comfort of synchronous video discussions to replace the face-to-face experience.

4.2 Phase 2: (Re) Adding Basics.

Schools must (re)add basics into emergency course transitions: course navigation, equitable access addressing lack of reliable computer and broadband, support for students with disabilities, academic integrity. During this phase it is no longer acceptable to ignore issues of equitable access and course design. Schools must start to more fully address the question of quality of emergency online delivery of courses, as well as true contingency planning.

4.3 Phase 3: Extended Transition During Continued Turmoil.

Schools must be prepared to support students for a full term, and be prepared for online delivery – even if starting as face-to-face. During this phase, districts put plans in place to determine the mode of instruction based on the current realities of the pandemic. These plans should include adequate professional learning for teachers to ensure they have the skills and pedagogical knowledge to be able to implement the different instructional plans effectively. Alexander (2020) coined the phrase 'toggle term' to describe the shift of instructional delivery model "between states of lockdown and openness, depending on their sense of epidemiological data and practical feasibility" (para. 32).

4.4 Phase 4: Emerging New Normal.

This phase will have unknown levels of online learning adoption, but it is likely that it will be higher than pre-COVID-19 days. Schools must have new levels of online learning infrastructure – technology and support – to reliably support students. Essentially, the investment in various tools and infrastructure that schools have made during the pandemic can continue to be used post-pandemic. Additionally, as teachers and students become more comfortable with learning using these tools,

the chance that they will continue to use them post-pandemic increases significantly.

5 THE 2020-21 SCHOOL YEAR – TOGGLING BETWEEN MODALITIES

As the 2020-21 school year began school authorities should have been able to transition from emergency remote learning (i.e., Phases 1 and 2) that existed during the Spring 2020 to simply remote learning (i.e., Phase 3) for the start of the 2020-21 school year. It is important to underscore the fact that while remote learning requires more planning and preparation, it is still temporary in nature and those engaged in remote teaching still plan (hope) to return to classroom-based instruction. It is not the robust distance and online learning ecosystem traditionally experienced in the K-12 context.

There were five dominant models through which K-12 education was provided during the 2020-21 school year.

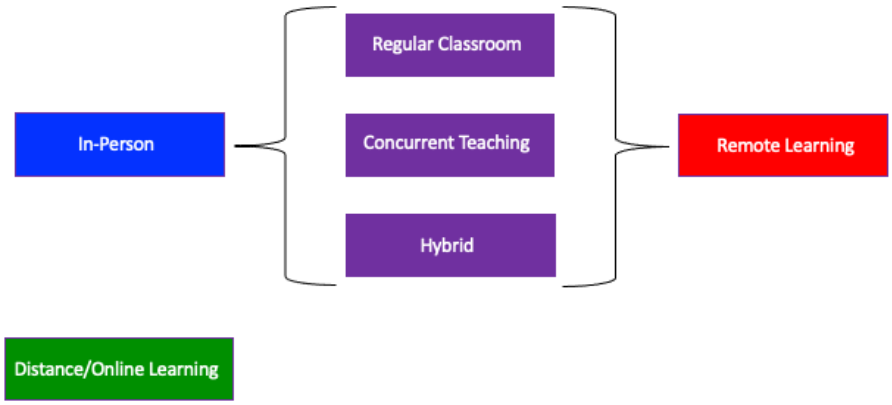

Figure 2. Various learning models available during the 2020-21 school year.

At the beginning of the year, many jurisdictions provided parents/guardians the option to enroll their students in school-based, in-person learning, or a distance, online learning, model. These two learning models were consistent with any other school year. **In-person learning** is the traditional model of K-12 schooling, where students are enrolled in a brick-and-mortar school and engage in their learning with teachers located at their school in a typical classroom setting. It is the kind of learning that many readers would have experienced throughout their own K-12 education. In some cases, these in-person students might take one or more courses at a distance because they were unable to access the course in their brick-and-mortar school for a variety of reasons. But even while engaged in these individual online

courses, this small number of students were still physically located in their brick-and-mortar school – often under the direct supervision of a teacher or paraprofessional in an online learning or computer lab, the learning resource centre or library, or even the back of a classroom. This form of supplemental distance learning (Barbour, 2019), for a very small population of students, has been available in most jurisdictions since the late 1990s or early 2000s.

While full-time **distance/online learning** has been available to K-12 students in most jurisdictions for some time, traditionally these students represented a very small percentage of learners – often less than 1% of the students enrolled in the K-12 system (Barbour et al., 2020b; Barbour et al., 2020c; Digital Learning Collaborative, 2020). However, during the 2020-21 school year, many jurisdictions gave parents/guardians the option to enroll their students in these full-time distance, online learning opportunities. For a variety of reasons (e.g., presence of immune-compromised family members in the household, general public health concerns about the community or region, concerns about the disruption from sudden school lock-downs and/or the back and forth between in-person and remote learning, etc.), parents/guardians decided to enroll their children in a model of learning where the student did not attend a brick-and-mortar school at all, but rather completed all of their learning at a distance online (Barbour, 2019). In most cases, these K-12 online learning opportunities were provided by existing distance and online learning providers – some of whom had a history of providing supplemental and full-time learning opportunities for over two decades. However, there were also instances where school authorities established their own distance education programs over the summer of 2020 – sometimes in partnership with an existing K-12 distance, online learning program and sometimes on their own.

Depending on the jurisdiction, there were also some learning models that combined aspects of the different mediums to accommodate various public health measures (e.g., mask wearing, physical and social distancing, restricted class size, cohorting, etc.). The measures related to physical distancing and restricted class size forced some schools to adopt a learning model where students were only in the physical classroom a certain portion of time. One such model is a **hybrid learning model**, which has one group of students learning in-person in their classroom and another group of students learning at home through distance, online learning.

Table 1. Typical schedule for a hybrid learning model.

Monday	Tuesday	Wednesday	Thursday	Friday
Learning Group A **In-Person**	Learning Group A **In-Person**	**Flex Learning Day** for all students	Learning Group A **Distance Learning**	Learning Group A **Distance Learning**
Learning Group B **Distance Learning**	Learning Group B **Distance Learning**		Learning Group B **In-Person**	Learning Group B **In-Person**

In this hybrid learning example, students in Group A would be in-person on Monday and Tuesday, then in a distance/online learning model on Wednesday,

Thursday, and Friday. Students in Group B would be in a distance/online learning model in-person on Monday, Tuesday, and Wednesday, then in-person on Thursday and Friday. Another common model would be alternating days.

Table 2. Typical schedule for a hybrid learning model.

		Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Group A	In-person	Distance	In-person	Distance	In-person
	Group B	Distance	In-person	Distance	In-person	Distance
Week 2	Group A	Distance	In-person	Distance	In-person	Distance
	Group B	In-person	Distance	In-person	Distance	In-person

This second hybrid learning model had one group of students in the classroom each day with the other group at a distance. Over the course of a two-week period each group of students would have five in-person days and five distance/online learning days.

The type of distance/online learning that was provided varied. In some instances, schools provided distance/online students with asynchronous course content created by their own teachers, provided free of charge from different online learning providers, and/or leased from an online content vendor. However, a more common hybrid model was the **concurrent teaching** learning model (also called co-seating or co-locating). In this model the classroom-based teacher taught some students who were in-person with the teacher in the physical classroom (i.e., colloquially referred to as 'roomies'). At the same time, the teacher's instruction was being streamed live through a video conferencing software such as *Zoom* or *Google Meet* or *Microsoft Teams* with other students logged in at home (i.e., colloquially referred to as 'zoomies'). Essentially, concurrent teaching was an individual teacher providing instruction in-person to roomies, broadcast online to zoomies at home (Molnar et al., 2021). Regardless if students were attending school in-person, through a hybrid schedule, or in a concurrent model, the local epidemiology of the virus caused schools in many jurisdictions to close all of their classroom-based instruction and revert to a **remote learning** model.

At present, much of the research has not engaged in an assessment of the educational response various governments have made during the pandemic. The limited research that has attempted to provide some form of evaluation has often relied upon perceptions of various stakeholders. For example, research out of the United States has also found that most teachers reported to not being adequately trained to design, deliver, and support learning remotely (Diliberti & Kaufman, 2020). Similarly, the Canadian Hub for Applied and Social Research (2021) at the

University of Saskatchewan found that while 63% of respondents indicated that online education delivery was a positive long-term change from the pandemic, 54% also felt that changes from COVID-19 would have a negative impact on children's education. Beyond this kind of perception data, the literature has focused on a perceived fear of potential impacts the pandemic might have on K-12 schooling (e.g., Moore et al., 2021).

Regardless of the local epidemiology of the pandemic, there appeared to have been little or no delay in the re-opening of schools for the 2020-21 school year in many jurisdictions (Nagle et al, 2020b). Initial research from both the United States and Europe has indicated that reopening schools in Fall 2020 increased the rate of community spread of COVID-19 (Casini & Roccett, 2021; Courtemanche, 2021; Goldhaber et al., 2021; Harris et al., 2021; Riley et al., 2020). However, this type of research on the spread of the disease in schools has not been systematically conducted in most jurisdictions. A deeper analysis of these health impacts could lead to recommendations that might help guide policy and improve safety in schools, which would subsequently impact how learning opportunities are provided. For example, both Ismail et al. (2021) and Larosa et al. (2020) stressed the importance of quick testing, isolation, and other preventative interventions to better control clusters that developed in school age children. This advice was consistent with more broadly focused research conducted by Kochańczyk and Lipniacki (2021), who examined 25 highly developed countries – as well as 10 individual US states – and found that jurisdictions that enacted quick, stringent, and sustained restrictions had lower case counts and death rates than jurisdictions that were slower to bring in restrictions or brought in looser restrictions. Additionally, Kochańczyk and Lipniacki also reported that those jurisdictions who enacted quick, stringent, and sustained measures had fewer restricted days overall, at least compared to those jurisdictions that were slow to act or brought in half measures.

6 LOOKING FORWARD

There are still a lot of unknowns about the COVID-19 pandemic itself, certainly including education's ability to weather the storm. However, most would agree that we've never before seen such a dramatic shift in the education landscape in such a short time period. It will be important to continue to monitor the potential positive and negative impact that such a dramatic shift brings. As the summer 2021 wanes, after 18 months of coping with pandemic school closures (including a full school year in many jurisdictions), most school authorities have once again focused on a 'safe' return to school buildings (Nagle et al, 2020b). Plans for a return to the 'new normal' (i.e., Phase 4) continue to be announced, with the opening of schools being the lynchpin to re-establishing both social and economic balance. Like in the past year, there continued to be more demand for remote learning options from some parents. Unlike in the past year, in many jurisdictions it is likely the majority of

students age 12 and older will be vaccinated – along with the majority of their teachers.

At the start of the 2021-22 school year some schools are likely entering Phase 3 (particularly those with younger students, where the start could be in-person learning). However, the potential for COVID-19 outbreaks in the unvaccinated population in schools and communities looms. In the United States, where many schools open in August, we have already seen schools closed as outbreaks of the Delta variant of COVID-19 erupt (Goldberg et al., 2021; Knutson, 2021; Zalazni, 2021). This reality will continue to be further complicated by the potential of vaccine resistant variants (Scheepers et al., 2021; Siebold & Fenton, 2021), as well as variants that may elude current testing regimes (Robertson, 2021). It is also important to point out that many US states have enacted laws or executive actions that prevent requiring masks and/or ban the use of remote learning (Blad, 2021; Center on Reinventing Public Education, 2021). While not handicapped by these same kinds of mandates, there is still real potential for school authorities in other jurisdictions to follow the same pattern as their American counterparts in terms of disease transmission within the school setting. The simple truth is that educators, parents, students, and the general public school expect the 2021-22 school year to continue to exist in Phase 3 – with a 'new normal' still somewhere on the horizon.

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SHIFTING SELVES AND SPACES: CONCEPTUALISING SCHOOL EMERGENCY REMOTE TEACHING AS A THIRD SPACE

David H Johnston[a], Mark Carver[b], Katrina Foy[a], Aloyise Mulligan[a] and Rachel Shanks[a]

ABSTRACT

The COVID-19 pandemic was the catalyst for unprecedented change within education systems around the world. Teaching and learning which had traditionally taken place in school classrooms suddenly moved online. Teachers' responses to the emergency changed not just pedagogy but who was teaching as well as when and where teaching took place. Bhabha's 'third space' (1994) provides a way of re-imagining the new spaces (both physical and virtual) which were created in response to the pandemic. We report on data from two research studies in Scotland conducted in the 2020-21 academic year covering two lockdown (stay at home) periods: one comprising interviews with nine educators in Scotland; the other study using two rounds of focus groups with eleven early career teachers. Our research thus enquires into the lockdown practices of a range of teachers and managers across different local authorities in Scotland, exploring how they engaged learners using digital technologies during two national lockdowns. Across both studies, digital technology played a key role in how this third space was mediated and the findings show participants' emotional highs and lows of working within this new space. It also shows teachers' changing perceptions of children and families and how power relations evolved over the lockdown periods. Technology facilitated the emergency response, but questions remain as to what the legacy of this forced shift will be. This paper points to the importance of two-way communication between home and school and how third spaces using digital technologies could bring home and school funds of knowledge closer together.

Keywords: Digital third space; home/school links; emergency remote teaching; pandemic pedagogies; the third self.

[a] University of Aberdeen, Scotland.
[b] University of Strathclyde, Scotland.

1 INTRODUCTION

The COVID-19 global pandemic forced the mass closure of school buildings and teaching had to be carried out at a distance, mediated by digital technologies. While this approach was not new to many teachers it gained 'renewed salience' during this period (Williamson, Eynon and Potter, 2020, p.108). The 'unprecedented, rapid and forced' shift (Trust and Whalen, 2020, p.507) from face-to-face, in-class teaching to digital provision with almost no preparation time has been likened to building a plane while flying it (ibid), raising serious challenges for which education systems have been, on the whole, poorly prepared (Zhao, 2020; Bozkurt and Sharma, 2020).

Widespread responses to maintaining the continuity of education while keeping participants safe has involved activating emergency remote teaching (Bozkurt and Sharma, 2020) which is described as 'surviving in a time of crisis with all resources available including offline and/or online.' (p.2) and as 'temporary access to instruction and instructional support in a manner that is quick to set up and is reliably available during an emergency or crisis' (Hodges, Moore, Lockee, Trust and Bond, 2020, p.6). However, much of the response globally has been to focus on digital technologies and the delivery challenges therein (O'Meara and Gentles, 2020). Inevitably, the speed of implementation of crisis measures has led to claims of 'learning losses' due to minimal provision of digital lessons in state schools (Green, 2020), significant variations in teachers' readiness and capabilities in supporting learners at a distance (Trust and Whalen, 2020), and an exacerbation of educational inequalities in terms of access to resources in the home. The level of parental support for digital learning, and the amount of time spent on digital activities (Andrew et al., 2020) were also key factors impacting pupils' experiences of lockdown learning.

While the way in which learners experienced such disparities is undoubtedly important, this paper focuses instead on responding to Williamson et al.'s (2020, p.111) challenge to explore what happens when 'classroom space-time travels in the opposite direction into the home environment' and where 'the polysynchronous world of learning in the digital age is introduced into the rhythms of family life'. We do so by invoking third space theory (Bhabha, 1994), in agreement with Brown et al. (2021) who argue that lockdown allowed for hybrid third spaces to emerge between the first space of the home and the second space of school. Thus, we focus on the implications of teachers' work shifting radically and suddenly (Marshall, Shannon and Love, 2020) and on the consequences for parents, carers, and families whose involvement in learning changed with equal speed as they morphed into dual roles of parent-educators (Bozkurt, 2020). As Richmond et al (2020) have argued, it is important to investigate how teachers, pupils, and families experienced the blurring of the traditional boundaries between home and school as teaching moved from the familiar spaces of school in a manner few had anticipated.

Our research thus enquires into the lockdown practices of a range of teachers and managers across different local authorities in Scotland, exploring how they engaged learners using digital technologies during Scotland's two lockdown periods between March 2020 and June 2021. Home and school are traditionally viewed as separate contexts with clearly defined and impermeable boundaries (Cook, 2005), with one-way communication (Marsh, 2003) leading to the colonisation of home spaces in the facilitation of school objectives (Grant, 2011). In contrast, lockdown placed parents 'in loco magister' (Johnston, Foy, Mulligan and Shanks, 2021) as new possibilities emerged, blurring roles, responsibilities, and power relations as learning shifted online. Third space offers a useful lens through which to examine the extent to which newness entered the world of teachers, pupils, and their families as they attempted to maintain the continuity of education.

2 LITERATURE REVIEW: THIRD SPACE

The concept of third space theory has been attributed to Bhabha (1994) who, as part of a critique of processes of colonial repression, proposed it as a means of resisting hegemonic forces by exploring how people from marginalised cultures are able to negotiate new and more powerful positions by working in-between the first space of their own traditional culture and the second space of the imposed culture (Jordan and Elsden-Clifton, 2014). Third spaces are thus characterised by hybridity where established boundaries and taken for granted norms are challenged and destabilised (Barak and Gidron, 2017), opening up possibilities for the construction of new identities and more inclusive practices which serve to work more favourably and beneficially for those in less powerful groups (Benson, 2010). By 'fostering dialogue amidst difference' as Manyak (2002, p.423) argues, previously competing discourses are brought into conversation with one another (Arteaga, 1997), with the potential to transcend oppressive essentialisms of binary thinking and to subvert monologic roles and patterns in favour of cross pollination, multiplicity, and diversity (Manyak, 2002). Third spaces have permeable boundaries enabling newness to enter the world (Bhabha, 1994), compelling people to reconsider assumptions and challenge the familiar (Akkerman, 2011), providing alternative understandings and heightening dynamic new possibilities for human development (Max and Stammet, 2005).

As a conceptual tool 'pitched between humanities, cultural and literary studies' (Potter and McDougall, 2017, p.40), third space theory has been used to explore and understand how the bringing together of contradictory knowledge bases and practices can be a vital catalyst for change and growth. It has quickly expanded beyond the political (Moran, 2018) and has been taken up, for example, in educational research where Moll's use of the term 'funds of knowledge' (Moll, Amanti, Neff and Gonzalez, 1992) has given third space theory powerful leverage in the exploration of home-school links. Funds of knowledge are 'historically accumulated and culturally developed bodies of knowledge and skills essential for

household or individual functioning and well being,' (Moll et al., 1992, p.133). Characteristic of 'people-in-an-activity' (Moll and Greenberg, 1990, p.326), funds of knowledge are manifested through events and activities: all communities have them irrespective of their level of disadvantage. Capitalising on first space cultural practices, then, can facilitate transformation of the more official spaces, enabling participants to develop expertise and indeed to become more central in their own learning (Jordan and Elsden-Clifton, 2014). Application of third space theory in a digital context enabled Benson (2010) to demonstrate how her research participant integrated his funds of knowledge of digital tools and multimodal literacies within the formal English Language Arts curriculum, positioning himself as expert in ways denied him by the more formal print-oriented curriculum.

