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Ville Mankki

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(Re)thinking teaching after COVID-19 school lockdown: a longitudinal study of Finnish primary school teachers' expectations for, and perceptions of, change

Ville Mankki 

Department of Teacher Education, Centre for Research on Learning and Instruction (CERLI), University of Turku, Turku, Finland

ABSTRACT

Ever since COVID-19 forced schools to shift to distance teaching, there has been a wide range of speculations on how the period is going to shape the teaching in classrooms when the schools reopen. The current longitudinal study investigates Finnish primary teachers' expectations and perceived outcomes concerning the change in teaching practices and attitudes. Twenty teachers were interviewed for the first time in April 2020 during the two-month national school lockdowns. The follow-up interviews were conducted a year later at the end of a school year with teaching organised as contact teaching. The findings were classified into three categories: (1) fulfilled expectations, (2) unfulfilled expectations and (3) unexpected outcomes. The findings offer valuable empirical insights complementing the envisioned changes associated with school reopening. By highlighting the discrepancy between expectations and outcomes, the study provides a contribution to the existing literature on the complexity of educational change.

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Introduction

The COVID-19 crisis forced education providers around the world to cancel face-to-face teaching in schools as part of measures to limit contact between people and to slow down the spread of the coronavirus. At the peak of the crisis at the beginning of April 2020 altogether 1.5 billion learners were affected by school closures, accounting for more than 90% of total enrolled learners (UNESCO n.d.). In Finland, schools were closed in mid-March and the restrictions continued until mid-May (Finnish Government 2020a). After the two-month distance teaching (DT) period, schools were reopened and contact teaching (CT) was re-introduced in a controlled manner and with particular attention paid to safety and hygiene (Finnish Government 2020b). The 2020–21 school year in Finnish primary education was mainly organised as CT, although secondary education was regionally shifted to DT in March 2021 as a part of the restrictions to prevent the acceleration of the epidemic (Finnish Government 2021).

Although the COVID-19 pandemic posed an unprecedented challenge for teachers around the world (Carrillo and Flores 2020; Kim and Asbury 2020; König, Jäger-Biela, and Glutsch 2020; Mankki and Riihämä 2022; Scully, Lehane, and Scully 2021), at the same time, the disruption has been described as a stimulus for massive changes and an innovative stance on education and

CONTACT Ville Mankki  ville.mankki@utu.fi

teaching (Ellis, Steadman, and Mao 2020; Hargreaves and Fullan 2020). On the contrary, however, changes in education due to the pandemic have also been characterised as an immediate emergency reaction to guarantee the continuing of schooling instead of a deep rethinking of teaching and learning (e.g. Hodges et al. 2020). Therefore, it has been suggested that the changes which occurred will likely be insufficient for the long term and may disappear with the return to schools (Zhao and Watterston 2021). Although scholars have widely addressed post-pandemic agendas (Hargreaves and Fullan 2020), reconceptualized the learning space in reopened schools (Cahapay 2020) or envisioned the changes in curriculum, pedagogy and delivery of instruction (Zhao and Watterston 2021), the empiric research on change in teaching practices and attitudes is still limited.

In this article, Finnish primary teachers' expectations for, and perceptions of, change are investigated. By using longitudinal qualitative data gathered during and one year after the national school lockdowns in Finland, an attempt is made to understand what teachers expected to change and what they perceived to have changed in their teaching practices and attitudes due to the DT period. It is well-known that many reform initiatives for educational improvement have failed to achieve sustained change in teachers' pedagogical practices and beliefs (e.g. Le Fevre 2014). By providing empirical insights into the changes in teaching practices and attitudes associated with school lockdowns, this study contributes to the ongoing discourse on whether and how the disruption caused by the COVID-19 pandemic may have resulted in sustained changes in primary education teaching.

Teachers' transition to distance teaching ...

It has been recognised that the transition to DT sets major requirements for teachers to modify their instructional practices by addressing a relevant pedagogical approach, lesson materials, assignments and assessments (Barbour 2015; Carrillo and Flores 2020; König, Jäger-Biela, and Glutsch 2020; Singh and Hardaker 2014). Also, particular values, such as connecting with students, promoting a caring relationship and fostering social interaction, have been seen as crucial for effective DT, especially during COVID-19 lockdowns (Kim and Asbury 2020; Mankki 2022; Phillips et al. 2021).

