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Teachers' agency during the Covid-19 lockdown: A new materialist perspective

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ABSTRACT

Teachers' agency is an essential factor in understanding and developing pedagogics. The study adds to the previous research by employing a new materialist perspective, highlighting the notion that teachers' agency is not merely a matter of humans, but results from assemblages of both human and nonhuman elements in teaching. The context of the study is the school lockdown period of the Covid-19 pandemic. Twenty Finnish primary teachers were interviewed to explore how teachers verbalised the rapid transition to a distance teaching environment and to discern what kind of agency that transition unfolds. The findings illustrate lost agency, but simultaneously, new forms of agency emerging from the entanglement of humans and materiality in the changed assemblages. This understanding helps to support both preservice and in-service teachers' agency in ways that acknowledge the complexity of teacher learning beyond individualistic and controllable views in increasingly multifaceted teaching environments.

KEYWORDS

Teacher learning; agency; assemblage; new materialism; Covid-19; distance teaching

Introduction

Teachers' agency is an essential factor in understanding and developing pedagogics because how teachers make sense of their possibilities to act has implications for students' learning and well-being. Teachers' agency, from the viewpoint of teacher education and teacher professional learning, has recently become a common research topic, utilising various theoretical and methodological approaches. This study adds to that research by employing a new materialist perspective (Bennett 2004, 2010; Strom 2015; Strom and Viesca 2020), highlighting the point that teachers' agency cannot be fully understood by human-centred conceptualisations and methodologies, but requires taking into consideration how materiality affects teachers and their teaching.

In recent pedagogical research, new materialist perspectives have been increasingly utilised to fill gaps in traditional human-centred perspectives and to challenge the established individualised perspective, where learning is primarily seen in terms of the intrinsic capabilities or potentialities of people (Mulcahy 2014). More broadly, these theoretical perspectives, increasingly throughout humanities and social sciences, have

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been called for to rethink the role of the human being in the wholeness of the planet (Bennett 2004). They question the hierarchical relationship of human beings and non human beings, and the understanding of the latter as passive objects acted on by self-directed human agents (Hood and Kraehe 2017). Along with post-humanism (Taylor 2016), socio-materialism (Fenwick and Nerland 2014), and the actor-network theory (Mulcahy 2014), new materialism shares a focus on the role of materialities in the constitution of societies, cultures, subjectivities, and the world. Thus, new materialism critiques individualistic, linear, and dualistic understandings of teaching (Strom and Viesca 2020), which tend to reduce learning and teaching to fully controllable processes and, in turn, explore how teachers function and learn in association with material phenomena, such as texts, technologies, spaces, and places (Mulcahy 2014).

In this study, we explore primary teachers' agency in distance teaching during the Covid-19 school lockdown in Finland. Many countries around the world opted to cancel in-person teaching in schools as part of their measures to limit contact between people and to slow the spread of the Covid-19 pandemic. According to the data from United Nations Educational, Scientific and Cultural Organization (2020), altogether 1.5 billion learners were affected by school closures at the peak of the crisis in the beginning of April 2020, accounting for more than 90% of total enrolled learners. When in-person teaching was practically suspended, teachers in Finland, as in the rest of the world, were forced to transition rapidly and unexpectedly to a distance teaching environment that posed unprecedented challenges for them (Darling-Hammond and Hyler 2020; Carrillo and Flores 2020).

The school lockdowns had strong implications for the materiality of teaching. We argue that the sudden change in the materiality of the teaching environment revealed characteristics of teachers' agency that would otherwise have remained hidden and, simultaneously, shaped teachers' agency in unforeseen ways. The materiality as such did not disappear but influenced in new ways – in different premises such as homes – and in digital forms, such as the digital applications used in distance teaching. Although school as a physical environment was abandoned, it persisted as a psychological and social phenomenon as aims, aspirations, and values of schooling. Thus, we asked *how teachers verbalised the rapid transition to the distance teaching environment and what kind of agency that transition unfolded*.

After the pandemic, traditional in-person teaching will probably be enhanced by the elements familiar from the distance teaching setting. Therefore, new ways to understand and support preservice and in-service teachers' agency in ever more multifaceted teaching environments are required. Research providing knowledge on distance teaching at primary level is particularly called for since the struggle with the transition to distance teaching has been even more severe in the lower levels of schooling than in higher education institutions, which had already established online courses before the crisis (Allen, Rowan, and Singh 2020).