Thus, while third spaces can be both metaphorical and physical, digital spaces can act as a contested area where new possibilities exist because the values and culture of the participants themselves feature in that space (Potter and McDougall, 2017), introducing the idea of porous expertise (p.6) within a flattening of hierarchies and the transformation of broader social processes. Max and Stammet (2005) develop this point, showing how hybridity can be the catalyst for a reorganisation of participants' actions, roles, participation, and division of labour (p.10). In this context, Jordan and Elsden-Clifton (2014) examined the in-between digital spaces that reside in the 'overlap and displacement of domains of difference' (Bhabha, 1994, p.2), showing how student teachers could take control of the digital space using their confidence and competence in the relevant digital tools to destabilise the traditional hierarchical role of teacher/student, shaping the context to suit their own learning needs by challenging the instructor and leaning on their own uses of peer feedback rather than always relying on those traditionally viewed as expert. Moran (2018), too, viewed digital third space, in service of an online practicum, as enabling pre-service teachers and teenage learners to subvert traditional roles, bringing together their out-of-school funds of knowledge related to pop culture, using the website Slack to co-produce a shared learning environment in which all participants interacted as experts and on relatively equal terms.

Brown et al. (2021) have argued that the unexpected, rapid, and forced closing of school buildings in moving from face-to-face classroom teaching to online schooling from home during lockdown enabled third spaces to emerge. These were mediated almost exclusively by digital technology as the medium through which teaching took place – with a range of consequences for teachers, pupils, and parents both positive and negative in terms of tensions created by the blurring of the boundaries between home and school. Zecca and Cotzab (2020) also described how teachers responded to the forced shutdown of school buildings in their creation of virtual third spaces that encouraged a more egalitarian dialectical relationship among participants beyond the bounds of conventional hierarchical social structures. In a previous article, Johnston, Foy, Mulligan and Shanks (2021) showed how third spaces were capitalised on during first lockdown in Scotland, with children and their parents calling on their home funds of knowledge to transform

school tasks online, producing creative responses that enabled teachers to see their children differently and, on occasion, more positively. During the second lockdown, however, parental concerns to maintain more orderly family home circumstances led to requests for more structure and routine, leading to transmissive, school-led activities.

In this research the aim was to explore how teachers engaged learners using digital technologies during two national lockdowns, conceptualising this emergency remote teaching as a third space. Next, we provide detail on the methodology we used, then we provide findings from our research, a discussion of those findings and finish with our conclusions and suggestions for further research.

3 METHODOLOGY

Two studies of teachers in Scotland during the pandemic in 2020-21 have been brought together (Carver and Shanks, 2021; Johnston, Foy, Mulligan and Shanks 2021), with a new round of data analysis for the purposes of this paper. While these previous studies considered how teachers viewed their roles and professional learning needs during the time of crisis, this post-lockdown study had the benefit of space and hindsight to explore the extent to which third space could offer a useful lens for understanding teaching during the COVID-19 pandemic. Using thematic analysis on these existing datasets was seen as ethically important in offering a deeper theoretical contribution than was previously possible when researching the pandemic while living through it. It was also recognised that participants in these earlier studies gave an important gift of data in such a challenging time, particularly those with additional challenges beyond the lockdown such as completing their teacher induction year; being clinically vulnerable; looking after their own children; or dealing with precarious employment. Secondary data analysis was therefore chosen as ethically important in making good use of the data from the previous studies and helping to move the COVID-19 narrative into a richer theoretical area.

Data comes from two qualitative studies. One was conducted solely by researchers at the University of Aberdeen, using email correspondence and semi-structured interviews with nine educators comprising primary and secondary school classroom teachers, Head Teachers and a local authority education officer (referred to below as T1 to T9) chosen to provide a heterogeneous sample (Johnston, Foy, Mulligan and Shanks, 2021). The other was an online focus group study conducted by researchers at the Universities of Aberdeen and Strathclyde with a sample of eleven recently qualified primary and secondary school teachers (referred to below as A to K) from those two institutions (Carver and Shanks, 2021). One of the paper's authors was involved in both studies and saw the usefulness in using both datasets to explore to what extent teachers were experiencing a third Space during remote teaching periods. Ethical assurances meant that no data was shared between the two teams. Thematic analysis therefore relied on a secondary analysis by the original study authors working with their own data, which built on their existing

familiarity with the data, while adding the ability of the shared team member to check the developing themes between both research teams. The approach is therefore best described in 'supplementary analysis' since the research team is similar to the primary studies, the subject is similar, but the focus is more refined (Heaton, 2008, p. 510).

Aside from giving the opportunity to return at a more reflective pace to data collected and analysed as a matter of urgency during a pandemic, there are benefits to secondary data analysis more generally. Heaton (2004) notes the use of secondary analysis of qualitative data gaining popularity in the 1990s as a method suited to non-naturalistic data (i.e., data generated by researchers), although much of the methodological theory was established earlier in document analysis and conversation analysis methodologies. More recently, the defining feature of secondary qualitative analysis is a shift in purpose from the original study, typically emphasising 'verification, refutation and refinement' (Heaton, 2004, p.9), meaning that the new study has a different purpose, question, method, data source, or research team. In this study, the combination of datasets can be seen as partly changing the source, the use of top-down coding changing the analysis method, the research team partly merging, and by using Carver and Shanks (2021) dataset to examine the transferability of the theoretical framework established in Johnston, Foy, Mulligan and Shanks (2021).

While the ethical approval for two separate studies meant that shared oversight of coding was only possible by the one researcher who was part of both research teams, this did bring the benefit of having her adopt a dedicated checking role. Specifically, researchers conducting the coding of transcripts noted not just where notions of third space or liminality could be identified but also where they were missing from participants' accounts. This enabled an interpretation across both datasets of the compatibility of the theoretical framework, challenging the team to ensure that interpretation was not forced. There are limitations with this secondary analysis as we set out with a specific focus on third space and may have overlooked other themes and insights which could have been gleaned from the data.

Drawing heavily on grounded theory to understand changes to coding, Heaton (2004, pp.98-99) helpfully distinguishes between secondary studies which start with a 'clean slate' to return to the raw data and those which, as in this study, work with existing codes since 'a broad theme may have been previously identified and coded in the primary analysis but requires more elaboration and/or linking to other codes for the purposes of the secondary analysis'. Likewise, quality assurance in secondary qualitative analysis draws on the same concepts as those established by grounded theory scholars, such as trustworthiness and authenticity, highlighting the importance of triangulation within the team to the extent allowed by data sharing restrictions and the regular logging of decisions within NVivo to ensure auditability and allow for reflexivity.

We admit that the research has limitations which should be openly acknowledged as part of the transparency process of a trustworthy study. The

sample size in both studies was small and likely to be unrepresentative of the population of all teachers. We were not seeking to achieve generalisability however and believe that our findings, tentative as they are, will resonate with many across the profession. The partial nature of the study in terms of perspective should also be acknowledged, with teachers' voices being the only lens through which we sought to explore digital education. The perspectives of parents and children would enhance studies of online participation, giving a richer picture of lockdown teaching and learning and the attendant joys and stresses.

4 FINDINGS

4.1 Role shift and emotions in the new pedagogical space

As schools went into lockdown in March 2020, teachers prepared to move teaching and learning from the in-classroom contexts that had provided them with familiar experiences of working with children, to online teaching of which most of them had very little sustained previous experience. There were reports in the data of teachers feeling out of their depth, with many indicating that they were being positioned as learners and novices, rather than experts in the new third space. T2, a Head Teacher reported that 'we were literally making decisions on our feet' and T1, an experienced classroom teacher, admitted to feelings of stress rarely experienced in her career prior to lockdown:

> I think was feeling overwhelmed by the technology…. I just didn't have the knowledge of how these things work. (T1)

T2 described some teachers not even having access to Wi-Fi and how she had to organise resources and hardware so that teaching could go ahead at very short notice. T3, a local authority officer, talked about the stress of having to organise training for staff at the same time as teachers were undertaking online teaching – a situation likened to rewiring a house while still living in it.

Although experienced in more traditional pedagogy, many teachers had little prior understanding of online teaching and their roles often became coloured by technical considerations. The recently qualified teachers, however, saw potential in shifting to digital spaces (G/L/H). Participant G felt this may be more difficult for established teachers and highlighted how they wanted books or manuals to support them with the technology.

There was also an awareness among participants that the corresponding role shift for parents was also causing difficulties. T6 noticed parents becoming increasingly frustrated at the complexity of their roles as parents and parent-teachers, with many also having to work from home at the same time. She commented on parents complaining to her of the demands being made on their family and working lives: 'parents are finding it very difficult and understandably they're taking their frustrations out on us'. At the same time, some schools were still looking to parents to supervise and ensure that work was completed, using

dedicated digital spaces as one-way communication encouraging parents to supervise their children:

> Our school created a parent portal, and posted work here with a short description about what we wanted done (A)

The third spaces that opened up were fluid and dynamic transitional spaces. While they imply both technological and pedagogical transformations, they are also imbued with emotion, meaning that the different participants encounter their changed circumstances and changing roles through emotional responses that are tied up with feelings of power and powerlessness.

4.2 Shifts in practice

Teacher participants soon began to try to find solutions to the pedagogical challenges that arose in the new digital spaces. As a result of 'greater empathy' (T3) of parents' circumstances at home, teachers began to make increasing use of asynchronous learning activities. As T4 said, 'I have to consider the parents' needs and what makes them feel secure'. She adapted the tasks she set to accommodate this but acknowledged that this was different to what she would have planned if the parents weren't involved.

> Teaching is best with interaction; I post up activities online which have to fit into family life (T4)

The issuing of individual tasks for independent pupil response became even more pervasive during lockdown 2 after schools had engaged with parents to get their views on the successes and failure of lockdown 1. Parents strongly supported those pedagogies which saw tasks being put up online by teachers in advance. T4 identified the approaches taken in her setting which centred around posting activities well in advance to meet parental demands:

> That's what the parents asked for, they said can we have it on a Sunday, so we can print off what we need in advance. It then doesn't impact our homelife. (T4)

However, among the newer teachers, it appears interactions with home were strengthened. Examples included engaging with community hubs for the children of key workers where pupils from different schools interacted and using Google Classroom to share artwork with peers and parents. Most significantly was a shift away from just thinking of their own classes and trying to help wherever they could:

> I'm not actually quite sure which classes I'm meant to be responsible for right now, we're just all going for it (G)

Generally, teachers were fairly ambivalent about the rationale for changing their approaches. On the one hand, they were happy to act on parental feedback to make changes to their 2021 lockdown practices to facilitate less stressful home

circumstances, but on the other hand they were uneasy about the compromises that such activities involved in terms of their valued beliefs about effective teaching and learning. Third spaces may illustrate the intermingling of competing discourses, leading to the development of new knowledge, but here the conflicting approaches led more to anxieties about a return to traditional transmissive approaches.

4.3 Successes in the third space – fostering home funds of knowledge

Nevertheless, some parents, mainly reported by primary practitioners, did find time to work alongside their children in using their funds of knowledge from home to produce interesting and creative outcomes in response to the tasks that their teachers had set them. There were examples, almost exclusively in the 2020 lockdown, where children were able to meet the demands of the school's digital activities but very much on their own terms and using resources and experiences from their homes. Examples from the newer teachers included science experiments that could be done in the kitchen, design technology and music using household or virtual items. The results could be characterised as neither home learning nor school learning, but something in-between – a hybrid set of outcomes where children and their parents were more in control of what was being learned and highlighted in the videos they posted up in response to the teachers' challenges.

T2, reported on the third space facilitating more sympathetic experiences for some children with additional support needs. In the more conducive environment of the home, they were able to produce work in their own time, using their own familiar resources and materials and supported one-to-one very often by interested family adults.

Fusing home and school experiences meant that the boundaries between the two settings were relatively porous, with opportunities for learning flowing both ways simultaneously and children able to take up school tasks but shaped in ways that capitalised on their own cultural resources. Some of what children were capable of surprised teachers and made them re-evaluate the benefits of capitalising on home opportunities.

T6 felt that these new spaces online enabled her to see her pupils differently from in-school classroom life characterised by its busyness and frantic pace:

> In nursery there would be constant interruptions, whereas with the videos you are really getting this great snapshot. (T6)

4.4 Technology as panacea?

A growing awareness of the limitations of the technologies available to teachers also led to pedagogical changes from those approaches favoured in normal in-class teaching. T5, a secondary school teacher, lamented the inability of Microsoft Teams to facilitate any kind of face-to-face discussions. It was felt that

asynchronous activities could not replicate the richness and spontaneity of interaction the teacher and learner would have in the classroom.
The shift to asynchronous teaching was also viewed as limiting, T4 was not convinced of the efficacy of this approach:

> a pre-recorded lesson is completely different from the way I'd deliver a lesson in the classroom … you don't have the dialogue… it's like going back to the chalk and talk (T4)

In these examples, there are tensions between the principles underlying the classroom practitioner's normal practices and the approaches that had to be taken due to the exigencies of the emergency remote context. In one case the teacher admitted to feelings of de-professionalisation:

> relationships are at the heart of teaching. Being behind a screen with no opportunities for dialogue is not effective teaching and learning. This is not what I signed up to do. (T5)

Technology, moreover, opens up others' worlds for scrutiny in ways that are not possible where home and school are more separate. While some (both parents and teachers) were open to this more transparent way of operating and were sanguine about revealing aspects of their home lives, others admitted to being uncomfortable and under surveillance. A common feeling of teachers was 'being judged all the time' (T6), with parents having such easy access to children's work and the teachers' feedback.

4.5 Shifting power relations

Yet the new spaces created the possibilities for certain practitioners to become involved in ways they tended not to be able to do in normal in-school learning. Teachers confident with their technology skills came into their own during lockdown – even if these were inexperienced teachers in the early years of their career. Prior to lockdown the recently qualified teachers might have seen themselves as apprentices learning from more experienced colleagues. However, in the online learning domain they could carve out more agentic roles. T2 extolled the strengths of the 'new teachers who really stepped up'.

But perhaps the most significant shift in power relations was realised by T3 who, by listening to the voices of children and parents, saw the crucial role parents play in learning:

> Parents have realised that a lot of learning does happen at home and they are the first educator. (T3)

This in turn led to T3 questioning the purposes of their work in school, challenging transmissive models of teaching and reimagining what effective learning might look like as schools go back after lockdown:

> There is a realisation that the traditional confines of what learning was has been challenged … it's maybe about our challenging our own understanding our own beliefs of what a child is. (T3)

It might have taken a global pandemic to foster this deep and felt awareness of the role of parents in children's learning, but it is something that T3 feels can be taken on to shape the future of education in ways that really have meaning for children and their communities:

> In terms of following children's interests and seeing where we go from there and I think it's more of an opportunity if anything else that we are looking at our curriculum and we are looking at what we want to provide and what we want to do next. (T3)

Thus, we explored the data in the two studies to understand how teachers engaged learners using digital technologies and we conceptualised this emergency remote teaching as a third space. We found shifts in roles and emotions, and also shifts in practice. Participants spoke of successes in the third space and of fostering home funds of knowledge, but we question the idea of technology as a panacea and are cognisant of shifting power relations. We now discuss these findings before offering conclusions in terms of theory and practice and potential future avenues of research.

5 DISCUSSION

Our research highlights interesting new roles that opened up for teachers and parents as both parties wrestled with the complexities and practicalities of online learning and teaching. Teachers' growing awareness of the busyness and fraught nature of family life extended their thinking about planning to move from traditional considerations of individual children to those of the families themselves. This, in turn, involved more holistic decisions to be made about the what and how of the new platforms they were using to engage with this new focus on children-within-the family. There were glimpses of successful pupil achievements, mostly in the 2020 lockdown, where teachers saw what children were capable of when they were able to go beyond skill and drill work and engage positively with authentic contexts for learning, drawing on home resources and funds of knowledge by posting videos of themselves using technologies that they and their parents were comfortable using. This was neither typical home learning (self-directed and personalised) nor traditional schoolwork (transmissive and monologic); it inhabited an in-between space where the children were meeting the expectations of the school but more on their own terms (Gibson, 2000) and where their home culture could actually feature in that space (Potter and McDougall, 2017). In this way, while some parents were tasked with supervising or monitoring students to ensure they engaged with tasks, many parents were able to assume more central roles in the learning process, engaging as partners with their children and the school. This struck us as an interesting shift in power relations, with schools handing over power

to families, thus encouraging 'a more egalitarian, dialectical relationship among people beyond the bounds of conventional hierarchical social structures' (Zecca and Cotza, 2020, p.35).

Other more emancipatory roles were opened up too, for the empowerment of 'low power actors' (Lo and Diochon, 2019, p3.) such as newly qualified teachers with competence in technology use, bearing out McDougall and Potter's (2019) claims about third spaces requiring a flattening of hierarchies and a more porous idea of expertise (Potter and McDougall, 2017, p.83). As popular tools such as Microsoft Teams added new features such as breakout rooms in response to teachers' demands during lockdowns in many countries, such expertise was less about knowing how to do something and more about being able to figure it out. New teachers were able to position themselves as experts, despite their lack of experience, by using the cultural capital of their technological skills in supporting colleagues and in facilitating learning for their classes, thus making purposeful use of the new context. For these educators, online liminal spaces were more 'democratic, permissive and inclusive' (Lo and Diochon, 2019, p.2), affording opportunities not so readily available in the traditional setting of the physical school.

Moreover, children with a record of specific needs, such as autism or Additional Support Needs, were often able to flourish in the quiet and orderly world of the online context (see also Pozas et al., 2021), where they could position themselves as successful students. There was evidence in the data that asynchronous learning opportunities favoured these children by enabling them to take time to post up considered responses using materials that they were familiar with in their own home environment and then to get personalised feedback one-to-one rather than in the public domain. In this way, new possibilities for successful identities were available in ways that had often been denied them in the busy classroom environment, bearing out claims around the inclusiveness of third spaces. In the first two spaces of home and school there is often a power imbalance (Yahya and Wood, 2017) where such children are often subjected to the rules and decisions of adults. In the third space, however, learners can have more agency to shape their learning trajectory in more self-directed ways, as a result gaining access to a broader range of identities, including those as successful learners.