As opposed to classrooms, in which the use of information and communications technology (ICT) can still be at least somewhat non-essential, effective DT requires teachers to understand how to use digital instructional formats in teaching (Barbour 2015; Carrillo and Flores 2020; Moore-Adams, Jones, and Cohen 2016; Scully, Lehane, and Scully 2021). However, scholars have identified teachers' barriers to employing technology that are created by factors such as inexperience of, attitudes towards (Singh and Hardaker 2014) and the complex relationship with technology (Nazari and Seyri 2023). Also, early career teachers, who are often expected to be competent in using ICT for teaching, have been observed to need support in digital competencies in transitioning to and succeeding in DT during the pandemic (König, Jäger-Biela, and Glutsch 2020).

The major digital leap, including the rapid adoption of a significant number of new digital tools and pedagogical solutions (OECD 2021b), has had a major impact on teachers' identity construction from various perspectives, including their agency, self-images, emotions, and beliefs (Nazari and Seyri 2023). In their pre-pandemic literature review, Singh and Hardaker (2014) stated that the necessity to change teaching methods when shifting to an online context may even lead teachers to a fear of losing control over their teaching. Correspondingly, during the pandemic lockdowns, teachers have experienced struggles with the quality of teaching (Phillips et al. 2021) and described the transition to DT as being harmful to their professional identity and making them 'not feel like a teacher' (Kim and Asbury 2020, 16).

The working conditions during the lockdowns undermined the traditional psychological rewards of teaching (Hargreaves and Fullan 2020) and multiplied the sources of teacher stress (MacIntyre, Gregersen, and Mercer 2020). In Finland, three out of four primary teachers reported that the DT period involved a significantly higher workload than CT, and one teacher out of five reported occasionally having a poor level of coping at work (Trade Union of Education in Finland 2020).

Lack of physical, temporal or psychological boundaries between work and home (MacIntyre, Greger- sen, and Mercer 2020), and competing responsibilities that run parallel to teaching, such as helping their children with assignments or caring for vulnerable family members, presented a highly stressful situation for teachers (Kim and Asbury 2020; Phillips et al. 2021).

... and return to contact teaching

School reopenings and return to CT have caused heated debates around the world and much variation between countries has been observed in strategies and regulations for reopening schools (OECD 2021b). For example, the United Nations Children’s Fund (2021) and the United Nations Educational, Scientific and Cultural Organization, in their joint statement, have demanded facilitation for reopening schools to diminish the impact on school-aged children with the criticism that governments ‘too often shut down schools and kept them closed for prolonged periods, even when the epidemiological situation didn’t warrant it’.

Kim, Leary, and Asbury (2021) presented the findings of their longitudinal study investigating teachers’ experiences at the time of the partial reopening of schools in England. Their findings covered six themes (such as practical concerns, the importance of relationships and teacher identity) illustrating teachers’ reflections on the uncertainty and its impact on their personal and professional lives. A study by Wakui et al. (2021) assessed the anxiety among teachers after schools reopened in Japan. The findings suggested that the return to CT caused teachers to experience anxiety regarding infection and education: for instance, about their safety, students’ home circumstances and delays in learning.

In Finland, a survey conducted by the Trade Union of Education in Finland (2021), encompassing nearly two thousand teachers immediately after the 2020–2021 school year, unveiled that one-third of them had considered leaving the profession during the pandemic. Teachers have described how ‘hard, challenging and practically impossible’ it has been to implement many of the safety restrictions and recommendations, such as safety distances and delimited recess areas, drawn up for schools in order to prevent the spread of the virus (Löytömäki 2021).

Rationale for the study

The existing literature acknowledges the unprecedented challenges that the COVID-19 pandemic has presented to teachers. The sudden shift to DT forced educators to modify their instructional methods and incorporate a substantial number of new digital tools and pedagogical solutions. While there is speculation that this disruption could lead to significant changes in education and teaching, there is also concern that the transformative impact may diminish when schools reopen, given the pervasive concerns, uncertainties, and anxieties in the educational landscape. To address this gap, this study aims to investigate the following research questions concerning Finnish primary school teachers’ expectations for and perceptions of change:

- (1) What changes did teachers anticipate in their teaching practices and attitudes due to the DT period?
- (2) What changes do they perceive to have occurred as a result of the DT period?