The role of materiality in teaching

Teaching and teacher learning have traditionally been based on the implicit assumption that only human aspects matter. Established accounts tend to rely on a form of representation in which the world and the learner are held apart (Mulcahy 2014) and in which

materiality and its effects are overlooked or dismissed (Fenwick and Nerland 2014). In the socio-cultural tradition following Vygotsky's ideas, material sign forms' role in teaching has been widely acknowledged as they serve as mediating tools for learning (e.g., Wertsch 2007). However, new materialist and socio-materialist views take a different perspective, focusing on the role of materials and bodies as a dynamic one, fundamentally enmeshed with activity in everyday practices (Fenwick and Nerland 2014). They highlight that material bodies never act alone (Hood and Kraehe 2017), show the interdependence of entities, and thereby reveal that learning, as well as teaching, is always more than human (Fenwick and Nerland 2014).

The primary idea of new materialism is that things affect humans. Indigenous philosophies have always thought with the entangled agency of humans and nonhumans and humans' relationships and responsibilities with places (Toohey et al. 2020) but in the Eurocentric tradition, this is a rather new approach. 'Material forces – flesh and blood, forms and checklists, diagnostic machines and databases, furniture and pass codes, snowstorms and dead cellphone zones' also shape professional practice and routines (Fenwick and Nerland 2014, 3) in teachers' work. Actually, the human/nonhuman distinction can be contested because most phenomena are composed of hybrid assemblages, always reconstituting themselves (Fenwick and Landri 2012).

New materialist scholars have been influenced especially by Bennett's (2004, 2010) theoretical work, which turns the gaze into the things and their role on agency. A 'thing' refers to both natural and artifactual things, and 'thing power' means 'the curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle' (Bennett 2004, 351). This kind of approach does not mean being uninterested in humans, in this case in teachers, their students, or other people they encounter. Rather, it is a question of changing perspective. Giving voice to a less specifically human kind of materiality, it is possible to explore the powers it can have on humans. Bennett (2004), drawing from Spinoza, Deleuze and Guattari and Latour, gives philosophical expression to the vitality, wilfulness, and recalcitrance of nonhuman entities and forces and depicts the non-humanity that flows around and through humans. Central to the power of things is its overlapping with humanity. In ordinary life, the 'us' and the 'it' slip and slide into each other as people are also nonhuman and as things have vital roles in the world (Bennett 2004). In Bennett's (2004) example, rubbish on the street is stuff to ignore because it is merely residue of human action and inaction. However, the thing-power of rubbish commands attention and action and affects humans with emotional responses, such as disgust. In addition, as animate and inanimate overlap, there is a 'thing-ness' in humans, as human's bodies are material (Bennett 2004).

Recently, research on pedagogy has been decentering the long-term educational focus on the individual human subject (Fenwick and Landri 2012). The understandings of the entwinement of humanity and materiality enlighten research on teaching as teaching is enmeshed with materiality in several ways. In-person teaching has traditionally been characterised by the classroom, materials, and the presence of the students' bodies. In distance teaching, however, the technology, the online environment, and the materiality in homes dominate. Thus, a central concept of new materialist research on teaching is 'assemblage'. In general, assemblages are ad hoc groupings of diverse elements of vibrant materials (Bennett 2010). Accordingly, teaching assemblages refer to heterogeneous collectives of elements of the material and non-material that come into compositions in

different ways to produce teaching (Strom 2015). These elements, such as bodies, smart boards, desks, and language are linked in a complex process of assemblage making (de Freitas and Curinga 2015). The concept of assemblage brings forth the variety and relationality of different elements in teaching, of which human beings are only one part.