However, there were unresolved tensions in the third space of online learning in lockdown, highlighting the contested, negotiated, and political nature of third spaces (Potter and McDougall, 2017, p.83). While making positive responses to parental requests for more routine and structure in the 2021 lockdown, teachers tailored their online activities to enable parents to manage the multiple demands on their time and resources at home (Johnston, Foy, Mulligan and Shanks, 2021). However, in doing so, the teachers-initiated practices that they felt ambivalent about in terms of their underlying principles and core values (Kim and Asbury, 2020). The new context for learning, they felt, was a colonisation of spaces normally inhabited by teachers themselves, according to their valued purposes, with parents asking for worksheets and PowerPoints with voiceovers that explained the tasks to

be undertaken or tasks which resonated more with the kinds of pedagogy parents had experienced when they were at school. Although teachers were happy to be seen responding so positively to parental requests, this did come at a cost and many teachers were uncomfortable about the return to traditional, transmissive practices that they would never have subscribed to in normal classroom activity. A further cost accrued in terms of workload (Pozas, Letzel and Schneider, 2021) and teachers reported increases in the amount of time required to plan, post and assess pupils' work in the new digital space, although some did find new efficiencies in using online forms and automated marking. There were concerns about burn out and anxieties about wellbeing, given the efforts they felt they had to exert in order to facilitate learning to the high standards they would normally apply to classroom learning. Even those teachers who felt able to 'get ahead' were regularly working 12-hour days and not taking weekends or holidays, often feeling guilty whenever they were not working.

Third spaces may be liberating (Hawley et al., 2019) and sites of 'radical openness' (Klygite et al., 2019) but they can also expose participants to 'greater ambiguity and a diminished sense of security' (ibid, 2019, p.2). Third spaces are thus risky places 'on the edge' (Soja and Hooper, 1993) where comfort zones are transgressed, and uncertainty ensues. This may be exacerbated for new teachers who find themselves on precarious employment contracts. There was mutuality in risk-taking (Klygite et al., 2019) in our study, with parents risking the opening up of their family circumstances to scrutiny via their posted videos. They also risked damage to self-esteem if mistakes were made in the public view of teacher scrutiny when helping their children in loco magister (Johnston, Foy, Mulligan and Shanks, 2021). Teachers too were very aware of the surveillance that they were being constantly subjected to as they worked online with children who were in much closer proximity to parents than they would have been in the physical classroom. Biesta (2013) has encouraged educators to be open-minded in embracing the indeterminate potential of school life, instead of eschewing the frustrations and lack of certainty that are implicit in educational encounters. Building on this work, we suggest that there would be merit in exploring what Lauer (2009) has termed a third self, comfortable in the confrontation of uncertain third spaces, and investigating what it might mean to be capable of working with flux and fluidity (Hawley et al., 2019). This will never be easy for teachers whose sense of identity may be tied to discourses of control and authority.

Our research also highlighted the intensely emotional characteristics of working in online third spaces. where 'the traditional time and space configurations of formal education are no longer critically important' (Schuck, Kearney and Burden, 2017, p.126). Third spaces are experienced emotionally as much as they are cognitively and socially, and they are certainly not neutral zones of transformation. In this contested arena characterised by disruption and destabilisation (Jordan and Elsden-Clifton, 2014), teaching becomes an inextricably emotional practice (Hargreaves, 2001) grounded in human interaction

and embedded in relations of power and status (Lasky, 2000). Experienced classroom practitioners, through being positioned as learners or novices in the new digital space in which they had few prior experiences (Marshall, Shannon and Love, 2020), felt heightened and more acute emotional responses than were expressed by newer teachers. Feelings of anxiety, fear, uncertainty, and stress were not uncommon as they made their first tentative steps in managing the new technological challenges. Nor was it uncommon for technical hitches beyond their control to disrupt teaching and dent their fragile identities in the new space (Yildirim and Elverici, 2021), leading to further emotional uncertainties.

Social interactions that draw people together are grounded in emotionality (Zembylas, 2010) and online interactions with parents and children are similarly infused with emotions. Feelings of constantly being scrutinised and evaluated led to some teachers closing down on third space opportunities for harnessing their own home funds of knowledge in engaging children in interesting contexts for learning. When other teachers experienced the digital space as less threatening, even opening up new opportunities for them to monitor their learners or generate engagement data from their interactions, they were able to open up to new possibilities for learning. This included the confident technology-skilled newly qualified teachers. Yet, positive emotions such as pleasure and happiness were also evoked particularly when pupils' achievements demonstrated the effectiveness of new planning approaches aimed at the family unit and which facilitated home funds of knowledge to be utilised in completing school tasks at a high level but with the inclusion of home cultural resources. Teachers enjoyed seeing what their children were capable of, especially when their achievements surprised them, challenging their preconceptions.

6 CONCLUSION

The purpose of our research was to explore the consequences of emergency remote teaching by examining the digital pedagogies of teachers in Scotland during two periods of COVID-19 lockdown and the consequent mass closure of school buildings to all but the children of key workers. We decided to use the lens of the third space as a frame for understanding digital experiences due to the appropriateness of its emphasis on in-betweenness and on hybridity. We recognised that moving learning into homes and appropriating homes for schooling purposes would lead to a blurring of the edges between two contexts that have traditionally been considered as separate (Pahl and Kelly, 2005). We wanted to examine claims around third spaces as zones of transformation (Gutierrez, 2008), inviting new possibilities for teaching and learning through the challenging of existing assumptions and practices.

While we realised that third spaces were contested and experienced, we had not anticipated the extent to which digital spaces were experienced as such intensely emotional and relational phenomena. Emotions of pleasure and satisfaction for

teachers were embedded in the achievements of their pupils, especially when these reflected the new regimes of planning that had made the family a more prominent concern. Negative emotions of anxiety, stress, and fear were also in evidence, highlighting the vulnerability and fragility of some teachers' new roles, positioned more as novices than experts in a world dominated by technology and open to the vagaries of technological unreliability. Relationships were also wedded to the complexities of the challenges that people were living under and the examples of conflict between parents and teachers extant in the data were functions of the pressures and frustrations that were incrementally building in lockdown as teachers and parents alike strove to maintain continuity in school and family life.

The issue of third spaces and the emotions has been very little researched and while our research breaks new ground in bringing together these two otherwise independently well-researched areas, future work should be undertaken to explore the connections in greater depth, particularly in relation to the opening up and closing down of third spaces as a consequence of participants' emotional responses in the relationships which become significant online.

Nor did we realise, at the outset of the project, that the new digital pedagogical approaches to emerge in the online spaces between home and school would come at a cost to teachers' sense of moral purpose (Kim and Asbury, 2020) and to their working conditions. The colonisation of teaching spaces by parents (Johnston, Foy, Mulligan and Shanks, 2021) was unexpected in that, in terms of home-school partnership links, there has traditionally been an imbalance in power relations, with the movement of communication between the two contexts being one way (Marsh, 2003) and with parents being recruited to operationalise the aims of the school (Grant, 2011). Teachers' responses to parental requests for more independent activities for their children in order to alleviate the pressures on their hectic home lives led to the posting of work well in advance of completion deadlines. It also led to the utilisation of the PowerPoint with voiceover instructions, enabling pupils to manage activities autonomously and with little disruption to busy parents' lives. In terms of teachers' values, there was considerable unease in the return to transmissive approaches (Allen, Rowan and Singh, 2020), with interaction being the main loss (Zhao, 2020). In terms of workload, too, teachers reported a massive increase in the time spent planning, posting and responding to children's work (Marshall, Shannon and Love, 2020), leading to claims of stress and deteriorating well-being (Kim and Asbury, 2020), although for newer teachers such excessive workloads were worryingly normal and shifting to homeworking offered some relief.

We hope that those charged with the responsibility for creating and managing future digital spaces will work to maintain a balance between the competing claims of participants' different desires and aspirations. The unresolved tension in our research was between the drive of parents to maintain an orderly and relatively calm family home and the principles of teachers who valued interaction. Further

exploration of the power relations inherent in digital third spaces should thus be a focus of future research work.

This paper also points to the importance of two-way communication between home and school (Grant, 2011) in forging genuinely equal partnerships and avoiding either colonisation of school pedagogies by home exigencies or the imposition of school discourses on the cultures of families. We would encourage schools to engage parents and families in dialogue around the value of their home funds of knowledge to support children's sense of themselves as successful learners in contexts that motivate them and give personal value. Our research suggests that the digital environment is an ideal space to do this kind of work, enabling children to use home resources, materials, and experiences in the service of technology-infused outcomes, ultimately helping them to meet school curricular objectives but also reflecting their own valued cultural resources and aims (Gibson, 2000).

Our work, in addition, illuminates the importance of educating prospective teachers to be comfortable with uncertainty (Lauer, 2009) and to accept that inhabiting new spaces may be liberating on the one hand, but that they may also be ambiguous and risky, leading to a decrease in psychological security (Hawley et al., 2019). Further research could therefore build on our work by exploring the support mechanisms that might enable risk-taking in third spaces where indeterminacy is a key element. Questions of identity inevitably come into play (Kim and Asbury, 2020) where teachers, used to being positioned as experts, experience a subverting of traditional roles and responsibilities. Future work might investigate the nature of teacher agency (ibid) in the construction and maintenance of the valued identities of the third self in situations of uncertainty online, especially with regards to the ways teachers may create their own digital spaces to experiment with or seek feedback on new ideas.

Ultimately, though, a significant challenge for all with an interest in or responsibility for school education, is to consider the implications of what has been learned during the period of lockdown in shaping future educative experiences for all our young learners (Bubb and Jones, 2020). How can educators capitalise on what has been learned about the value of digital third spaces in connecting children more closely to the purposes of schooling but in ways that really meet their needs and interests? How can teachers activate their third selves in 'thirding' (Lauer, 2009), that is engaging in the creative restructuring of messiness and ambiguity in support of new possibilities for children's learning? Dewey (1899) remarked on the waste that accrued when school learning was divorced from the everyday life activities of learners, and we challenge future researchers and practitioners to explore ways of energising third spaces using digital technologies to bring home and school funds of knowledge together in closer synchrony.

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IN NEED OF DEVELOPMENT, LEARNING AND RESEARCH? ON THE POSSIBILITIES OF A COMMON POINT OF DEPARTURE FOR DIGITAL AND EDUCATIONAL DEVELOPMENT

Jörgen From[a] and Fanny Pettersson[a]

ABSTRACT

A growing body of initiatives aims to connect school improvement with external actors, such as universities, by means of networks and collaborative partnerships of different kinds. Simultaneously, many schools have difficulties in assessing or predicting their needs associated with the digitalization of a specific local school practice given their lack of existing tools to articulate those needs. This has made it difficult to study digitalization in a complementary and symmetrical way between academia and practice. In this study, we used a quantitative instrument to generate findings and development needs relevant to both research and school development. The instrument, which we distributed to all school leaders in one municipality, measures perceptions of three overall areas: (a) levels of digitalization, (b) organizational digital maturity, and (c) notions of leadership. The data shows, for example, that digitalization, in this municipality, was a concern or issue on an individual level. Achieving a more complex view of digitalization as school development—a collegial approach and mindset together with leadership and organization that focuses on strategy and common goals—appears to be a high priority for research and practice. To conclude, the results generated from the instrument used in this study can contribute to a shared understanding of the findings and the needs relevant to both research and school development.

Keywords: digitalization; digital technologies; organization; school leadership; school development.

[a] Umeå University, Sweden.

1 INTRODUCTION

The digitalization of schools has been high on the agenda for almost half a century. Recently, the global but not so positive circumstances of the COVID-19 pandemic have made schools aware of the benefits of digitalization. Schools have, to different degrees, used digital technology to adjust to the pandemic; those that have a higher general level of digital competence have coped rather well and have been able to sustain education throughout periods of lockdown. Others were forced to close all activities and rely on more traditional, analogue, paper-based practices. In this, the pandemic has shown the importance of having some form of organizational conditions for digitalization. One question, however, is what these conditions might be.

Although the uptake and use of digital technologies have been studied over several decades, one prominent factor affecting outcomes has been teacher and student readiness (Olofsson et al., 2015). One aspect that has more recently become a focus of research is digital school leadership (Dexter, 2018; Liu et al., 2013; Sterrett & Richardson, 2020). Another factor, which has not been prominent in research but has often been mentioned as an important part of future research, is the degree of digital readiness schools as systems of educational activities have for keeping up with large-scale changes in society and small-scale demands from students and parents (cf. Heintz & Mannila, 2018; Leino Lindell, 2020).

In this paper, we report on a research and development project focused on organizational conditions for digitalization. In recent years, many European countries have increased investment in research and development projects focused on digitalization and school development. These initiatives aim to connect school improvement efforts with external actors, such as universities, through various kinds of networks and collaborative partnerships (Chapman et al., 2016; Day et al, 2016). Research has shown that collaborations between schools and academia might lead to meaningful changes in teaching and learning processes and improve the quality of educational practices in schools (Ainscow, 2012).

However, a particular problem in research and development projects is the difficulty of predicting the needs of a specific local school's practice when those involved in the practice have no existing tools to articulate what type of knowledge they might need. This makes it difficult to study digitalization and school development in a complementary and symmetrical way and to identify related needs that the school may be unaware of or unable to articulate yet. In this paper, we report on a study that uses a quantitative instrument developed to generate findings relevant to both research and school development. The instrument, which was distributed to all school leaders in one municipality in Sweden, measures perceptions of three overall areas: (a) levels of digitalization, (b) organizational digital maturity, and (c) notions of leadership. The aim of the study is to analyze, from the perspective of school leaders, how digitalization is enacted in schools. Thus, we formulated the following research questions:

- How are digital technologies implemented and used in schools?
- What patterns of leadership can be identified as important for leading digital school development?
- What research and development needs can be identified that are relevant for both research and practice?

2 DIGITALIZATION IN SCHOOLS – ORGANIZATION AND LEADERSHIP

The ongoing process of digitalization is increasingly affecting today's society (McAfee & Brynjolfsson, 2017). Some features of these restructuring processes are combinations of old and new innovations (e.g., a cell phone becoming a music player, camera, calculator), the restructuring of social businesses (e.g., global industry leaders such as Kodak being replaced by digital solutions such as Instagram), and the exponential development and digitalization of information.

Digitalization is also evident in the educational sector (Haugsbakk, 2020; Shanks, 2020). Over the last decades, digitalization has been high on the political agenda, and expectations that digital technologies will both disrupt and improve learning and education are high (Haugsbakk, 2020; Shanks, 2020). At its simplest stage, digitalization has been used to facilitate daily tasks and routines in schools. The distribution of computers and tablets offers students enhanced access to knowledge and information and supports the administration of teachers' and students' daily work (Haßler et al., 2016). Digital platforms facilitate communication between the home and the school (Gu, 2017), tablets support students in producing and submitting schoolwork (Bergström, 2019), and digital whiteboards, aminations, and so on are incorporated in classrooms to illustrate knowledge and information in new, innovative ways (Hapsari et al., 2019). This is often referred to as the large-scale infusion of digital technologies—hardware, software, and digital infrastructure—into school systems (cf. Håkansson-Lindqvist, 2015; Jewitt et al., 2007).

At a more complex stage, the digitalization of schools has been used to, or associated with, the power to change how people implement and think about schooling (cf. Blau & Shamir-Inbal, 2017; Lund & Aagaard, 2020; Siljebo, 2020). Digitalization, from this perspective, often involves processes of systematic, behavioral, and epistemic change (Leino Lidell, 2020; Pettersson, 2021; Shanks, 2020). As Lund and Aagaard (2020) discussed, digital technologies can be more than just tools and can "come with the potential of *transforming* the cultures they are introduced into, not by their inherent qualities or features but as a result of the interplay between artifacts and humans' capacity for transformative agency" (p. 59). This means that technologies can support daily teaching and learning practices in schools and, in some cases, can change previous practices into new ones (Aagaard & Lund, 2020; From et al., 2020; Islam & Grönlund 2016). This process has been referred to as an epistemic, behavioral, or organizational change in schools and

education, with digitalization being conceptualized as having an inherent transformational agency that changes the way people learn and develop (Aagard & Lund, 2020; Pettersson, 2021; Siljebo, 2020).

However, new educational solutions and processes of change and transformation make demands of a school's organization and leadership (Hallinger, 2010; Hallinger & Huber, 2012; Rensfeldt & Player-Koro, 2020). For example, school leaders are expected to lead their organizations through political reforms aimed at innovation and demonstrate good practices in the integration of technology into educational contexts (Avidov-Ungar et al., 2020; Sterrett & Richardson, 2019). More recently, the COVID-19 pandemic added to this complexity of opportunities and demands when it "instantly disrupted the usual modalities of teaching and learning, and as such, pushed school leaders into the digital foray overnight" (Sterrett & Rickardsson, 2020, p. 15).

Various scholars have conceptualized school leadership in digitalized contexts. Using the framework of Leithwood and Riehl (2003, 2005), Dexter (2008) developed three categories of ICT leadership. This framework has been used to study digitalization and leadership (Dexter, 2018; Petersen, 2014), goals and policies (Vanderlinde et al., 2012), and the roles of school leaders in digitalization (Håkansson-Lindqvist & Pettersson, 2019). From another perspective, Mårell-Olsson and Bergström (2018) conceptualized strategic school leadership as the awareness of goals and motives and the implementation of actions and strategies for organizing and leading processes of digital and educational change. Researchers have also studied the enactment of school leadership by analyzing microprocesses from historical and sociocultural perspectives (Vennebo, 2017 see also Hauge, 2016).

Additionally, researchers have called for enhanced research on leadership styles in digitalized contexts (Liu et al., 2013). At the same time, Day et al. (2016) argued,

> Schools' abilities to improve and sustain effectiveness over the long term are not primarily the result of the principals' leadership style but of their understanding and diagnosis of the school's needs and their application of clearly articulated, organizationally shared educational values through multiple combinations and accumulations of time and context-sensitive strategies that are "layered" and progressively embedded in the school's work, culture, and achievements. (p. 222)

Moreover, new tasks, relations, and ways to interact have been described as "a clash of cultures" in schools, leading to new considerations and priorities for school leadership to contemplate (Williams, 2008).