Methods

Research design

The study was conducted with a longitudinal qualitative research (LQR) method. LQR involves the collection of at least two-time points and the flexible use of qualitative methods to capture and enhance understanding of change (and stability) over time (Thomson, Plumridge, and Holland

2003). Instead of a snapshot achieved in a cross-sectional design, the focus is 'to ground the interviews in an exploration of processes and changes which look both backwards and forwards in time' (Neale and Flowerdew 2003, 194). Holland (2007) has identified four methodological models of LQR, of which the follow-up study, in which original participants are re-interviewed after a period of time, was adopted in this study.

Sample

The sample consisted of 20 Finnish primary school teachers, all of whom had been delivering DT from March to May 2020. A purposeful sampling strategy was carried out to ensure representative gender distribution and adequate variation among the participants in work experience, school size, location and grade taught. Participants were known to the author in advance and contacted through email (addresses were retrieved from municipality websites) or text/instant messaging when the author already possessed their contact information.

Of the participants, 15 were women and five were men, which is a rather typical gender ratio among Finnish primary teachers (OECD 2021a). The work experience of teachers ranged from 2 to 25 years ($M = 9.22$). Based on the classification by Gu and Day (2007), seven of the participants were early-career teachers (≤ 5 years of experience), eight were mid-career teachers (6–18 years of experience) and five were late-career teachers (≥ 19 years of experience). The participants were located around the country. The size of the school in which the participants worked, checked from municipality websites, varied from schools of 60 pupils up to schools with a thousand pupils ($M = 425$). All grades in the Finnish primary school (1–6, aged 7–12) were covered by the participants.

All participants worked as primary teachers also in the following school year (2020–2021), although two of the participants had been on parental leave from the beginning of the school year. Seven of the participants had delivered short periods of DT also after the national school lockdown in 2020. These teachers were mainly those who, in addition to their class, taught at the secondary level as well (mainly art and physical education subjects). The secondary level was regionally shifted to DT for three weeks in March 2021 (Finnish Government 2021). Two teachers had had their classes temporarily moved to DT for two weeks due to quarantine measures.

Data collection

The data consisted of semi-structured interviews which were conducted individually via Microsoft Teams or Zoom, depending on the preference of the interviewee. The original interviews were conducted during the fourth week of the national school lockdown (between May 6th and 10th, 2020) and they lasted from 30 to 40 min. The follow-up interviews were conducted exactly one year later (between May 6th and 15th, 2021) and they lasted from 20 to 30 min.

In order to obtain a rich and contextual picture of teachers' views, participants were encouraged to talk freely in the interviews. Nevertheless, an interview guide was used as a support in the situations. An interview guide is a script that lists the themes and main questions that are to be discussed in the interview, in a more or less regular format (Kvale and Brinkmann 2009). The interview guides were generated in collaboration with educational experts, tested in pilot interviews and finalised based on the remarks made and comments received. The guide for the original interviews included three themes: (1) quality DT, (2) received support in the transition to DT, and (3) professional learning during the DT period. As stated, this paper focuses on change, which was discussed mainly under the third theme including questions aiming to illuminate teacher expectations on change, such as 'How is the DT period going to affect your teaching in the future?'

Since LQR emphasises a dynamic research process, the interviews can be considerably adjusted between time points (Holland 2007). Therefore, the guide for follow-up interviews included two themes: (1) return to CT, and, (2) changes in teaching due to the DT period. The latter included questions such as 'How did the DT period affect your teaching in a classroom?'. With the two teachers that

had been on parental leave the whole 2020–2021 school year a briefer interview with a more recall-based conversation was arranged. However, due to the lack of actual teaching experience during the following school year, their answers were not included in the follow-up data.

Ethical considerations

The study adheres to the ethical guidelines mandated by the Finnish National Board on Research Integrity (2019). Informed consent was obtained from all participants, who were assured of their right to withdraw from the study at any point. Confidentiality and anonymity were emphasised, and participants were guaranteed that their information would be protected. Additionally, participants were promised to be informed about any research publications derived from the data they contributed.

Process of data analysis

The inductive analysis was conducted in three phases. In the first phase, the interview transcripts were read through several times, with the purpose of looking for the informants' expressions on what they expected to change (original interviews) and perceived to have changed (follow-up interviews) in their teaching practices and attitudes after returning to CT. In total, 34 expressions from the original data and 29 expressions in the follow-up data were found. The expressions were interpreted and coded using as much as possible the informants' own words and concepts.