In the research on teachers and teaching, new materialist perspectives can offer implications for teacher education and policy, supporting the focus on processes of teaching rather than outcomes alone (Strom 2015). In an in-depth case study of one American secondary science teacher, Strom (2015) used the concept of assemblages to illustrate how a teacher is only one element in a larger collective that jointly produces teaching practices, and agency is distributed across that assemblage rather than held exclusively by the teacher. Charteris et al. (2017) examined continuous teacher professional learning and development, considering the co-constitutive nature of material objects in professional learning spaces. They illustrated how agency was co-produced through 'heterarchical' coaching relations that afford affective flows between bodies, objects, and discourses (Charteris et al. 2017). Anwaruddin (2016) examined publications that emerged from a teacher development programme in Bangladesh, using a new materialist lens on these discourses. He found that, by focusing exclusively on teachers' skills and competencies, the publications overlooked other factors that significantly influenced teacher professional learning and growth (Anwaruddin 2016).

Decentring the human from pedagogies has recently been a goal in many fields. In literacy and language teaching, new materialist perspectives aim to de-centre literacy and language as privileged representational practices focusing merely on the mind and transforming teaching beyond normed comparisons of skills attainments (Toohey et al. 2020). These views have also enabled less anthropocentric and more relationally attuned perspectives, for example, in environmental education (Sonu and Snaza 2015; Verlie 2020), art education (Hood and Kraehe 2017), social studies education (Nelson, Segall, and Scott Durham 2021), teachers' local curriculum development (Tronsmo and Nerland 2018), and modern learning spaces (Charteris, Smardon, and Nelson 2017; Tietjen et al. 2021). There have been calls for more new materialist research on teaching to (re) conceptualise teaching as a complex phenomenon, which is jointly produced in a constellation of human, nonhuman, discursive, and material elements (Strom and Viesca 2020). In the pandemic situation, where teachers have transitioned through a particularly uncertain time in terms of their professional lives and work (Allen, Rowan, and Singh 2020), new materialism provides necessary new perspectives to discover how teachers respond and adapt to the changed assemblages in the post-pandemic era.

Teachers' agency from the new materialist perspective

Teachers' agency in the educational literature has previously been understood mainly as an individual's power to act. The theoretical perspectives vary from socio-cultural understandings of learning as mediated by the context and the culture (e.g., Biesta, Priestley, and Robinson 2017; King and Nomikou 2018) to understandings of learning as an individual process of attaining capabilities (e.g., Toom et al. 2017). Recently, in post-structuralist and post-modern understandings, agency has not signified merely individual teachers' will to act, but rather has been depicted as incomplete, intertwined with, and produced through the linguistic systems and other relationships within which teachers

act (Loutzenheiser and Heer 2017). Some researchers have emphasised the role of language and narrative in the formation of teachers' agency (Heikkilä et al. 2020a; Heikkilä, Iiskala, and Mikkilä-Erdmann 2020b; Kayi-Aydar 2019), and others have seen agency as a materialist formation – as an assemblage consisting of both human and nonhuman powers (Charteris et al. 2017; Strom 2015). Some have explicitly argued against dualist categories separating materiality and discourse, examining the immaterial (e.g., language and beliefs) in relation to teachers' agency and action in material contexts (Anwaruddin 2016).

From that approach, examining teachers' agency does not only address human agency. The new materialist perspective invites an understanding of agency that recognises the interrelationships and interdependency of human beings and things (Hood and Kraehe 2017). It offers a conception of human agency that is ever-emergent within such entanglements, as things with which teachers are entangled can diminish one's agentic capacity or promote its ability to flourish (Nelson, Segall, and Scott Durham 2021). Thereby, paying attention to powers that are other than human or more than human, paradoxically, reveal new characteristics of humans' agency and show humans as part of a larger wholeness. In the research on teaching and teacher education, a 'complex turn' is needed because traditional rational humanism and linear thinking tend to suppose that the teacher has full agency to take her or his learning and drop it into the classroom as the human/nonhuman elements of the classroom remain relatively stable and passive (Strom and Viesca 2020). This, in turn, shapes the way teachers' agency is supported in teacher education and throughout their teaching careers.

The perception of teachers' agency changes a lot once nonhuman things are conceived less as constructions and more as actors and once humans themselves are conceived as not wholly autonomous but as vital materialities in line with Bennett (2010). Vitality here means the materiality as self-organising and responsive rather than as static and simply measurable stuff. Thereby, the focus moves from individuals towards distributive agency. Whether individualistic or collective, agency is not always in the hands of humans, but humans are part of an even larger ecology and never outside of it. The concept of assemblage is especially used in discussing agency in terms of new materialism. From the viewpoint of agency, assemblages are not just random groupings, but refer to the way the elements work together to produce action (Strom and Viesca 2020). Thus, assemblage is an analytic tool to help to explore the situated, multi-faceted, and interactional activities of teaching (Strom and Viesca 2020).