2.1 Conceptualization of Digitalization and School Leadership

Digital technologies are expected to both disrupt and improve learning and education. Digitalization is said to be a complex process including the infusion of tools, the development of new practices, epistemological and organizational

changes in the way people act, think, and talk about schooling (cf. Pette5rsson, 2021; Willermark & Pareto, 2020). Engeström (2015) referred to such radical, and somewhat unpredictable, changes in an activity (in this case, school) system as expansive learning. Radically new forms of acting and working, according to Engeström (2011), are "literally learned as they are being created" (p. 38).

Simultaneously, schools as producers and carriers of cultural and historical norms and practices are often characterized by slow, rather than radical, paths of change and development (cf. Siljebo, 2020). From a theoretical point of view, this means that cycles of expansive learning in schools can be difficult to trace, without being labeled or stigmatized as nonchange (Pettersson, 2021).

For studying digitalization in schools, the theorization of small and large scales could be useful. Using the concept of levels of learning (first introduced by Bateson, 1972), Engeström (2015) described smaller and inherent steps of expansive learning processes (see also Pettersson, 2021; From et al., 2000). The first level, Learning I (LI), refers to small changes in (digital) tools. Engeström (2015) divided the second level, Learning II, which is a more complex form of development, into two forms: Learning IIa (LIIa) and Learning IIb (LIIb). LIIa refers to the implementation and use of (digital) tools to support existing practices. LIIb refers to the development of new tools and ways of working, which spread to entire working teams. Learning III (LIII) includes a more radical change at the organizational level with qualitative changes in practice, structure, goals, and organization and is what Engeström referred to as expansive learning.

Another way of addressing the strategic alignment between digitalization and key practices within organizations is with the concept of digital maturity. Henderson and Venkatraman (1993) argued that the inability to see and manage the value of IT investments is due to a lack of integration between organizations' strategies and IT strategies and that if an IT investment does not deliver sufficient benefits, it is because it does not handle IT as a strategic tool but as an administrative or technical system. This focuses on the strategic aspects of digitalization, both as a formalized policy and as change work (Luftman, 2000). Digitization in organizations generally appears to be a work of change (Tillväxtverket, 2017). Kane et al. (2015) showed that the key driver of digital transformation is not the digital technologies themselves, but rather it is a question of strategy. Strategy is less about the right technology than about reconfiguring organization and practices to take advantage of the information these technologies enable (Luftman, 2000). Digital maturity is about an organization's ability to assimilate any benefits of digitization and in a way, offers a model for identifying the extent to which digitization at a strategic level is integrated with other business development (Kane et al., 2015). The model for digital maturity is intended to help clarify the sociotechnical context that characterizes organizations' digitization work (Tillväxtverket, 2017).

Meanwhile, research on leadership in organizations has increased dramatically (Dinh et al., 2014; Northouse, 2019). The different approaches to

leadership can be broadly categorized as either a specialized role (i.e., a school leader) or an influence process that occurs naturally within a social system and is diffused among members (Yukl 2002, 2013). In recent years, most definitions of leadership have involved a process of social influence (Yukl, 2013). From this perspective, the essence of leadership in organizations is, according to Yukl (2013), "influencing and facilitating individual and collective efforts to accomplish shared objectives" (p. 19). Thus, according to Yukl, leaders can improve the performance of a team or organization by influencing the processes that determine performance.

In this study, we agreed with these ideas and considered leadership for digitalization in school as a social process or pattern of relationships rather than as a specialized role in school (cf. Vennebo, 2016). This also means that leadership was referred to as a process driven by several actors (school leaders, principals, ICT leaders, educational experts, head teachers with responsibility for digitalization, etc.). We focused, rather than on specific roles, on how participants understand the importance of specific behaviors in a group when it comes to leading for digitalization in schools. This line of thought was concretized by Yukl (2013) in four metacategories "used to influence the performance of a team, work, unit, or organization" (p. 68). Yukl (2013) described the objective of these as follows:

> **Task-oriented:** to accomplish work in an efficient and reliable way
> **Relations-oriented**: to increase the quality of human resources and relations, which is sometimes called "human capital"
> **Change-oriented**: to increase innovation, collective learning, and adaption to the external environment
> **External:** to acquire necessary information and resources, and to promote and defend the interests of the team or organization (p. 68)

In this study, these metacategories were used to identify the patterns of leadership that are important for leading digital school development.

3 DESIGN AND METHODS

A growing body of initiatives aims to connect school improvement with external actors, such as universities, by means of networks and collaborative partnerships of different kinds (Chapman et al., 2016; Day et al., 2016). Research has shown that such collaboration might lead to meaningful changes in teaching and learning processes in schools (Ainscow, 2012). Literature on initial teacher education, professional development for teachers, and educational research has also acknowledged the power of school–academia partnerships to improve practices and results for students (Day & Smethem, 2010). However, only a limited amount of research has investigated how such partnerships and collaboration form or how they stem from strategic leadership (e.g., Murphy, 2017).

Furthermore, research has shown that initiatives and efforts for school development should be sensitive to the contexts and local conditions of schools (Adolfsson & Alvunger, 2017; Hopkins et al., 2014). Shanks (2020) found that "if

teachers or other professionals were not keen or passionate about the project then it was much harder for the project to be successful" and that a "clearly defined aim and meaning is essential for having people to set aside time and effort" (p. 11). Digitalization might be complicated by the fact that educational technology is often adopted in short-term, temporary projects (Shanks, 2020) and by the previously discussed difficulties schools have in assessing or predicting their needs associated with the digitalization of specific local practices given the lack of existing tools to articulate those needs. This has made it difficult to study digitalization and school development in a complementary and symmetrical way.

In 2019, the Swedish government commissioned a national pilot project (Utveckling [Development], Lärande [Learning], Forskning [Research]) with the aim of establishing sustainable collaboration models between academia and schools/the school system. The project underlines a dimension of school development and research that uses a complementary and symmetrical approach by supporting strong and sustainable relationships between practitioners and researchers. The project is expected to contribute to the research base of the school system, and its research will build on equal contributions from researchers and schools. An important principle of the project is the complementary and symmetrical formulation of the research and development needs, making the project relevant for both research and practice.

3.1 Method and Instrument

To handle the difficulties in studying digitalization and school development in a complementary and symmetrical way, a quantitative instrument was developed at the Department of Education in autumn 2019 and spring 2020 (Siljebo, 2020; Siljebo et al., 2021). The development procedure followed an item–response modeling approach (Wilson, 2005). The items were designed in a fixed-response format (Wilson, 2005), and the responses used a Likert-type scale ranging from 1 (*not relevant*) to 5 (*absolutely essential*). The respondents were asked to rate the importance of (a) levels of digitalization (based on the theoretical foundations found in Bateson, 1972, and Engeström, 2015), (b) organizational digital maturity (based on the model developed by Kane et al., 2015), and (c) notions of leadership (based on the survey developed by Yukl, 2013). All statements were formulated to measure what respondents assess as important, not what they themselves actually do in their daily practices. A series of background questions of relevance for the specific schools are also asked. The instrument is available online as a self-administered questionnaire.

The first construct, levels of digitalization, consisted of three dimensions: LIIa (use of digital technologies for supporting daily practices), LIIb (how the use of digital technology has changed daily practices), and LIII (how the use of digital technology has changed the way organizations work, communicate, and operate). Each dimension is measured with six statements.

The second construct, digital maturity, consists of seven dimensions: strategy, goals, leadership, organizational culture, competence, integration, and scope (cf. Tillväxtverket, 2017). All dimensions are assessed relative to three levels of maturity: conscious organizations, adaptive organizations, and dedicated organizations.

The third construct, notions of leadership, is measured in four metacategories: task-oriented behaviors, relations-oriented behaviors, change-oriented behaviors, and external leadership behaviors (Yukl, 2013). The four metacategories consist of 17 specific component behaviors, such as clarifying, supporting, advocating change, and external monitoring. Thus, this part of the survey consists of 49 statements, all modified to address the current state of leadership at the respondent's workplace. In this study, the survey was distributed to all school leaders in one municipality in the northern Sweden (N = 44, with a response rate of 93%), since their work roles may include insights on many different activities in schools. The total number of school leaders in municipalities in this region is low. We considered this factor in the analysis and formulation of possible inferences from the data. The primary intended use of the data collected using the instrument in this study was as a tool for mapping rather than explaining, with careful considerations of sample size in the given empirical context. The instrument was, therefore, used primarily for mapping the respondents' answers, and the statistics used were nonparametric and concerned the frequency/distribution in addition to the mean and standard deviation.

The respondent group included active school leaders in preschool classes and compulsory schools (Grades 1–9) within a single municipality. Most of the respondents were aged 41–60 years (66%) and were women (75%). Most (54.5%) had more than 5 years of experience working as school leaders, and 79% worked in schools with 25–49 employees. In a self-assessment question, 22% believed that they were usually among the first to try new digital technologies, 56% indicated that they started using digital technologies at the same time as their colleagues, and 22% estimated that they started later than the majority of their colleagues.

4 RESULTS

In this section, we present our results according to the three overall areas: (a) levels of digitalization, (b) organizational digital maturity, and (c) notions of leadership.

4.1 Levels of Digitalization

The levels of digitalization construct has three levels: LIIa, how respondents use digital technologies in their daily work; LIIb, how the use has changed their daily practices; and LIII, how the use has changed the way they work, communicate, and operate within the organization. The questions concerned to what degree the use

of digital technologies has resulted in new ways of organizing and talking about daily practice (Table 1).

Table 1. LIIa: The Use of Digital Technologies in Daily Work

I use digital technologies	*N*	Min.	Max.	*M*	*SD*
To plan tasks	41	1	5	3.88	1.077
To carry out tasks	41	1	5	4.02	1.084
For documentation	41	1	5	4.34	0.883
To communicate	41	1	5	4.24	0.830
To search for information	41	1	5	4.46	0.840
Valid *N* (listwise)	41				

School leaders rated elements of the first level (LIIa), the implementation and use of digital technologies in their daily work, highly. This level of digitalization is characterized by simple stages of digital school development, including the use of digital tools to support existing practices at an individual level.

Table 2. LIIb: How the Use of Digital Technologies has Changed Daily Practices

Digital technologies have changed	*N*	Min.	Max.	*M*	*SD*
How I carry out my tasks	41	1	5	3.76	1.019
How I plan my work tasks	41	1	5	3.71	0.981
How I developed new tasks	41	1	5	3.61	1.159
The way I think about my work tasks	41	1	5	3.37	1.067
The way I talk about my tasks	41	1	5	3.20	1.054
Have led to collegial discussions about my work tasks	41	1	5	3.17	1.202
Valid *N* (listwise)	41				

Compared to the first level, school leaders assigned lower scores to elements of the second level (LIIb), to what extent the implementation and use of digital technologies have changed work tasks. These changes relate to how tasks are conducted at an individual level (the first statements) and are less about influences on the collective level (Table 2).

Table 3. LIII: How the Use of Digital Technologies Has Changed the Way Organizations Work, Communicate, and Operate

In this school,	*N*	Min.	Max.	*M*	*SD*
New digital working methods are an important part of everyday life	41	1	5	3.59	1.140
We collaborate on issues of digitization	41	1	5	3.34	0.965
There is a culture that encourages development	41	1	5	3,71	0.955
Digital tools have contributed to new ways of working that have spread throughout the school's practices	41	1	5	3.56	1.050
Digital tools enable us to achieve goals and visions that contribute to school development	41	1	5	3.63	0.942
The use of digital tools has made us talk about school practices in other ways	41	1	5	3.10	0.995
The use of digital tools has led us to organize our daily operations in different ways	41	1	5	3.00	1.072
Valid *N* (listwise)	41				

School leaders assigned the lowest scores to elements of the third level (LIII), which concern how the use of digital technologies has changed the way they work, communicate, and operate within the school organization. Table 3 shows a similarity in patterns between and within each level. Individual aspects of change and development scored the highest, whereas collegial aspects of change scored lower. This shows that school organizations in this municipality operated mostly on LIIa and LIIb, meaning digital technology was used primarily to facilitate daily routines at the individual level and not as a means for school development.

4.2 Digital Maturity

According to the participating school leaders, the schools they worked in had relatively high degrees of digital maturity regarding organizational culture, and interest in new technology was encouraged (44%) or the staff were permissive of new technology (46%). Only 10% of the respondents identified with the statement "With us, we are hesitant about new technology." There was a similar pattern in the answers regarding the propensity to take risks in relation to new technology,

with 68% of the respondents indicating that there was either encouragement of or a permissive climate for risk-taking. On an individual level, there seemed to be a rather high level of digital competence: 81% of the school management teams and 72% of the employees estimated their digital competence was high or sufficient.

At the same time, there seemed to be a less-developed integration of ICT coordinators and daily school practices. Overall, 7% of the respondents stated that ICT coordinators were part of the school management team, 37% did not take a position, and 10% indicated that ICT coordinators and daily school practices cooperated fully at all levels. However, 56% stated that there was cooperation to some extent, whereas 15% indicated that ICT coordinators and daily school practices worked separately.

Perceptions of the schools' digital maturity relative to their strategies and goals for ICT and school development were somewhat different, especially regarding clarity, transparency, and anchoring among the staff. The answers regarding strategies for ICT and school development were distributed as shown in Figure 1.

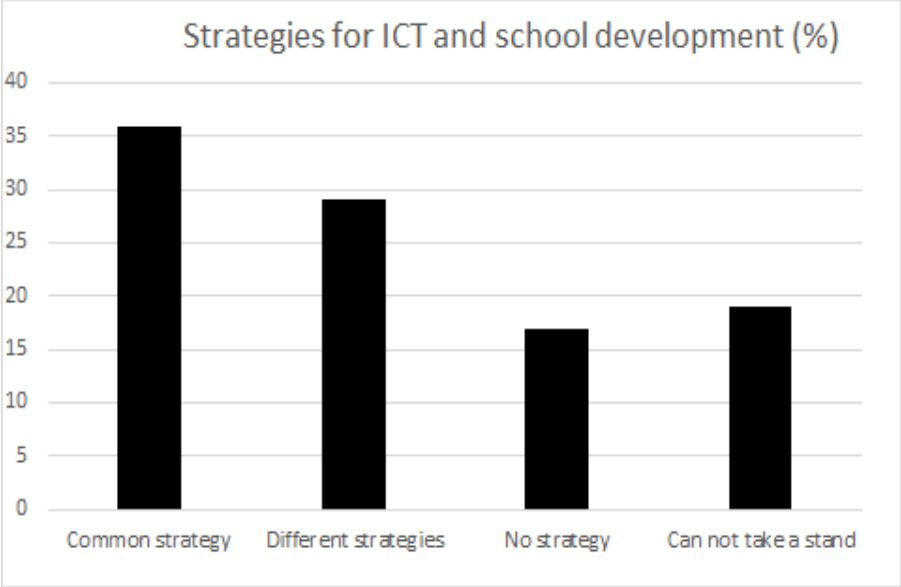

Figure 1. Frequency (%) of the Respondents' Answers

The fact that about one third (36%) of the respondents stated there was a common strategy for ICT and school development, 29% stated there were different strategies, 17% indicated there was no strategy, and 19% did not take a position is hard to explain. However, the variety of answers is, in itself, a clear indication that any existing strategy had not spread or become anchored in the entire organization. Responses to the question on goals for how ICT should support school development were similar, with 15% stating that there were clear goals, 63% reporting unclear goals, and 12% indicating a lack of goals; the remaining10% did not take a position. Again, this clearly indicates that any existing goals for how ICT

should support school development were neither spread nor anchored in the entire organization.

In summary, regarding digital maturity, the school organizations' degrees of digital maturity were good in many respects, though there was a fragmented picture regarding strategies and common goals for digitalization relative to school development.

4.3 Leadership Behaviors

The leadership construct was measured in four metacategories: task-oriented behaviors, relations-oriented behaviors, change-oriented behaviors, and external leadership behaviors. The results included some interesting findings. According to the school leaders, task-oriented and relations-oriented leadership were the most important behaviors for leading digitalization in schools. The task-oriented behaviors were mainly about clarifying (explains priorities for different objectives) and planning (determines how to schedule and coordinate activities to use people and resources efficiently), whereas the relations-oriented behaviors included mainly supporting (provides support and encouragement during difficult or stressful tasks and expresses confidence that members could successfully complete them) and empowering (involves members in making important work-related decisions and considers their suggestions and concerns).

Most change-oriented leadership behaviors were considered important but not as important as the other two types of behaviors. The highest ranked categories within change-oriented leadership behaviors were envisioning change (communicates a clear, appealing vision of what could be accomplished; links the vision to member values and ideals) and encouraging innovation (encourages innovative thinking and new approaches for solving problems). External leadership behaviors, ranked the least important metacategory, were mainly about representing (promotes and defends the reputation of the work unit or organization).

To sum up the results, the three constructs—(a) levels of digitalization, (b) organizational digital maturity, and (c) notions of leadership—indicated some kind of inner logic that characterized the whole picture: In the pattern of relationships that constitutes school leadership in the municipality, digitalization in school was not viewed as an obvious part of school development, there was no consensus on common goals for how digitalization should benefit school development or an integrated strategy for this, and digital technology was primarily used to facilitate daily routines at the individual level and not as a means for school development.

5 DISCUSSION

In this study, we used a quantitative instrument to generate findings and development needs relevant to both research and school development. Using this

instrument, we sought answers on how digitalization is enacted in schools and what research and development needs can be identified for research and practice.

This study showed some interesting findings on how school leaders experience the enactment of digitalization in schools. At first, the school organizations' degrees of digital maturity were good in many respects, such as digital competence, organizational culture, and integration between ICT coordinators and other activities, though there was a fragmented picture regarding strategies and common goals for digitalization. This correlates with the fact that digital technology was used primarily to facilitate administrative routines and for information retrieval and communication; that is, digital technology was used to facilitate daily routines at the individual level and used to a lesser extent to develop the school as a whole (cf. From et al., 2020; Islam & Grönlund 2016; Lund & Aagaard, 2020). This can also be referred to as lower levels of learning or development and digitalization, often referred to as the large-scale infusion of digital technologies—hardware, software, and digital infrastructure—into school systems (cf. Håkansson-Lindqvist, 2015; Jewitt et al., 2007).