The second phase began with meticulous comparison and grouping of the expressions identified in the original data. Through a precise comparison of similarities and differences, eight distinct expectations were inductively formed, wherein similar expressions were grouped under specific headings. These expectations delineated teachers' anticipated changes, encompassing themes such as 'use of ICT is augmented', 'individual recognition is strengthened' and 'collaboration is deepened'. Subsequently, expressions portraying perceived changes, derived from follow-up interviews, were systematically compared to the eight expectations. Expressions of perceived changes aligning with expectations, either directly or through slight reframing or broadening of the original descriptions, were amalgamated with the corresponding expectation. These amalgamated changes now encompassed expressions from both the original and follow-up interviews, signified *fulfilled expectations*. Expectations without any correspondence in follow-up data were categorised as *unfulfilled expectations*. The expressions from the follow-up data that could not be linked with original expectations were compared to each other, grouped, and referred to as *unexpected outcomes*.

In the third phase, the borderlines for each of the three categories were revised. Because two changes that were included in the fulfilled expectations appeared only once in one set of data compared to four or five times in the other set, it was considered unwise to address those as fulfilled expectations. Therefore, one of them was moved to the category of unfulfilled expectations and the other to the category of unexpected outcomes. To capture more precisely the fulfilment of expectations, the changes in the category of fulfilled expectations were analysed at an individual level as well.

Findings

Changes in primary teachers' teaching practices and attitudes due to the school lockdowns were divided into three categories: (1) fulfilled expectations, (2) unfulfilled expectations and (3) unexpected outcomes. The overview of the categories with frequencies in the original (f_1) and follow-up interviews (f_2) is presented in Table 1. In the following, a more detailed description of each category and change will be presented. The identifiers from the analysis have been retained when displaying direct extracts from the transcripts: for example, the identifier 3.1 in the brackets

Table 1. Changes in teaching practices and attitudes.

Category	Change	f_1	f_2
Fulfilled expectations	Use of ICT is/was augmented	14	12
	Appreciation of CT is/was increased	4	4
	Self-directedness is/was promoted	3	4
Unfulfilled expectations	Individual recognition is strengthened	5	1
	Collaboration is deepened	3	–
	Documentation is systemised	2	–
	Talented pupils are supported	2	–
Unexpected outcomes	Self-efficacy was enhanced	1	4
	Interaction was fostered	–	2
	Instructions were polished	–	1
	Planning was detailed	–	1

after the extract denotes that the expression was produced by the third informant (based on the chronological order of the original interviews) in the original interview.

Fulfilled expectations

The category of fulfilled expectations included three changes. The first fulfilled expectation was that the *use of ICT is/was augmented*, which was both the most frequently expected and most frequently perceived change. In the original interviews, 14 teachers expressed the thought that they will use more digital technology when returning to CT, as the following extract indicates: ‘I think that the digital world, various platforms and learning environments in some form will certainly be transferred also to CT’ [3.1]. Particularly, Microsoft Teams and Google Classroom, which were adopted as the main DT software in many municipalities, were expected to be employed also in CT for giving written instructions, returning assignments and homework, and supporting absent pupils: ‘I probably will keep using Teams. It could be used also with those pupils that are absent by sharing the assignments and instructions there’ [14.1]. This expectation underscores the pivotal role ICT played in DT (Barbour 2015; Moore-Adams, Jones, and Cohen 2016; Scully, Lehane, and Scully 2021).

In the follow-up interviews, 12 teachers noted that they have been using more ICT in teaching after the DT period. This suggests, if not a major digital leap (see OECD 2021b), at least moderate development in the use of digital tools that were not adopted based on an intentional rethink of teaching but rather as an immediate emergency reaction to ensure the continuity of schooling (Hodges et al. 2020). Especially, the use of the above-mentioned software introduced to the teachers in the DT period has been continued in CT:

We have still been using Teams. For example, all the stories we have written on the computer, we have saved and shared via Teams. It is easy for me to give feedback that way. We have maintained our digital skills and ability to exploit Teams. In a way we have prepared ourselves for the DT period that may still be ahead. [1.2]