Researchers have suggested that good leadership conditions are a key element of a school's successful digitalization (Dexter, 2008; Liu et al., 2013; Sterrett & Richardson, 2020). When it comes to leading digitalization in schools, this study shows that aspects of task-oriented and relations-oriented leadership behaviors appeared to be more prominent than change-oriented behaviors. Accordingly, it could be argued that digitalization in schools was not viewed as an obvious part of school development and there was no consensus on strategies and common goals for how digitalization should benefit school development. In other words, digitalization was associated with neither the inherent power to change how people act and think about schooling (cf. Blau & Shamir-Inbal, 2017; Lund & Aagaard, 2020; Siljebo, 2020) nor the processes of systematic, behavioral, and epistemic change (Leino Lidell, 2020; Pettersson, 2021; Shanks, 2020).

Day et al. (2016) argued that "schools' abilities to improve and sustain effectiveness over the long term are not primarily the result of the principals' leadership style but of their understanding and diagnosis of the school's needs" (p. 222). In the field of digitalization, there has been difficulty in identifying and expressing needs, for instance, in relation to the somewhat fuzzy concepts used (cf. Siljebo, 2020). The possibilities for the results of the instrument to be used as a basis for school development can be discussed as can the possibilities for the instrument to be used as an approach for research, with the intention to provide a scientific basis for school development. As suggested in previous research, initiatives and efforts on school development should be sensitive to the contexts and local conditions of each school (see also Adolfsson & Alvunger, 2017; Hopkins et al., 2014) to enable meaningful changes in the teaching and learning processes in those schools (Ainscow, 2012). At the same time, research has highlighted the difficulties in conducting research and development projects when the current practices have no existing tools to identify and formulate developmental needs. As this study

indicates, the instrument could be used to build a shared understanding of how collaboration between academia and practice could be built on strategic decisions about content for collaboration related to the digitalization of and strategic leadership in schools. In this case, for example, the results show that digitalization was implemented and used primarily on an individual level. To achieve a more complex view of digitalization as school development, there is a need for a collegial approach and mindset to address leadership and organizational preconditions for digitalization (cf. Lund & Aagard, 2020; Pettersson, 2021; Siljebo, 2020). Thus, to achieve systematic school development within the region, encouraging leadership and organizations to focuses on strategy and common goals appears to be a high priority.

To conclude, based on the results of this study, the questionnaire provides both scientifically relevant data and data for school development (i.e., data regarding things that the school has not been aware of or has been unable to formulate). To achieve systematic school development within the municipality, the above-mentioned approach may be more relevant to address than, for instance, digital competence on an individual level. However, in relation to the complementary and symmetrical approach of this research and development approach, this is a path choice and a decision that the schools must make; it is not something that research can point out. However, this research provides a well-informed basis for schools to make this decision. Furthermore, the results also enable a shared understanding between school and academia and point out possible content for joint discussions and continued and in-depth collaborations that can benefit them both.

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THROUGH THE LENS OF SITUATED LEARNING AND LEVELS OF SCALE: THEORIZING DEVELOPMENT OF REMOTE TEACHING AND THE ROLE OF ON-SITE FACILITATORS

Josef Siljebo[a] and Fanny Pettersson[a]

ABSTRACT

The aim of this paper is to contribute to theoretical development within a field otherwise mostly characterized by empirical contributions, with a primary focus on the practice and perspectives of on-site facilitators. To theoretically understand the development and use of remote teaching, we focus on the interaction between systems of human activity in education and the relationships enacted in practice through their interaction, with a focus on on-site facilitators' work. In doing so, we use the concept levels of scale in situated learning. Through levels of scale, we conceptualize the historical development of remote teaching as the large scale and the remote learning environment as the small scale. Integrating the levels of scale and tracing the historical development of remote teaching in Sweden into the enactments taking place in a classroom of modern language teaching is the concrete theoretical development that our aim entails.

Keywords: digitalization, distance, education, on-site facilitator, online, remote, school, situated cognition

[a] Umeå University, Sweden.

1 INTRODUCTION

Within the field of remote teaching in educational research is an emergent call for theoretical foundations. The ambition is that such foundations can contribute to the theoretical development of knowledge in a field characterized by empirical contributions (Barbour, 2019; Borup & Stevens, 2016; Borup et al., 2014; Lokey-Vega et al., 2018; Pulham & Graham, 2018). Moreover, empirical and theoretical contributions on learning environments within remote, distance, and virtual teaching have primarily focused on the perspectives of remote teachers. The perspectives of on-site facilitators, as the grownup in the physical room (Cavanaugh et al., 2009; De la Varre et al., 2011; Hendrix & Degner, 2016), can reasonably contribute to productive knowledge for theoretical development given their role in remote teaching learning environments. Our aim in this paper is to contribute to theoretical development within the field of remote teaching and particularly through the perspectives of on-site facilitators.

Our object of study within the field is remote modern language teaching in compulsory schools in Sweden. Remote teaching in a Swedish context as it is regulated in the Swedish school law entails that the teaching takes place synchronously, pupils are in a physical classroom, a teacher is present at a distance via digital technologies, and an on-site facilitator is present in the same room as the pupils (Siljebo, 2020). The way remote teaching is implemented in compulsory schools in Sweden is, we argue, a rather unique remote teaching practice combining digital and physical places synchronously shared between teachers, pupils, and on-site facilitators (Billmayer et al., 2020).

To theoretically develop the knowledge of remote teaching, we will particularly focus on the interaction between systems of human activity in education and the relationships enacted in practice through their interaction. This we will encapsulate with the concept levels of scale (cf. Wilson & Myers, 2000). We illustrate two levels of scale and their interaction in this article: on the one hand, a small-scale case of remote modern language teaching in a classroom and the relationships enacted between teachers, pupils, and on-site facilitators; and, on the other hand, the large-scale historical development of remote teaching in Sweden. Educational research on the theoretical foundations of learning environments has previously focused, for example, on situated and distributed cognition and learning (Jonassen & Land, 2000; 2012), where the historical development of learning environments through levels of scale is assumed but not often in focus. Our theoretical contribution is the focus on the levels of scale as such, where the learning environment of our case of remote teaching is situated in, and integrates with, history.

Our study rests on qualitative and quantitative data gathered from on-site facilitators, pupils, and teachers from a school in northern Sweden during the school year 2020–2021. The school was teaching a modern language remotely. Using these data, we constructed a vignette of a typical day of remote teaching (i.e., from the

perspective of an on-site facilitator) in the school to show the interaction between levels of scale and the concrete relationships enacted in remote teaching practice through this interaction.

In the coming text, we will elaborate on the levels of scale in situated learning environments. This is followed by our methodology, which the then following small-scale vignette is the result of. After this we will discuss the situated interaction of remote teaching as a learning environment. Finally, we will conclude with reflections on educational research on remote teaching.

2 THEORETICAL POSITION

In this paper, we depart from an understanding of learning environments where different levels of scale of human activity interact, and where learning is situated in context that in different ways influence what happens, for example, in remote teaching classrooms. This theoretical thrust can be understood in light of a historical development away from individual perspectives on cognition and learning primarily emphasizing behavior and cognitive processing, which largely ignored the importance and interaction of context levels on learning (Jonassen & Land, 2000; 2012; Hodkinson & Hodkinson, 2004). For example, levels of scale within a Community of Practice can be the interaction of interdependent systems, where a learning community interacts with, for example, the contexts of the larger society and professionalization (Barab & Duffy, 2000; 2012; see also e.g. Hodkinson & Hodkinson, 2004); levels of scale within Activity Theory can be the interaction between the cultural-historical contexts and the situated learning activity (Jonassen, 2000); levels of scale within Complexity Theory can be the interaction between linearity and nonlinearity of a learning environment as an open system (Jacobson & Kapur, 2012). Wilson and Myers (2000) even go so far as to suggest that the stand-out characteristic of context situated positions of cognition and learning is that they

> can best be understood as a dynamic interplay between individual and social levels. Focus on one level, while assuming constancy or predictability at the other, is bound to at least partly misinterpret the situation (Wilson & Myers, 2000, p. 71).

Similarly, Green and Dixon (2008) put forth that one main focus of research on situated learning ought to be the continued exploration of the relationships between levels of scale. Moreover, the researchers held that

> [w]ithout studying multiple levels, the information about situated learning may be too tightly focused on what occurs in the moment and may ignore how moments are historically situated and intertextually related (Green & Dixon, 2008, p. 9).

Our take on levels of scale is thus that the concept generally frames a dialectical interaction of learning environments (i.e. classrooms) as situated in, for example, historical, cultural, and social context.

Our theoretical contribution via the concept levels of scale is an integration of historical development into a remote teaching classroom. By small scale we refer to the learning environment of one case of modern language remote teaching, and by large scale we refer to the historical development of the remote teaching context in Sweden. Theoretically developing remote teaching via levels of scale in this way focuses on integrating the small scale with the large scale, and vice versa, and through this understand their interaction (cf. Green & Dixon, 2008). Through this, we also hold that it may be possible to understand the on-site facilitator role.

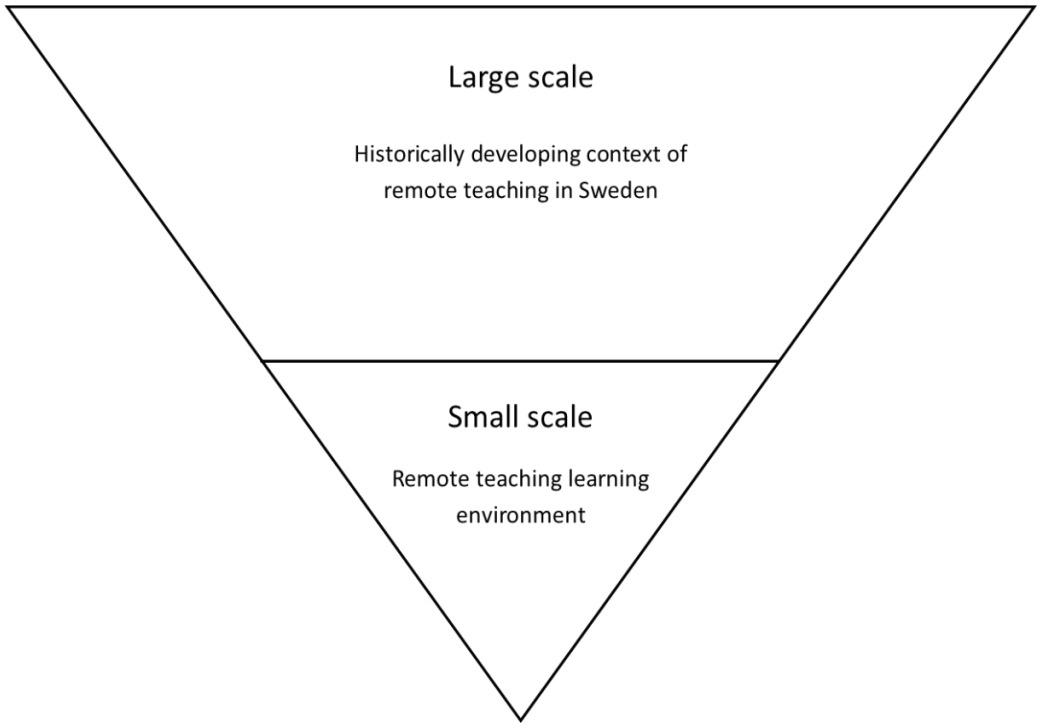

Figure 1. Levels of Scale of Remote Teaching Practice

In Figure 1, we illustrate the levels of scale as two parts of a whole to make a point about the assumption that the levels are not separate but part of an interacting and integrated whole. Moreover, the figure also illustrates the size of the scales as large and small, respectively. In the smallest scale, at the bottom point of the triangle, there are fewer people, as few as one; at the top there are more, as many as society. However, where the line between the levels run is arbitrary in relation to the object of study. At the general level, this can be understood as a line between, on the one hand, context and, on the other, phenomenon (i.e., remote teaching) and delineations made regarding empirical investigations.

In the next section, we introduce the description of large scale with the international development of remote teaching as part of a digitalized school practice and successively narrow it down via the use of remote teaching in rural Swedish education as a mediator between urbanization, equal access and school legislation. Then we finish with the regional and municipal context of our case study with its unique challenges, guidelines, and directives.

3 LARGE SCALE: HISTORICAL DEVELOPMENT OF REMOTE TEACHING CONTEXT

In international research, distance or remote teaching is nothing new. The first documented trials date back to 1910 in the United States and involved so-called instructional films (Clark, 2003, 2013). In the 1920s, radio was used, which was then replaced by telephone systems and educational television in the 1930s. The first online teaching trials were conducted in the early 1990s when the first virtual schools were founded in the United States (Barbour, 2018). In the 2000s, digital technologies became more advanced (and affordable), which made it possible to extend the provision of teaching to pupils in rural areas. In 2016–2017, about 8,000,000 American pupils participated in remote teaching courses (Barbour, 2018, 2019). The same development can be seen in Canada, Australia, and New Zealand (for a more detailed account of remote and distance teaching, see Clark, 2003, 2007, 2013).

In Sweden, the principle of vicinity has been prevalent in the context of K–12 education for a long time. This history has led to the prevailing perception that schools ought to be physically located in the vicinities where families live (Pettersson, 2017). During the increased urbanization in the 1970s, the principle became more difficult to uphold, and school closures in sparsely populated areas increased (Thelin & Solstad, 2005). Less pupils in school and higher costs for school facilities and staff made it economically difficult for small and rural schools to offer teachers full-time employment (Fischer & Lundberg, 2000; Pettersson, 2017). Moreover, in 2011, the implementation of a certification of teachers' qualifications and a school law requiring municipalities to employ certified teachers entailed that schools were suddenly missing certified teachers. This added to the already difficult situation of recruiting teachers. Economic difficulties and the lack of workforce resulted in the restructuring or closure of certain subjects (if not the entire school), such as modern language teaching (Pettersson, 2017). Together with the fact that the processes of urbanization lead to difficulties providing education in rural areas, equal access to education is a precondition for social and economic development for individuals and (rural) society (Pettersson, 2017; see also Witten et al., 2001). Moreover, equal access to education is a cornerstone of education in Sweden.

Years of urbanization have led to problems for rural schools in meeting the requirements of young people's equal right to education and possibilities to learn and develop regardless of where you live. Thus, in 2015, approximately 25 years after the first virtual schools in the United States, remote teaching was allowed in compulsory schools in Sweden, but with limitations to specific subjects (modern languages and mother tongue tuition; see Pettersson & Hjelm, 2020) and when conditions are such that the recruitment of certified teachers willing to work in the physical school is not possible. In July 2021, the regulation of remote teaching was extended to include all theoretical subjects. Remote teaching, as constituted in the

Swedish school law, dictates that (a) pupils should be located in school or the physical classroom, (b) there is an on-site facilitator present with the pupils, and (c) the teaching is conducted via digital technologies synchronously.[1] This regulation of remote teaching in the Swedish school law meant that the pool of certified teachers was expanded from the small population willing to move to sparsely populated areas, to include those willing to work remotely from home or other places (e.g., Billmayer et al., 2020). As such, it enabled small school organizations to organize teaching in subjects that could otherwise not be provided because of the lack of certified teachers (Pettersson & Olofsson, 2019; Siljebo, 2020). These small school organizations could now recruit certified teachers who work remotely.

However, the regulation and implementation of remote teaching also meant educational change—that is, a transition from traditional, single-cell (brick-and-mortar) classrooms, where teachers work in relative isolation, to new models of education where teaching is a collaborative task (Borup, Graham et al., 2014; Davis et al., 2018; From et al., 2020). The evolution of school structures from physical learning environments into flexible and blended learning environments led to, for example, new work roles and municipal partnerships. One new role in Swedish schools was the on-site facilitator (Hendrix & Degner, 2016), forming a new mediating role in the learning environments. In international research, the on-site work that facilitators do—mainly in North America—has been found to include the responsibility of nurturing and facilitating the dynamic of communication and learning between the teacher and pupils, traditionally the responsibility of a certified teacher (Borup, 2018; Borup, Graham et al., 2014; Freidhoff, et al., 2015; Hannum et al., 2008; Harms et al., 2006).

The same development can be seen in the regional context of north-western Sweden, where our empirical inquiry was located. In this geographic context, several municipalities are facing the challenges of recruiting certified teachers and providing pupils with equal access to education made more difficult because of urbanization. In a collaborative effort, several municipal organizers of compulsory education jointly recruited six remote teachers in a modern language and local on-site facilitators in each school.

At the beginning of the implementation of remote teaching during the autumn semester of 2020, the municipalities encapsulated their expectations on the on-site facilitator role in a document containing guidelines and directives. This document divides the labor and responsibilities of key roles in organizing and executing remote teaching. The guidelines and directives regarding the on-site facilitators' responsibility are described as follows: (a) have a key function during teaching and be the link between the teacher and pupil at the school receiving teaching (from the remote teacher); (b) be available during ongoing remote teaching; (c) create opportunities for and make sure pupils and the teacher have a

[1] The principal organizers responsible for upholding the school law in Sweden are municipal local authorities. There are also private organizers, both profit and non-profit organizations.

calm and stimulating learning environment; (d) contribute to the support of technology in classrooms and support teachers regarding technology; (e) distribute and collect physical learning resources and support digital learning resources; (f) help the teacher with reporting attendance; (g) turn to the principal when needed; and (h) ensure that the guidelines and directives are followed, which would lead to a quality check of remote teaching.

From these guidelines and directives, even though unspecific regarding practicalities, it seems that the expectation on the on-site facilitator role is one of key importance for remote teaching. International research on the on-site facilitator role and responsibilities also holds the role as key—for example, in terms of nurturing, monitoring, and motivating, as well as encouraging communication in relation to learners, classroom management, technological support, and instruction and instructional design (Borup, 2018; Borup, Graham et al., 2014; De la Varre et al., 2011). These responsibilities would be the teacher's when they are teaching in the classroom. However, research on the role and meaning of the on-site facilitator is scarce in both Swedish and international research (Borup, 2018). As put forth by Hendrix and Degner (2016), "research has only begun to explore their role in online learning" (p. 134).