As described above, the augmented use of ICT in CT was driven, at least partly, by the anticipation of potential future lockdowns, reflecting the uncertainty and reservations teachers had after schools reopened (Kim, Leary, and Asbury 2021; Wakui et al. 2021). However, teachers also pointed out that the use of the technology is facilitated in classrooms due to improved conditions for ICT (see also OECD 2021b) and also because teachers have more confidence in pupils’ proficiency with the technology:

Children’s digital skills evolved notably during last spring. Pupils are quite skilful and I am more confident to take in laptops for whole group lessons as well. Before it was like only with half group lessons, and still some pupils spent the lesson logging in to the computer. It used to be a hassle. But now when I know it is going work out, the threshold for using computers is much lower. [5.2]

Hence, it can be asserted that the DT period, by offering hands-on experiences and potentially clarifying the relationship with technology, reduced certain personal barriers among teachers previously

identified in the literature regarding the integration of technology in the classroom (Nazari and Seyri 2023; Singh and Hardaker 2014).

The second fulfilled expectation was that the *appreciation of CT is/was increased*. In the original interviews, four teachers said that they expect themselves to appreciate and enjoy CT more than they used to: ‘One thing that will transfer is that I enjoy CT twice as much as before. Especially the interaction and engagement with the pupils, because they are indeed not the same here in DT’ [3.1]. In the follow-up interviews four teachers observed that they value characteristics of CT more than they did before the pandemic: ‘I think that for everyone the value of eye contact, peers and community in learning was bred. Or at least for myself the appreciation of CT has increased’ [14.2]. This shift in the appreciation of CT may underscore the crucial requirements for teachers to modify instructional practices and methods when transitioning to DT (e.g. Barbour 2015; Carrillo and Flores 2020; König, Jäger-Biela, and Glutsch 2020), and how the necessity for such modifications may have led to struggles with the quality of teaching during DT (Phillips et al. 2021).

The third fulfilled expectation was that *self-directedness is/was promoted*. Three teachers stated they were going to enhance the pupils’ opportunities to plan their learning:

I will give more responsibility to the child. I don’t intend to shift all the burden on to the child, but that I could backtrack and give space for the child to plan and do things by themselves. And I should act more as a guide, just like here in DT. [15.1]

In the follow-up interviews four teachers mentioned having reflected and enhanced their pupils’ self-directedness, as explained in the following: ‘When I wasn’t able to teach in a teacher-led way, which is natural and comfortable for me, it opened my eyes. Now, I trust my pupils more and give space and options for them on a new level’ [13.2]. The necessity to evaluate their practices and adopt a different approach than before, as highlighted in the previous excerpt, has been noted to pose challenges to teachers’ professional identity (Kim and Asbury 2020) and has even instilled fear among teachers of losing control over their teaching (Singh and Hardaker 2014).

The individual-level comparison pointed out differences in teachers expecting and perceiving a certain change. While ten teachers both expected and perceived change affecting an increase in the use of ICT when returning to CT, the increased appreciation for CT and the promotion of pupils’ self-directedness was brought up in both interviews by only one teacher in each case. Therefore, at an individual level, changes rarely took place despite expectations, or then the perceived changes were not expected beforehand.

Unfulfilled expectations

The category of unfulfilled expectations, i.e. the changes expected in the first interviews but not identified from the second interviews, is addressed here. The first unfulfilled expectation was that *individual recognition is strengthened*. In the original interviews five teachers expected that they would, for instance, arrange more personal time with pupils or give more individual feedback:

I have noticed how much it gives, when you have time to engage with the pupil one-on-one in a video meeting without other pupils interfering. I believe that the fact that I’ve gotten more familiar with my pupils, has really supported my teaching. I must promote this also in CT somehow. [8.1]

This expectation may have been associated not only with value but also with the difficulties related to connecting with individual pupils and fostering a caring relationship with them during the school lockdowns, as acknowledged in earlier research (Kim and Asbury 2020; Mankki 2022; Phillips et al. 2021). However, the change in individual recognition was classified as an unfulfilled expectation, as in the follow-up interviews only one teacher perceived change from this perspective:

I’m facing pupils more individually. Even more than before I try to ask that ‘how is it going?’ and tap them on the shoulder and say that ‘you are doing great’. The DT period really pointed out the importance of this kind of recognition and positive feedback. Therefore, I have tried to keep it up also here in CT. [15.2]

The following three changes did not appear at all in the follow-up interviews. The second unfulfilled expectation was that *collaboration would be deepened*. Three teachers stated that during lockdowns, they had collaborated more with other teachers to enrich teaching by co-planning, and sharing ideas and methods, highlighting the collective professional learning among teachers during the lockdowns (Mankki and Rähkä 2022). Teachers then anticipated that they were going to strengthen collaboration also in CT:

We have collaborated with other teachers in the same grade. Since substitute teachers cannot be employed because of the restrictions, we have tried to follow the same line and proceed at the same pace. So, when some of us might get sick, the colleague instantly knows how to continue with that class. I believe we will collaborate more efficiently also when we return to the school building. [7.1]

The third unfulfilled expectation was that *documentation is systemized*. Previous research has brought to light the challenges associated with assessment in DT compared to CT (Barbour 2015; Singh and Hardaker 2014). In this study, two teachers described the challenges they faced in terms of assessment and grading during DT and discussed their intentions to adjust their documentation practices upon returning to CT:

I've always had a quite spontaneous work orientation. Now I noticed that if you haven't documented pupil performance and progress, how can you assess your pupils. It is exceedingly difficult to assess pupils in DT. I should document everything more precisely. I think that will transfer to CT for me. [6.1]

The fourth unfulfilled expectation was that *talented pupils are supported*. Two teachers mentioned that the DT period had pointed out to them the need to start paying more attention to the talented pupils as well:

I have many talented pupils in my class, but I have maybe spent energy on those who need more support. This DT period has clearly revealed the different pace pupils have when doing assignments. Now I have tried to give more challenging tasks and feedback also to the talented ones, so that they do not feel abandoned. That is something I'll try to do when we get our classrooms back. [9.1]

Unexpected outcomes

The category of unexpected outcomes refers to the changes perceived in the follow-up interviews that were not identified from the original interviews. The first unexpected outcome was that teachers' *self-efficacy was enhanced*. In the follow-up interviews, four teachers noted that the DT period had elevated their self-efficacy. These teachers felt that they were more flexible than before and capable of handling and tolerating demanding situations in a new manner:

Well, the DT period reinforced my tolerance for uncertainty. My world does not crash with the little problems and I think that we can find a way to survive bigger challenges as well. It brought confidence, faith and trust in my professional skills and also in the working community. [3.1]

In the original interviews, only one teacher indicated that 'being more confident is going to stick and I trust that I can handle situations in a more flexible manner in the future' [2.1]. Consequently, the change was classified as the unexpected outcomes. While the lockdown period undermined the traditional psychological rewards of teaching (Hargreaves and Fullan 2020) and increased various sources of teacher stress (MacIntyre, Gregersen, and Mercer 2020), some teachers have, over a longer term, recognised the positive effects of this period on their flexibility and resilience.

The following three changes did not appear at all in the original interviews. The second unexpected outcome, expressed by two teachers, was that because of the deficiencies in DT *interaction was fostered* in CT: 'Now when children are present, it is delightful that we can have real conversations again. I think we have discussed more than ever before. Children have a need to tell and they also speak their minds more easily' [11.2]. This outcome mirrors the challenges associated with connecting with pupils and promoting social interaction with them during school lockdowns, as highlighted in previous studies (Kim and Asbury 2020; Phillips et al. 2021).

The third unexpected outcome was that the *instructions were polished*. One teacher explained in detail how the DT period helped to eliminate mannerisms and other distracting components also in CT:

A certain type of rambling was cut out. I watched my recorded lessons and asked myself ‘hey, why do I do that?’ Then I tried to cut out the poor things. I have tried to keep my teaching and instructions more coherent ever since. [16.2]

The fourth unexpected outcome was that *planning was detailed*. One teacher described the requirements of DT and the impact on planning after returning to CT:

If I have earlier used ‘door handle pedagogy’, now we have made detailed plans in advance. That was something that had to be adopted in the DT period to keep things under control. This was also transferred to CT and it has improved teaching, since I pay attention to all the little things beforehand. [10.2]

The two last-mentioned changes connected with instructions and planning, which teachers did not recognise or highlight during the DT period but became aware of only after returning to CT, once again indicate the modification requirements imposed on teaching practices in DT (e.g. Barbour 2015; König, Jäger-Biela, and Glutsch 2020).