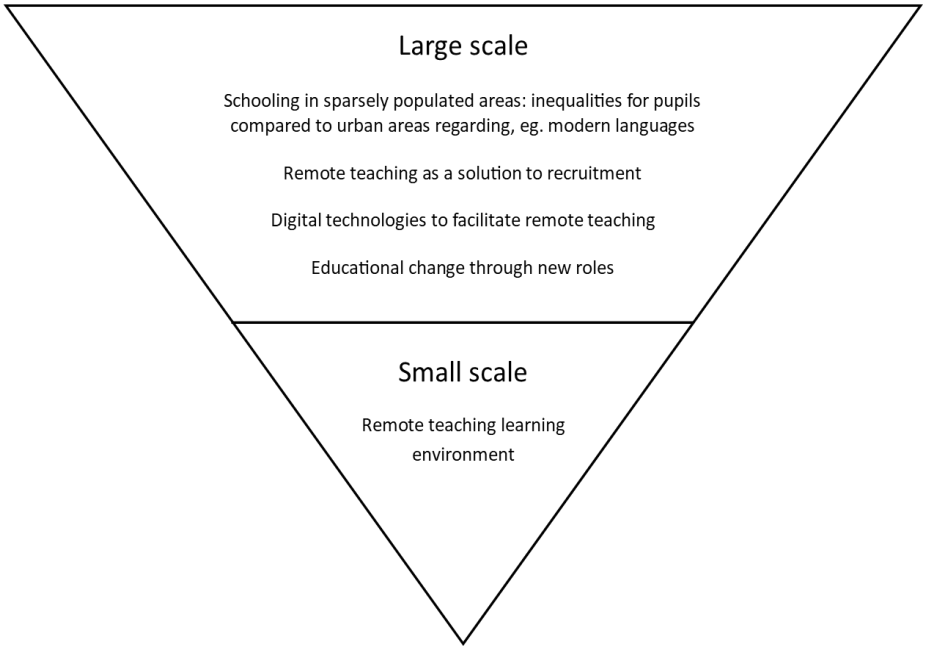

Figure 2. Levels of Scale of Remote Teaching Practice and Large-Scale Historical Developments

In Figure 2, we have added to the triangle the cardinal, large-scale points of the historical development of the remote teaching phenomenon in the Swedish context. These points include the following: the general digitalization taking place in society and in education through digital technologies; the challenges of providing equal education to pupils living in sparsely populated areas; the challenges of recruiting

certified teachers who want to move to sparsely populated areas; the solution of these challenges through aforementioned digitalization in education; and the consequent educational change regarding traditional roles—specifically the new on-site facilitator role—in synchronous learning environments, regulated by national legislation, and local guidelines and directives.

4 CASE STUDY APPROACH

Regarding our aim in this paper relating to the on-site facilitator role in synchronous remote teaching, an exploratory case study approach was chosen. This was deemed appropriate given that relatively few studies have focused on this phenomenon. Our aim was to explore the issue from the perspective of on-site facilitators, in the context where they work, and we wanted to contribute to the field of remote teaching in educational research. Case study research is a well-known methodological tradition that has been used for similar aims in educational research (e.g., Simons, 1996; Stake, 1995; Yin, 2009).

In the case study research tradition, a social unit (e.g., a classroom) is studied in relation to context and phenomenon: There is a contemporary phenomenon where the delineation is made so that the phenomenon can be studied in its context. Yin (2009) described this as "a case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 18). With this framing, the phenomenon we are studying is remote teaching in the context of education in sparsely populated areas.

A case can be delineated as a social unit in multiple ways: in terms of size, such as an individual, a role, a small group, an organization, a community, a nation; in terms of geographical space; and/or in terms of temporally limited events, processes, or simply periods of time (Miles & Huberman, 1994). We have delineated our case as follows: one case of teaching one modern language, in one school, during the school year (two semesters) 2020–2021. This case we bring forward in a small-scale *vignette* (cf. Stake, 1995), which we have written in the narrative from the perspective of the on-site facilitators' daily work. As discussed by Skilling and Stylianides (2019), to capture content for a vignette, researchers have used life events, conceptual frameworks, personal and professional experiences or historical notes, that are transformed into stories (cf. Bradbury-Jones et al., 2014; Paddam et al., 2010; Veal, 2002).

To capture the content for the vignette, our sources of data consist of interviews, observations, surveys and mobile application logs. Our informants are on-site facilitators, teachers and pupils of the case. With multiple sources of data and informants, our aim was to strengthen the trustworthiness of the case study and vignette. More information about data and informants is given under the following four headlines.

4.1 Interviews with On-Site Facilitators

The on-site facilitators were together responsible for approximately 194 pupils in modern language remote teaching in the school, with classes from Grade 6 to 9. An in-depth interview was held with the two on-site facilitators of the case at the end of the first semester (December 2020). One researcher conducted the interview digitally via Zoom and via an exploratory approach (Kvale & Brinkmann, 2009). The interview lasted 62 minutes and was recorded and transcribed. The on-site facilitators gave their informed consent to participate in the study and were assured that the eventual use of the data from the interview would be anonymized.

4.2 Teacher Team Meetings

The data from the teachers consist of information from weekly teacher team meetings held by two remote teaching coordinators and six remote teachers in modern languages located in the specific rural geographical area of the case. One researcher conducted participating observations once a month from August 2020 to June 2021. In the remaining meetings, remote teaching coordinators took notes and distributed them digitally to the teacher team, including the researchers. Team meetings included daily topics posted by teachers and coordinators, including aspects of what works and what does not work, and the technical, pedagogical, relational, and organizational issues influencing the teaching practice. Moreover, they included informal discussions related to the remote teaching and learning environment.

4.3 Logs on Written Communication between Teacher and On-Site Facilitator

Logs were received from one of the on-site facilitators, with permission from the teacher involved in the communication. The logs are written communication (translated from Swedish to English by us) between teacher and on-site facilitator using the smartphone application WhatsApp. The communication takes place during class teaching. The communication included everyday events regarding tasks requiring collaboration during remote teaching, according to the on-site facilitator. The digital communication and use of WhatsApp was a bottom-up solution developed by teachers and on-site facilitators for supporting the collaboration between teacher and on-site facilitator during class.

4.4 Web-Based Survey

At the end of both semesters (December 2020 and May 2021), a web-based self-assessment questionnaire was, under the teachers' supervision, distributed to approximately 194 pupils (response rate approximately 92%) in Grades 6–9 (12–16 y/o), participating in remote modern language learning. The questionnaire is based

on the validated survey instrument What Is Happening in This Class (WIHIC) by Fraser et al. (1996), which addresses the psychosocial dimensions of school classrooms. The original version of WIHIC includes seven subscales, all focused on pupils' perceptions about their classroom environment. The questionnaire consisted of four open response questions and 19 closed response statements rated on a 5-point Likert-type scale (1 = *strongly disagree*; 5 = *strongly agree*). All statements measured remote teaching with a focus on the role of and interaction with the teacher, on-site facilitator, pupils, and the learning environment. The remote teachers distributed the instrument.

4.5 Portraying a vignette

Closely linked to capturing content is how the vignette is portrayed (Skilling & Stylianides, 2019). Skilling and Stylianides (2019) suggested that the vignette should be "concrete enough to approximate the reality of a situation but, on the other hand, be abstract enough to allow participants [readers] to form their own interpretations, understandings and beliefs" about the narrative (p. 545).

First, we focused on analyzing the different data sources separately. Interviews were transcribed and analyzed using a Thematic analysis method for coding and categorizing data (Bryman, 2015). This process resulted in broad themes including aspects of managing the classroom and building trust. The web-based survey was analyzed on a descriptive level including average on different statements related to classroom characteristics. Free-text answers were coded and categorized into broad themes focusing possibilities, challenges and needs expressed by students. Thereafter, to reach a higher level of abstraction, we compared analysis from different data sources where themes and appearance were compared and discussed. This process of moving between data sources and between high and low level of abstraction allowed us to portray a vignette of a typical day of work for the on-site facilitator.

5 SMALL SCALE: REMOTE LEARNING ENVIRONMENT VIGNETTE

The following vignette is our interpretation of a typical day of work for the on-site facilitators of the study. It is described from the perspective of the fictional on-site facilitator David. The vignette also contains three of the WhatsApp logs from communication between on-site facilitators and teachers (Figures 3–5).

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It is a normal day in the Valley High School in Sweden. The on-site facilitator David is preparing the classroom for the 22 ninth graders. In a few minutes, the pupils will be invited into the room. Some of them are already waiting outside the classroom. The first priority is making sure (a) the main computer is plugged in and working as it should; (b) the main computer is connected to the large display at the

head of the classroom where the pupils can see; (c) the sound is working through the external speakers so the pupils can hear clearly; (d) the microphone is working and placed so that the pupils can talk to the teacher; and (e) the internet is up and running. These are the necessities for the coming class, where the teacher will be connected from a completely different place in Sweden. It is amazing how much progress has been made during this school year, David reflects. It has not all been smooth sailing when it comes to the basic functionality. If these necessities do not work as they should (i.e., flawlessly), the pupils get very annoyed and upset. That is why preparation is so important. Moreover, the pupils were not at all enthusiastic about having remote teaching instead of regular teaching. On more than one occasion, David has had to try to keep the pupils positive and build trust in the new remote teaching praxis. However, as the trial project during the autumn and spring semesters has progressed, a working model has been fleshed out. Also, not least thanks to David, he feels the pupils are coming around to remote teaching as a new praxis. Many of the pupils realize, after all, that they could not have any modern language teaching at all without remote teaching.

For David, this way of working is quite different compared to before when he worked as a classroom assistant with a teacher in the physical room with the pupils. With the teacher teaching remotely, more responsibilities that the teacher would normally do in the classroom fall on him. David does not mind, however. It is a nice feeling to own the physical classroom, so to speak. One thing that is for sure, he feels, is that without David being there, this way of teaching would hardly be possible. The teacher is not there and cannot really do anything if the pupils misbehave or do not focus on the work!

When the computer is plugged in and working, it is time to let the pupils into the classroom. When they have settled down—and settling down is key here—the teacher, Marta, can be invited onto the big screen connected to the main computer. If they have not settled down, they will not listen, and David will have to go around and explain instructions afterwards. Once they have settled down, Marta greets the class and introduces what the pupils will do that day. When the pupils have been given instructions by Marta, they start to work on their own laptops individually or in groups, and Marta can monitor their progress on digital platforms. Shared documents between pupils and the teachers are the most common way to do this.

For David, there is much more to it, however, than just plugging in the computer and making sure pupils have settled down. After Marta has introduced the tasks of the day, David moves through the classroom, interacts with the pupils, and helps Marta monitor the work progress. This interaction can be to answer questions, help with words, check up on pupils who are quiet and may not be working, or silencing pupils who are talking. If there are pupils who are struggling or not working, for example, David sends Marta a message via an app on his smartphone notifying her (see example Figure 3). Marta can then check up on the pupil via private messages in the learning platform.

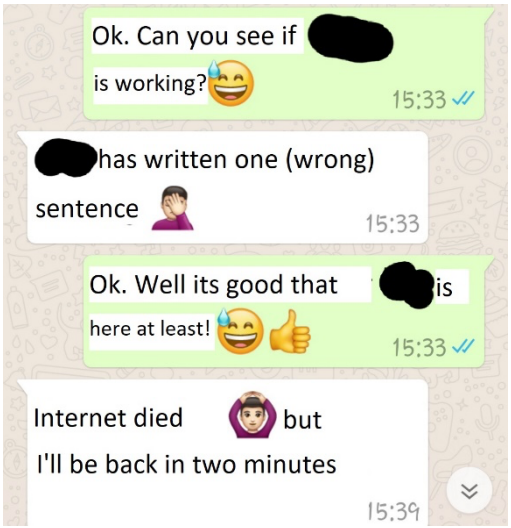

Figure 3. Translated and Anonymized WhatsApp Chat between On-Site Facilitator (Green) and Teacher (White)

David feels that if he was not there, he could hardly see how the pupils would ever pay attention to Marta. There was one incident earlier in the autumn, for example, when a small group of pupils were talking while Marta was giving instructions. However, Marta could not hear this because the microphone did not pick up on it, so she kept talking without even noticing that they were not listening. Imagine if he was not there! The pupils would just go on talking and never listen.

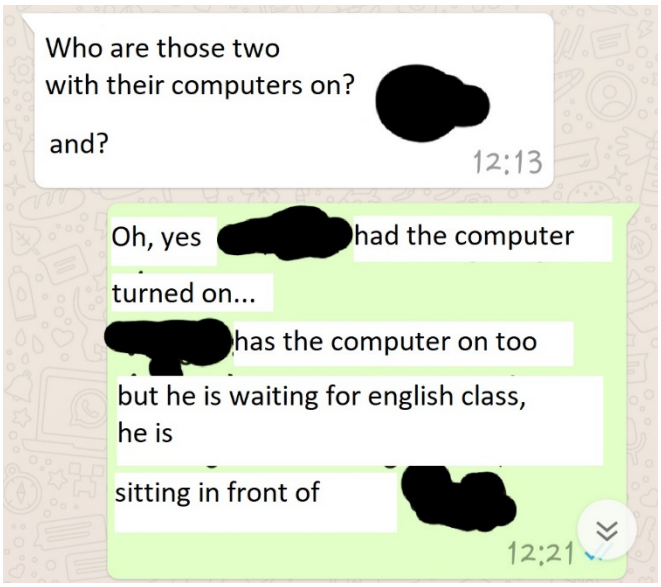

Figure 4. Translated and Anonymized WhatsApp Chat between On-Site Facilitator (Green) and Teacher (White)

Another example is when Marta cannot quite make out on her screen who are using their computers for other purposes when they should have their computers turned off (see example in Figure 4). David feels that this cannot be easy for Marta.

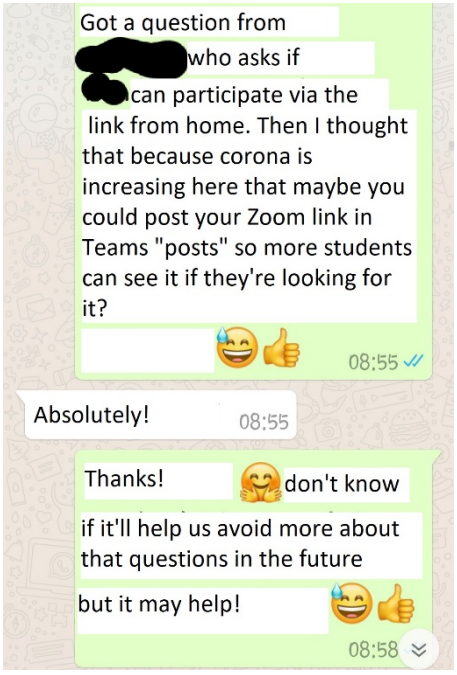

Figure 5. Translated and Anonymized WhatsApp Chat Between On-Site Facilitator (Green) and Teacher (White)

Yet another example is when a few pupils are not able to easily find a Zoom link (see example in Figure 5). David can hear them talking about this, but Marta cannot, so David feels he has to be the voice of the pupils and suggests another way of structuring the links in the learning platform.

If David truly reflects on what he is doing in the classroom, on the one hand, he must be the teacher's eyes and ears, as the teacher cannot see and hear everything. This monitoring activity relates to making sure that pupils settle down so that they can work, helping those who need help in the classroom, and noticing those pupils who are simply sitting quietly for some reason. On the other hand, David feels that he must facilitate the relationships between the pupils and Marta, as well as between the pupils and the remote teaching praxis. When this entire project began in the autumn, for example, the beginning was not easy for Marta. The pupils did not know her. After all, meeting someone remotely is different from meeting him or her in person—at least this is what David has picked up. He thinks he is a key mediating link in the relationship-building process between the teacher and pupil.

6 DISCUSSION AND CONCLUDING REMARKS

The case study involved taking an exploratory approach in investigating on-site facilitators' work in classrooms. What we found and represented in the vignette seems to center on two cardinal points. The first is collaboration with the remote teacher, which can be construed as filling in for the certified teacher in the classroom—being his or her eyes and ears (e.g., Hendrix & Degner, 2016). This is exemplified where David moves through the classroom during class and checks up

on pupils, and when Marta and David communicate via WhatsApp regarding which pupil is or is not working. This also extends to collaborating regarding the setting up of instructional materials and making sure that the class is ready to receive introductory instructions. Moreover, David helps some pupils with questions regarding the subject content, and this can be construed as extending a single teacher's instructional capacity via the collaborative relationship that remote teaching requires (Barbour & Hill, 2011). As Hendrix and Degner (2016) expressed, such an extension of duties and capacity "provides crucial support for pupils but blurs the line between facilitator and teacher" (p. 135). Situated learning emphasizes both the individual and the context by asserting that individual cognition and learning is always situated in the local context (Wilson & Myers, 2000). In our case study, we may say that the learning of teachers and on-site facilitators are situated to such a degree that remote teaching praxis not only benefits from collaboration but also requires collaboration.

The second cardinal point is building trustful relationships that facilitate learning. These relationships include relationships between pupils and the new remote teaching praxis, as well as relationships between pupils and teachers due to the new remote teaching praxis. Pupils generally feel more positively about traditional teaching than they do remote teaching. Traditional teaching, where the teacher is in the classroom, is the norm when it comes to teaching in most compulsory schools. Meanwhile, remote teaching in modern languages is the exception. With remote teaching, not only is a teacher absent from the classroom but also the risk exists that the digital technologies being used simply may not work. This may further increase pupils' (initial) resistance to the new praxis. David has to build trust in the remote teaching praxis by trying to keep pupils positive rather than negative, or not more negative than usual (see also De la Varre et al., 2011). This suggests that on-site facilitators play a central role in pupils' remote teaching experiences. Regarding building trustful relationships between pupils and teachers, David definitely feels that he does facilitate this (see also Borup, Graham et al., 2014). Whether this is the case is an interesting question. We can, however, definitely say that the traditional pupil–teacher relationship seems to be extended to a pupil–on-site facilitator–teacher relationship (also described as the "teacher-pupil link" [Borup, Graham et al., 2014]), and this is a qualitative change that plays out differently in each learning environment enacted through remote teaching. From the context situated position, we may say that the learning environments in remote teaching praxis are built on a qualitatively new relational foundation than traditional teaching. The remote teaching praxis is situated in sets of three interacting individuals rather than two, which brings to the front, for example, the new relational competence required via digital mediation (Wiklund-Engblom, 2018) in this praxis. In Figure 6, we have integrated the findings of our empirical study into the illustration of levels of scale.

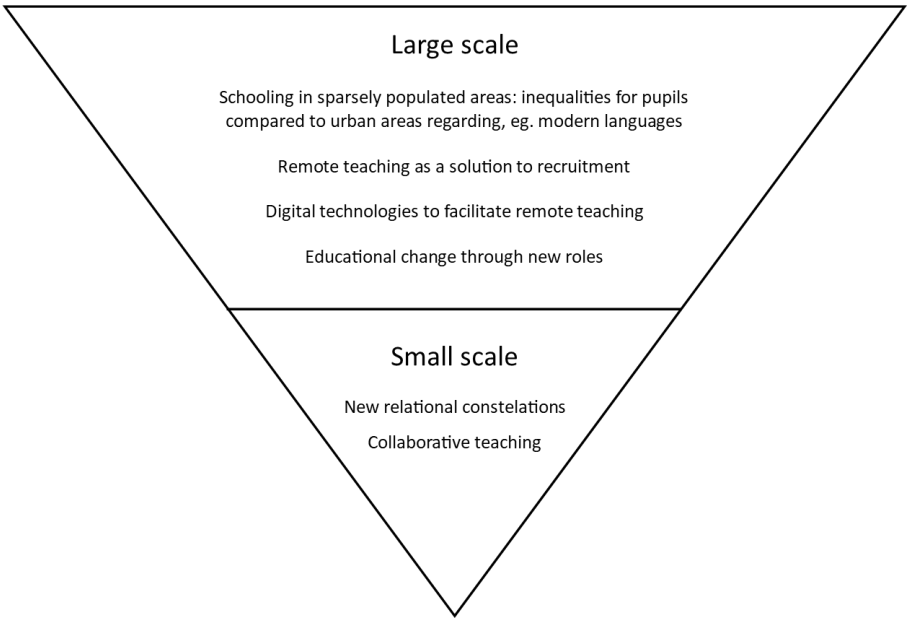

Figure 6. Levels of Scale of Remote Teaching Practice with Large-Scale Historical Developments and Small-Scale Enactments

At this point, it is important to remember that the aim of this paper has been theoretical and not primarily to give an empirical account of on-site facilitators' work and interpret the empirical perceptions of on-site facilitators. Educational researchers have analysed such accounts of digital and blended learning environments—for example, through situated and distributed learning and cognition (Jonassen & Land, 2000; 2012)—that focus instead on the individual's cognition and learning as inseparable from the situated activity. Our aim has always been both the large scale and the small scale—their interaction and integration, in fact. As such, the large-scale historical development of remote teaching in the study's context, and the small-scale learning environment, where on-site facilitators enact collaborative teaching in (relatively) new relational constellations, interact as an integrated system. This entails a shift in the analytical focus from primarily analyzing the vignette to analyzing the historical and small levels of scale as a whole.

Providing pupils with cultural tools, such as modern languages, is one goal of Swedish schools to enable pupils to take part in multicultural production. For this to take place, however, Swedish school law requires that municipal organizers employ certified teachers, as such teachers are deemed the most appropriate individuals for enabling pupils. The municipal organizers of schools in rural areas in north-western Sweden, which have become more sparsely populated through continuing urbanization, are more so challenged to recruit teachers than organizers located in urban areas are. Through the collaborative teaching enacted between on-site facilitators and teachers, expressed at the smallest scale—for example, in the communication that takes place between the two roles in WhatsApp—the status quo of large-scale, historical urbanization is maintained. Teachers do not have to live in sparsely populated areas to work. Simultaneously, pupils (and their families)

who choose to live in sparsely populated areas are in some cases provided with these tools for multicultural production in compulsory schools only due to digitalization via remote teaching learning environments. In addition, the quality of these tools for multicultural production depends on qualitatively transformed relational constellations enacted in such remote teaching learning environments. These enactments, in turn, are only generally described in school law, guidelines, and directives. All of this appears to be a dialectical interaction between the levels of scale in rural education, where urbanization is a driving force behind the large scale, equal access to education is a driving force behind the small scale, and digitalization is a mediator between the two.

It seems appropriate to assume that what happens in classrooms depends on the joint enactment of unique individual facilitators, pupils and teachers. However, the Swedish model of remote teaching has at least one general conditioning element: the unique relational constellation of the teacher–on-site facilitator–pupil relationship. This leaves a burning question for future educational research to answer regarding the possible broader outcomes of this constellation in remote teaching. If remote teaching is to become a stable supplement in Swedish compulsory education, what is its scope in relation to the relational constellations? As of July 2021, the scope of remote teaching encompasses all theoretical subjects (in contrast to, for example, practical subjects, such as physical education). How well will the constellation hold up with this expanded scope? Do on-site facilitators, unlike certified teachers, grow on rural trees? What of their education? Will one more relational element, which the on-site facilitator supplies, perhaps strengthen the trustful relationships needed for learning—relationships that are otherwise primarily enacted between the teacher and pupil? These are not least likely serious, upcoming practical considerations for educational leadership and school leaders.

To conclude, our aim in this paper has been to use theoretical development to contribute to a field that is otherwise mostly characterized by empirical contributions, and with a primary focus on the practice and perspectives of teachers (Barbour, 2019; Borup & Stevens, 2016; Borup, West et al., 2014; Lokey-Vega et al., 2018; Pulham & Graham, 2018). To theoretically understand the development and use of remote teaching, we have focused on the interaction between systems of human activity in education and the relationships enacted in practice through their interaction, with a focus on on-site facilitators' work. In so doing, we have used the situated nature of learning in context as a theoretical foundation, and the concept of levels of scale in historical analysis. Through levels of scale, we have, on the one hand, conceptualized remote modern language teaching as a small-scale learning environment, and on the other hand, the historical development of remote teaching as a large-scale. Integrating the levels of scale and tracing the historical development of remote teaching in Sweden into the enactments taking place in a classroom of modern language teaching is the concrete theoretical development that our aim with this paper entails.

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A THEORETICAL FRAMEWORK FOR SYNCHRONOUS REMOTE TEACHING? RESHAPING THE PEDAGOGICAL TRIANGLE

Simon Skog[a]

ABSTRACT

This paper explores synchronous remote teaching as a pedagogical practice and elaborates upon a framework with which to understand the practice theoretically. The empirical backdrop comprises remote teaching practice in Sweden, where this practice is implemented via digital technology and with an onsite facilitator who is present with the students. The pedagogical triangle is revisited, examined, and explored in relation to remote teaching as a new pedagogical practice. In the theoretical elaboration, the pedagogical triangle is reshaped into a pyramid due to the onsite facilitator's participation in the remote teaching. This elaboration is a first step to establishing a theoretical understanding of remote teaching practice on its own terms.

Keywords: distance education, online learning, onsite facilitator, synchronous remote teaching, theoretical framework.

[a] Umeå University, Sweden

1 INTRODUCTION

In recent years, remote teaching has developed as a new teaching practice and comprising an increasing number of students in schools worldwide (Barbour, 2018). Remote teaching, which can be synchronous (i.e., occurring in real time) or asynchronous (i.e., not in real time), uses digital technologies so that actors can interact and communicate in class (Schwirzke et al., 2018). In education, remote teaching can be for a single lesson, a significant part of the school day (blended learning), or full-time with some kind of facilitator involved (Barbour, 2015; Borup & Drysdale, 2014). In Sweden, remote teaching often concerns small groups of students and in certain subjects (Olofsson et al., 2019). According to the Education Act (2010:800), it must be a synchronous practice, in which the teacher uses information and communication technology (ICT) to mediate teaching of students at a different physical school location. Significantly, an onsite facilitator almost must be present with the students during the lesson (Öjefors Stark & From, 2020). Digitization in schools has provided the means to develop this teaching practice in Sweden (From et al., 2020), where the goal for schools can be seen as providing accessible and equivalent education regardless of where one lives (Stenman & Pettersson, 2020).[1]

Given the spatial separation between the teacher and students, the digitally mediated teaching, and the presence of an on-site facilitator in the physical classroom, remote teaching challenges the pedagogical thinking formed in relation to traditional teaching. This raises questions concerning how remote teaching, as implemented in Sweden, could be analysed and understood as a new pedagogical practice. This is also the focus in this paper. First, however, we will provide a more thorough overview of the pedagogical conditions for remote teaching in Swedish and international contexts.

2 REMOTE TEACHING IN SWEDEN

In Swedish, remote teaching has emerged from societal changes and school needs (Öjefors Stark & From, 2020). From the 1970s onwards, urbanization has caused extensive closures of schools in sparsely populated areas, which challenged the rule of vicinity to the primary school. Later, in 2011, the difficulty of finding qualified teachers for all students increased because the government introduced a requirement for licensed teachers (From et al., 2020; Pettersson & Hjelm, 2020, cf. SFS 2011:326). Remote teaching then appeared as a way to realize the vision of an equal and accessible school for all students regardless of place of residence, although restrictions exist in terms of age groups, scope, and subjects (Öjefors Stark & From, 2020). With this as a backdrop, remote teaching became accepted in the Education Act (2010:800) in 2015 as a deviation from the norm that teaching traditionally

[1] Regarding the international development of remote teaching, see, for example, Barbour, 2018, 2019, and Schwirzke et al., 2018.

must take place in a classroom. The regulation stipulates that remote teaching is an interactive and synchronous form of teaching that is conducted with ICT in which teachers and students are separated in space but not in time. In remote teaching practice, a facilitator also must be present in the classroom to provide support and take responsibility for the students during the lesson (Pettersson & Olofsson, 2019). The responsibility to plan, implement, and assess the students' level of knowledge as a basis for grading still lies with the teacher.

At first, remote teaching comprised teaching on modern languages, mother tongues, Sami in Sami schools, and sign language, as well as providing students with study guidance in their mother tongue and integrated Sami teaching (cf. Parfa Koskinen, 2020; Pettersson & Hjelm, 2020). Later on, remote teaching also became permitted for theoretical subjects and upper secondary school (cf. Hilli & Åkerfeldt, 2020; Pettersson & Olofsson, 2019). Lastly, remote teaching currently is allowed for cases in which no teacher meets the school law's requirements for identification and eligibility or if the student base is limited as well as for students who are unable to participate in traditional teaching due to a documented medical, mental, or social problem (SFS 2020:605).

2.1 Conditions in remote teaching

Digitalization has changed society in terms of communication and access to knowledge and information through new technical developments (Lantz-Andersson & Säljö, 2014). This is true for education as well because digitalization has altered its conditions (Selwyn & Facer, 2014). Digitally mediated teaching challenges traditional concepts of teaching and learning (Selwyn, 2011) because various synchronous and asynchronous e-learning models depend on digital technology (Hrastinski, 2008). According to Krumsvik (2014) and Fischer et al. (2020), well-functioning technical equipment is a crucial prerequisite for all kinds of online learning, which involves, for example, a sufficient and stable Internet connection, functioning computers, and appropriate software. Thus, good digital infrastructure and well-functioning technical equipment can be seen as prerequisites for carrying out remote teaching in an effective way (Kristensen & Bratteng, 2021). This is in line with the need for organizational factors, as stressed by Pettersson (2018), that condition the remote teaching practice at an educational level.

Just as every teaching practice has special conditions that create opportunities and limitations for the practice, remote teaching does too. The fundamental conditions for remote teaching that affects the teaching situation, as already touched on above, are that the teacher mediates the teaching via digital technology at a distance while a facilitator is onsite with the students at the school, mainly to monitor them and facilitate practical matters (Pettersson & Hjelm, 2020; Siljebo, 2020). This means that the teacher cannot move among the students physically and stop at someone's desk to offer help, nor can the teacher monitor

their students in the traditional sense and ensure that all of the students understand the instructions and participate actively in the lesson (Wiklund-Engblom, 2018). The teacher can only see the students on a screen, which makes it harder to create a relationship with students (Kristensen & Bratteng, 2021).

Hence, although remote teaching encourages personal participation (Hrastinski, 2008) and the teaching practice in itself contributes to student engagement (McBrien et al., 2009), a need always exists to manage the distance in a way that facilitates interactions (Moore & Kearsley, 2011). The facilitator helps the teacher to handle the distance by clarifying and explaining things to the students (Borup & Stimson, 2019) and helping to create student engagement (De la Varre et al., 2011).

Thus, even if the Education Act regulates the facilitator role in Sweden (see above), it can involve a wide range of tasks in practice. For example, Borup and Drysdale (2014) identified several roles of the facilitator, including nurturing, monitoring motivating, and encouraging students as well as functioning as a communication channel between teachers and students and between students. In some ways, these characterizing conditions of remote teaching can constitute a pedagogical practice that distinguishes it from other teaching practices. This also raises questions as to how remote teaching, as a pedagogical practice, is ontologically different from others and how previous teaching arrangements could be understood.

3 PEDAGOGICAL THINKING ON TEACHING

For several thousand years, teaching as a phenomenon has been the subject of pedagogical thinking dealing with the arrangement, implementation, and purpose of teaching (Burman, 2014; Kroksmark, 1989). In addition, pedagogical thinking reflects the factors that conditioned the teaching at each historical period, which can involve certain pedagogical ideas. This goes for the pedagogical thinking of Confucius in the 5th century BC (From & Holmgren, 2001), as well as for Comenius in the 17th century, Pestalozzi in the 18th century, and Herbart in the 19th century (Bailey, 2010; Kroksmark, 1989), to name several individuals who had an imprint on pedagogical thinking in the East and the West. Although teaching arrangements and pedagogical ideas regarding methodology differed among these and other historical pedagogical thinkers, they touched upon the teacher, the subject content, and the students in some way in their pedagogical reasoning. In recent years, digitalization could be seen as a paradigm shift for how teaching is organized (Billmayer et al., 2020), which has forced pedagogical thinking to expand in new and unforeseen ways (Sharpe et al., 2010) and has given rise to new learning theories regarding learning in digital environments (Picciano, 2017). Even so, the theoretical frameworks often applied in educational research regarding online learning commonly lack a specific pedagogical focus even if they engage in educational matters. They can, therefore, only unpack the educational context and be useful in analysis of the teaching situation to a certain extent. For instance,

TPACK (Mishra & Koehler, 2006) is primarily intended to be formed as a normative framework for teacher training, and CHAT (Engeström et al. 1999) mainly addresses the activity and theory of practice (Kemmis & Grootenboer, 2008), focusing on what constitutes a teacher's practice. These theories are all useful in terms of what they are designed for, but they were not designed to assess the teaching situation or for an online learning context. Hence, Barbour (2018) expressed a need for frameworks defining specific aspects of remote teaching.

4 REVISITING THE PEDAGOGICAL TRIANGLE

Fenstermacher (1986) was one of many pedagogical thinkers who have analysed the traditional teaching situation. In his philosophical reasoning, he reflected on the classical pedagogical questions "What?", "How?", and "Why?" and stated that the teacher should possess the knowledge and has the role of conveying certain subject content to the students. Given this, the students constitute the recipients, who allow themselves to be shaped by the teaching. This was Fenstermacher's (1986) starting point in his exploration of the ontology of the teaching situation and how the teacher should relate, morally and pedagogically, to the students given a certain subject content. Similar reasoning is common in pedagogical research on the teaching situation (Kroksmark, 1989), which results in or takes as a starting point different versions of the schematic representation of the teaching situation, called the pedagogical triangle, in the European context (Arfwedson, 1998). This representation is hard to attribute to any specific originator but can be traced to Herbart's exploration of the classical pedagogical questions (Hopmann, 1997; Künzli, 2000). In the triangle, the teacher, the students, and the subject content are separate nodes, between which an interaction takes place with a constitutive character for pedagogical investigation (Hopmann, 1997; Imsen, 1999). Thus, the exploration of the relationships among the three nodes forms the basis for understanding and analysing the teaching situation, in which one of the three nodes can be emphasized, depending on which learning perspective one wants to start from in one's analysis (Künzli, 2000).

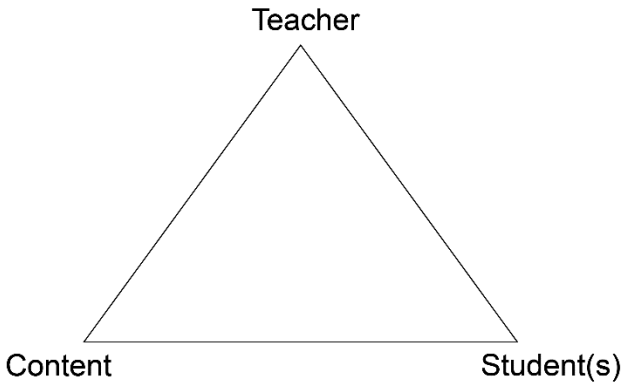

Figure 1. The pedagogical triangle

As in traditional teaching, the three nodes of the triangle are parts of remote teaching, but as discussed by Öjefors Stark and From (2020) and Pettersson and From (2018), remote teaching is characterised foremost by the mediation of the teaching and the facilitator's presence onsite. One can argue that the facilitator is not missing from the representation of the triangle since the facilitator does not engage in the actual teaching. Yet, when looking at how remote teaching is carried out in practice, the facilitator obviously plays an important role in the teaching situation and must be acknowledged (Borup & Drysdale, 2014; Pettersson & Olofsson, 2019). Another condition for remote teaching that the pedagogical triangle does not address is the semidigital learning context of remote teaching (Öjefors Stark & From, 2020). Because this conceptualization is developed in a traditional learning context, the physical environment is taken for granted; therefore, the relations in the pedagogical triangle do not touch upon the learning context per se. This relates to the ontology of remote teaching that concerns both digital and physical learning contexts, which involves both a teacher and a facilitator. Therefore, it can be argued that the pedagogical triangle must be reshaped in some way to become a more valid theoretical framework for analysing remote teaching and with a facilitator on site.

4.1 Reshaping the pedagogical triangle for the remote teaching practice

Because the facilitator plays an important role in remote teaching, the facilitator must be added to the pedagogical triangle somehow. In Figure 2, the facilitator is placed together with the teacher at the top of the triangle. The facilitator can be viewed as a helper to the teacher in the teaching in different ways (Freidhoff et al., 2015; Pettersson & Olofsson, 2019), and with their placement at the top, it is visible that the facilitator, just as the teacher, relates to both the subject content and the students. Furthermore, as seen from the students' perspective, the facilitator appears as an authority, just like the teacher does (Borup & Drysdale, 2014), and in many ways constitutes the "teacher in the room" in remote teaching, whom the students ask for help when they encounter problems or want something explained further (Borup et al., 2019).

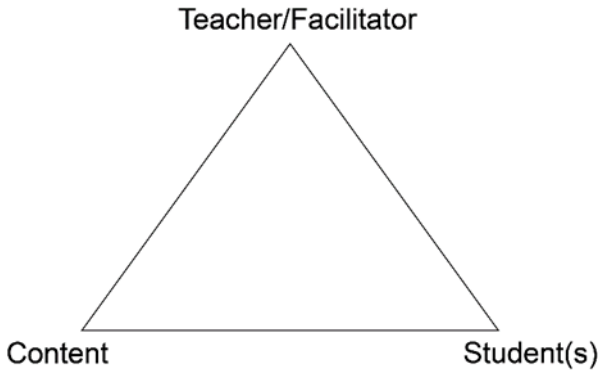

Figure 2. The pedagogical triangle with the facilitator included.