Discussion

In this longitudinal study, the aim was to gain a better understanding of the changes in teaching following the COVID-19 school lockdowns. By exploring the anticipated and perceived changes among Finnish primary teachers in their teaching practices and attitudes due to the lockdowns, the study provides sought-after empiric and detailed insights within the realm of primary education. These insights complement the bulk of envisioned changes, agendas and reconceptualization associated with school reopening (cf. Cahapay 2020; Hargreaves and Fullan 2020; Zhao and Watterston 2021).

The findings elucidated the diversity of the expected and perceived changes connected to the DT period. Nevertheless, the majority of expected changes were either not perceived to have occurred (unfulfilled expectations) or, conversely, the perceived changes were unforeseen (unexpected outcomes). The only change that could eventually be considered as a fulfilled expectation was the augmented use of ICT in teaching, as highlighted by the individual-level comparison. As prior research highlights, the DT context sets a significant demand on teachers’ technological understanding (König, Jäger-Biela, and Glutsch 2020; Mankki and Rähä 2022; Moore-Adams, Jones, and Cohen 2016; Scully, Lehane, and Scully 2021). Teachers’ acquired knowledge, combined with the improved equipment and enhanced ability of pupils, was perceived to contribute to the increased use of ICT after the lockdowns.

At a more interpretive level, this study, following the principles of LQR (Holland 2007), captures the unforeseeable elements connected to the change. It suggests the difficulty of anticipating certain changes through interruptions, interventions or innovations, even concerning one’s practices and thinking. Therefore, by describing the discrepancy between expectation and outcomes, this longitudinal study adds to the existing literature on the complexity of educational change (e.g. LeFevre 2014).

In terms of implications, the findings of this study offer valuable insights for developing and evaluating reforms in teaching at the primary level. It emphasises the importance of recognising that expected and perceived changes may diverge, and that innovations might lead to unpredictable effects that are not immediately apparent to teachers but emerge over the longer term. The findings, illustrating perceived changes due to the lockdowns, also contribute to the preparation for and evaluation of consequences in the face of future disruptions in education, such as pandemics and climate disasters, expected to become more frequent in the future (Smith et al. 2014; United Nations 2020). Moreover, the findings highlight the importance of educating future teachers that are not only equipped to handle emergency circumstances effectively but also capable of

understanding the complexities associated with change. This involves acknowledging that change is not a straightforward process, and the ability to identify and reflect unforeseen changes that may arise during reforms.

In LQR the issue of timing is of importance (Thomson, Plumridge, and Holland 2003). In this study, an attempt was made to locate the follow-up interviews at a time when 'enough' time had passed from national school lockdown, but not too much, so that teachers could still effortlessly recall their practices, experiences and views from the period. The decision on timing was based on intuitive judgement, and it should be noted that if the interviews had been executed at different time points, the expectations and/or perceptions could have differed from those described in this study. In addition, it can be questioned whether teachers can recognise or explicitly express all the changes that occurred: according to Bennet and Bennet (2008) some aspects of teacher knowledge, especially practical aspects, may be extremely tacit, and thus difficult to transfer to other people verbally. For the trustworthiness of the follow-up data, it was considered crucial not to steer the participants by providing summaries or standpoints or otherwise referring to the expectations expressed in the original interviews.

Conclusion

The onset of the COVID-19 pandemic presented an unprecedented challenge for teachers worldwide. Since the schools were forced to shift to DT, there has been widespread speculation about how the period will influence teaching practices when schools reopen. This study, by exploring Finnish primary teachers' expectations for, and perceptions of, the change in their teaching practices and attitudes, provided an empirical perspective to complement the envisioned changes associated with school reopening. The findings highlight the fulfilled expectation of increased ICT use in teaching but also reveal unmet expectations and unforeseen outcomes that became apparent after transitioning back to CT.

Given the continued uncertainty, restrictions and anticipation of upcoming lockdowns during the follow-up interviews, further research is needed to investigate the sustainability of these changes. Researchers, particularly those with pre-pandemic observation data, could implement a new collection of data to recognise the actual changes in teaching practices resulting from the disruption. This approach could extend research into the hidden category of change, i.e. unexpected and unperceived, that was beyond the reach of this study. Ultimately, it would be important to analyse whether the observed changes have genuinely enhanced the effectiveness of teaching.

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Ville Mankki  <http://orcid.org/0000-0001-7064-3472>

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