However, the problem with placing the facilitator together with the teacher at the top is that the number of relationships that exist in remote teaching does not appear. When the shape is still a triangle with three nodes, it looks as if the teaching situation continues to consist of only three relations. However, as Pettersson and Olofsson (2019) put forth, remote teaching is a more complex teaching practice due to the facilitator. Both Borup and Drysdale (2014) and Pettersson and From (2018) highlighted that the facilitator has their own relationships with the teacher, subject content, and students, which the triangle shape does not indicate. Furthermore, the teacher and the facilitator have two separate roles with different tasks to perform (Öjefors Stark & From, 2020). The teacher plans and implements the teaching and assesses the students' knowledge based on set criteria, whereas the facilitator's tasks are to ensure that the technology works, that the students are gathered and ready when the lesson is to begin, and so forth (Stenman & Pettersson, 2020).

What ultimately indicates that the facilitator needs a separate node in the triangle is that the teacher and the facilitator are separated spatially (Pettersson & Olofsson, 2019; Siljebo, 2020). The facilitator is in the same physical room as the students, while the teacher is at a different location employing digital technology to mediate the teaching. Hence, in Figure 3, the Facilitator has its own place in the centre of the triangle.

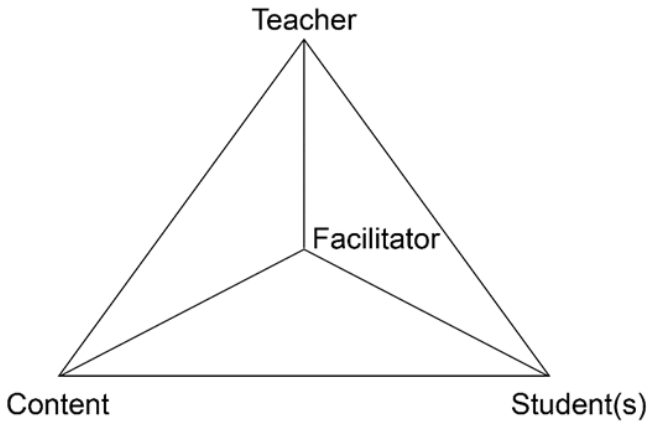

Figure 3. The pedagogical pyramid.

The triangle has been reshaped into a pyramid, and three additional relationships emerge: teacher–facilitator, facilitator–content, and facilitator–student. These additional relationships, together with the preexisting relationships, provide a more valid representation of the relationships existing in remote teaching (Pettersson & From, 2018; Öjefors Stark & From, 2020). Moreover, when these additional relationships are made visible, they can become the subject of analysis and open up new questions that were previously inaccessible. This can be seen as a part the pedagogical pyramid's theoretical contribution.

4.2 Added relationships in the pedagogical pyramid

The teacher–facilitator relationship raises questions as to the division of roles and collaboration between the teacher and facilitator. Facilitators can be given responsibility for leading classroom activities and managing interactions and social issues between students (Freidhoff et al., 2015; Staker, 2011; Wicks, 2010). Thus, the roles and responsibilities of teachers and facilitators can be intertwined. Previous professional background and the facilitator's preparation conditions what tasks the teacher can delegate to the facilitator (Hendrix & Degner, 2016; Pettersson & From, 2018). The facilitator–content relationship also affects the teacher–facilitator relationship. The level of knowledge the facilitator has regarding the subject content determines what roles are appropriate and affects the teaching situation in different ways (Hendrix & Degner, 2016).

The last new relationship is the facilitator–student relationship, which, unlike the teacher–student relationship, it is not digitally mediated. The facilitator meets the students daily and not only in the teaching situation. This gives the facilitator greater opportunities to build relationships with the students compared to the teacher (Borup & Drysdale, 2014). How the facilitator–student relationship affects the teacher–student relationship is an interesting question, as is how the relationship affects which role the facilitator takes on in the teaching situation. Also of interest are the different effects of the new relationships on the preexisting relationships: teacher–student, teacher–content, and student–content. Are they strengthened or weakened in any way? And if so, how, and why? And, perhaps most importantly, in what ways is the students' learning impacted?

5 FINAL REMARKS

In this elaboration of a theoretical framework for remote teaching, as implemented in Sweden, only the facilitator's addition is considered. The aspect of distance must be elaborated further in relation to remote teaching practice. According to Moore (1993), a transactional distance always arises from the separation in time and/or space, as dictated by three variables: structure, dialogue, and learner autonomy. Therefore, it would be interesting to explore the ways in which a transactional distance arises in a synchronous remote teaching context and how the teacher can handle this distance, in collaboration with the facilitator. In addition, further research is needed regarding the teaching being digitally mediated. What implications does this have for the teaching and for the teacher's relationship to the students and the facilitator?

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BOOK REVIEW: INDIGENOUS EFFLORESCENCE. BEYOND REVITALISATION IN SÁPMI AND AINU MOSIR

Katarina Parfa Koskinen[a]

ABSTRACT

This is a book review of an anthropological anthology, *Indigenous Efflorescence. Beyond revitalisation in Sápmi and Ainu Mosir* edited by Gerhard Roche, Hiroshi Maruyama and Åsa Virdi Kråik (2018). The volume acknowledge ongoing efforts around the globe to revtalise languages and cultures, defining Indigenous efflorescence as a slow revolution occurring almost unnoticeably. Examples from two Indigenous peoples are provided, Sámi and Ainu, giving voice to thirty contributors who describe contexts and practices of ´Indigenous efflorescence´ in a broad variety of settings. The review focusses on the merits of the concept of Indigenous efflorescence with a special emphasis on three of the chapters where digital contexts are provided. (Indigenous) efflorescence is an interesting theoretical concept to investigate in relation to theory and practice in remote teaching, online learning, and distance education for K-12 schools as it stresses the aim with any educational practice, which is the growth and flourishing of those involved. It also offers leverage against simplistic narratives of both decline and progress. This volume does what it sets out to do: offer hope and stimulate projects for supporting Indigenous efflorescence.

Keywords: Indigenous; efflorescence; colonialism.

[a] Umeå University, Umeå, Sweden

1 INTRODUCTION

The volume under review, Indigenous Efflorescence. Beyond revitalisation in Sápmi and Ainu Mosir, is an anthropological anthology giving voice to thirty contributors who describe contexts and practices of ´Indigenous efflorescence´ in a broad variety of settings. Examples from two Indigenous peoples are provided; Sámi, the Indigenous peoples of Sápmi, the northern parts of what is today more commonly known as Norway, Sweden, Finland and Russia (Scandinavia), and Ainu in Ainu Mosir, the northern parts of today´s Japan. Conceptually,

> the term Indigenous efflorescence is, on the one hand, a descriptive one, which refers to the under-studied phenomenon of the multi-sited demographic and cultural flourishing of Indigenous peoples. As a coinage, the term helps us to talk about a previously diffuse set of events and trends, to bundle them together and slot them seamlessly into sentences, and thus start new conversations. It is, furthermore, a concept that gives us critical purchase on the present—the historical moment in which ´the native´ was supposed to have disappeared—and provides leverage against simplistic narratives of both decline and progress. Beyond being a descriptive term, however, Indigenous efflorescence is also an analytical frame that provides new ways of looking at the contemporary Indigenous situation, /.../ (Roche, Maruyama & Virdi Kråik, 2018, p. 5).

This review focusses on the merits of the concept of Indigenous efflorescence. However, as the theme of the special issue where this review is published is "Theory and practice in remote teaching, online learning, and distance education for K-12 schools" three of the contributions in the first part of the reviewed volume are of particular interest. Chapters 7-9 focus on new technology (Oscar Sedholm, 2018, chapter 7), virtual learning spaces (Hanna Outakoski, 2018, chapter 8) and a multimedia narrative (Coppelie Cocq, 2018, chapter 9), which provide digital contexts for Indigenous efflorescence. Therefore, I dedicate a section to these chapters.

2 EDITORIAL INTRODUCTION OF INDIGENOUS EFFLORESCENCE

The Editors, Gerard Roche, Hiroshi Maruyama and Åsa Virdi Kråik introduce the theme of the volume, Indigenous efflorescence as a slow revolution occurring almost unnoticeably. Attempting to highlight these processes, they wish to provide optimism and hope for communities most commonly associated with, and described as unsolvable problems. The content is a mix of peer-reviewed research articles and contributions from non-academics involved in a wide range of projects aimed at strengthening endangered languages and cultures. Focusing on cultural and linguistic revitalisation, equally important examples of narratives involving contexts and practices of Indigenous efflorescence are provided. As Markus Nyström (2018), the author of the first chapter expresses it: ´Narratives, or stories,

are, I believe, the perfect middle ground between these two concepts, between culture and language´ (p. 29).

According to the editors, referring to Indigenous languages as vanished or disappeared is misguiding. Instead, they mention that successful efforts are made all over the globe within various Indigenous communities to revive, revitalise, reclaim and other re-workings of cultures and languages. The main argument for the concept of Indigenous efflorescence is that it exceeds re-workings by focusing on processes and opening up different futures. As ´to be Indigenous is not to reproduce precolonial ways of being, but to translate them into the present, to draw on them as inspiration and authority for generating Indigenous ways of living in the twenty-first century´ (Clifford, 2013 here cited in Roche et al., 2018, p. 8). Concluding that efflorescence can take place in all aspects of life, they want the readers who conduct such projects to realise that they are part of a larger movement, expressing a hope that the content inspires, raises issues and provides solutions ´that are helpful in navigating the complex terrain of efflorescence´ (p. 15). The overarching aim of the volume is to inspire further projects towards efflorescence and start new discussions on the concept as a topic of anthropological analysis.

3 CONTEXTS AND PRACTICES OF INDIGENOUS EFFLORESCENCE

The contributions in the volume are divided into two parts; contexts and practices of Indigenous efflorescence, both of which Gerard Roche introduces (pp. 23-27; pp. 123-127). In the first introduction, he presents political background factors. This provides a starting point for answering the question posed by Roche - how it is that Indigenous efflorescence has occurred in so many different contexts at the same time. Roche points out common international endeavours from Indigenous representatives, mainly from the Canada–Australia–New Zealand–United States (CANZUS) block, have resulted in a stable representativeness within the establishment of the United Nations. This has provided a supportive political environment necessary for Indigenous efflorescence. To broaden the perspectives beyond the CANZUS block the editors decided to pick up examples from Sámi and Ainu contexts.

The first chapter in the first section of the volume works as a backdrop for the following chapters. By exploring official narratives as constrainer of Indigenous efflorescence, Nyström (2018) emphasises that counter narratives are important and reminds us that there is still a lot of work to be done in order for Indigenous efflorescence to take place. Nyström (2018) has found that ´politicians who actually promote colonialism, but call it something else, sincerely believe themselves not to be promoting colonialism´ (p. 34). This paradox is one of the conclusions regarding the official political discourse in chapter one. Thematically, the following chapters present case studies, which deal with settler epistemologies, digital technologies, land and sovereignty, and Indigenous social movements, further exploring their role

in Indigenous efflorescence. Following Nyström´s argumentation, these case studies can be read as counter narratives, as do the case studies in the second part of the volume. Whether referring to land, natural resources, people from the same culture, ancestors or oneself, the sense of belonging is present in most of the stories and/or narratives. The contexts exemplifying Indigenous efflorescence in the first part of the volume often contain micro steps towards a culturally and linguistically sustainable future obtained by overcoming different kinds of hardships.

Part two, ´Practices of Efflorescence´, provides articles where people do efflorescence and give voice to their subjective experiences. Introducing the second part, Roche (2018) describes the contributions as being about colonialism and the ´ways it impacts on individual efforts to reclaim language, identity and culture, and to be Indigenous´ (p. 124). Through personal stories, we can follow what it is like being Ainu and Sámi today. The stories contain a complex relationship between positive experiences like pride and joy, and negative ones like loss, sadness and shame. When the editors claim that Indigenous efflorescence offer ´leverage against simplistic narratives of both decline and progress´, this is probably what they refer to. As such, the chapters in the volume capture the complexity surrounding Indigenous efflorescence in contemporary society. The illustrated efforts seem to slowly counteract colonialism, assimilative policies and historical oppressive practices, and even the smallest initiative can make a huge impact on a personal, but also societal level.

Roche (2018) raises a number of issues in the concluding chapter of the volume, where ethical aspects, ongoing colonialism as a system rather than an event, intergenerational trauma etc. maintain colonial structures. Most often, he argues, such structures are not even acknowledged, or even realised by those upholding them, which leads to Indigenous efflorescence being restrained. He also points out that ´for those of us who are settler academics, situating ourselves as beneficiaries of colonisation is essential to an ethical approach to Indigenous efflorescence´ (Roche, 2018, p. 226).

4 INDIGENOUS EFFLORESCENCE AND DIGITAL TECHNOLOGY

In chapter 7, Sedholm (2018) describes a project aimed at saving the Ume Sámi language from extinction through creation of content on a free online learning platform called Memrise. The work, although conducted on a non-profit base, still managed to attract both people from the Ume Sámi community and Memrise who established a working relationship. A concluding conference gathered around 15-20 participants (p. 87), which is a lot considering the amount of known Ume Sámi speakers to be roughly 50 at the time of the project. Sedholm reports several hardships and setbacks in the chapter, where lack of funding appears to have created the largest challenges. Another major setback was the dropout rate of participants

during the process. At the time of the writing of the chapter, the project was looking for further funding to continue the work.

Virtual learning spaces for learning Sámi language is also the topic in chapter 8, but Outakoski (2018) argues for a different approach to distance learning of heritage languages compared to other types of subjects at university level. Instead of using flexibility and capacity as main arguments, Outakoski highlights accessibility, availability and relative anonymity as the main arguments for arranging distance language courses, also implying that some of the flexibility has to be sacrificed (p.91):

> Further, virtual 3D environments (such as SecondLife or OpenSim) offer the possibility of adjusting and altering the teaching environment to resemble, in as much detail as possible, the settings for natural learning situations. This, in turn, gives the online Sami language teacher the opportunity to teach speakers and learners of Sami in a setting that can, in the best case, strengthen the ties to the ancestral place of origin and, at the same time, offer the learner a language learning experience that frees them from potential internal stigmas (Outakoski, 2018, p. 92).

By using digital technology with the above intention, the ontological as well as epistemological prerequisites for learning heritage languages are based on relationships to the past. At the same time, they point towards a new future where Indigenous languages play a huge part in meaning-making and identity processes. Although Outakoski identified epistemological issues in the project when using virtual learning platforms (p. 83), alongside financial and technical issues, she argues that they have a huge potential in providing access to students outside of areas where the heritage languages are used.

The third contribution in chapter 9 focusing on digital technologies is an examination of a born-digital multimedial narrative in Lule Sámi, Tjutju (Cocq, 2018), where the participant can create a relationship to the narrative through interactive elements. Although the written word is still the main narrative tool, the increased level of interactivity invites the participant to make use of visual and aural elements. The main issue raised by Cocq (2018) is that the fluidity characterised in oral storytelling is somewhat lost when converted into a digital multimedia product. Furthermore, she emphasises that there is a strong connection between online and offline activities that is difficult to study. ´In former times, storytelling as a social practice was central in the transmission of social norms and codes within the community. Narratives did not function only to entertain, they also played important roles in education and socialisation´ (Cocq, 2018, p. 97). The multimedia narrative Tjutju is thus both widening and narrowing the possibility for participants to build relationships through stories, illustrating the complexity of Indigenous efflorescence.

5 DISCUSSION

The theme of the special issue where this review is published is "Theory and practice in remote teaching, online learning, and distance education for K-12 schools", and for that reason three of the chapters where of particular interest as they provide digital contexts for Indigenous efflorescence. Surrounding these chapters is a framework highlighting the importance of acknowledging ongoing colonialism, something rarely talked about in these contexts, to my knowledge. Although acknowledging ongoing colonialism is an important first step towards social justice for peoples who have lost languages, land, cultural practices, self-governing and even lives, it is far from enough. Digging deeper into colonial structures is essential in order to change the pathway towards respect and valuing of Indigenous peoples, languages and cultures, i.e. all peoples, languages and cultures. In other words, promote efflorescence. One such structure is education. Roche suggests for anthropologists to leave the fascination for the suffering subject and look more into positive anthropology. In the educational field, however, there is a strong tradition of looking at what works. Still, who is defining what works? For whom does it work? Who sets the agenda? By lifting Indigenous´, and other minorities´ voices in a similar manner as in this volume, Indigenous´ (and others´) voices are strengthened, which promotes and supports (Indigenous) efflorescence.

Several contributions in the volume highlight relational aspects as an important feature of Indigenous efflorescence, which I find in particularly interesting in the research field of online education, distance education and remote teaching. Enabling relationships to be established, maintained and strengthened has a positive impact on identity. As this special issue refer to issues involving ´Theory and practice in remote teaching, online learning, and distance education for K-12 schools´, (Indigenous) efflorescence is an interesting theoretical concept to investigate, also outside of the Indigenous research community. How are relationships to other people, the past, land or other aspects promoted and supported in remote teaching, online learning and distance education? Besides that, how are relationships established and maintained when neoliberalism ´exposes Indigenous people to various forms of violent capitalist exploitation that destroy not only social ties between Indigenous people, but also between people and land´ (Roche, 2018, p. 227)?

This volume does what it sets out to do: offer hope and stimulate projects for supporting Indigenous efflorescence. Therefore, if asking how well the volume explains itself, the answer would be, as well as it can regarding such a complex issue as Indigenous efflorescence. Especially so when reading the volume as a first attempt to capture these processes through this concept.

When attending a conference in 2002 gathering Indigenous women from the Arctic circumpolar area, many conference delegates cried as they could relate to eachothers' issues and hardships. This is why there is a need to focus on the positives without letting the challenges and hardships slip away, as ´Colonisation is not

simply something that happened in the past and is now finished, nor is colonialism a debunked and interred ideology that no longer impacts on policy or daily life´ (Roche, 2018, p. 226). Many peoples' daily lives are still affected. Taking a moment to reflect upon all efforts and struggles made around the world just being able to speak one's heritage language and be proud of it is important.

Finally, I recommend that you read the book and form your own opinion. The contributors have bravely invited you.

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