The concept of assemblage draws culture and nature into the same picture as assemblages emerge due to the affects between their constituents (Fox and Alldred 2020). Affects, as autonomous flows beyond the individual (Massumi 1995), have a lot in common with new materialist understandings of agency since they both question the sovereign and self-directed role of human, which is detached from nature. To withdraw from the traditional conception of agency referring to exclusive capacity of humans, some researchers have preferred to replace the concept of agency with the concept of affect (Fox 2015; Fox and Alldred 2020). Either way, using the concept of assemblage, it is possible to explore how materiality in teachers' work has both resistant and productive power, affecting their agency. Materials, such as scorecards or comparing graphs, can also exert agency by producing both positive and negative affects (Brøgger 2018). Negative and positive agency can be intertwined and simultaneously present (Tiainen 2017). The

materiality present in teaching practices does not always conform to human plans, and a teacher has to change their bodily habits so that this materiality responds in the desired manner. However, the materiality can produce positive and productive agency by inspiring new human behaviour.

This is the case, for example, in the role of technology in teaching. Technology has been embedded in teachers' work for a long time, but during the Covid-19 pandemic, it became a necessity. However, humans are ontologically part of the technological environment, and interconnections cannot be understood merely by pointing out the presence or absence of technology, since technology is made by humans and using technology is a human activity in many ways embedded and embodied in people's everyday lives (Hine 2015; Tiainen 2017). We believe that new forms of teachers' agency will unfold in the time of distance teaching; these will become evident through paying attention to the materiality of teaching and conceiving teachers, not as categorically agentic or passive, but rather as simultaneously strong and vulnerable.

Design and methodology

There is no set of rules for conducting new materialist research (Schadler 2019). However, common to these perspectives is that they reject the static hierarchical logic of representation and practices such as interpretation and analysis as conventionally understood (MacLure 2013). They question the methodological 'centrism' that privileges both speaking and hearing human subjects and, instead, attempt to push against the cutting off of a human subject as the prime source of experience, knowledge, and reality (Mazzei and Jackson 2017). They argue that the human voice, although an important element, is only one part of an agentic assemblage (Mazzei and Jackson 2017). Considering the research on teaching, it requires a situated and local research approach that accounts for the mediating elements in all their complexity rather than attempting to link teachers' learning outcomes directly to student learning outcomes (Strom and Viesca 2020). We believe it is not possible to completely break the boundaries of the analytical writing styles that are criticised within new materialism, but it might be possible to bend them (Schadler 2019).

We wanted to examine how materiality was present in teachers' verbalisations because language has been acknowledged to play a strong role in both revealing and constituting agency (e.g., Bruner 1991). However, linguistic research on agency conducted from a human-centred perspective can easily overlook the materiality and the whole assemblage the agency derives from. Thus, that is not the only option, but by paying conscious and careful attention to the materiality that is depicted in language, it is possible to consider the roles of both language and materiality in teachers' agency. Of course, teachers' verbalisations are not 'direct' reflections of the teaching assemblages, but are told situatedly in the interviews. However, this telling activity remains essential because those accounts imply a certain understanding of what is possible for the teller in a particular context (Meretoja 2017).

Hence, the interviews with teachers were considered useful. The interviews were originally conducted as part of a research project led and conducted by the second author concerning primary teachers' professional learning and principles for high-quality distance teaching during the Covid-19 pandemic (e.g., Mankki 2021). Since the

research project did not focus on new materialism, the material accounts were not elicited in the interviews. This was advantageous because it helped in de-centring the method of interviewing (Mazzei and Jackson 2017) as an over-rational method of 'gaining information' on the materiality in the accounts. Agency was not elicited by questions to teachers in regard to their possibilities to act, but agency, as assemblages of both human and material elements, was interpreted from the data.

Twenty primary teachers were interviewed during the fourth week of the distance teaching period (between 6 May and 10 May 2020). All the participants had been delivering distance teaching from 18 March 2020 from home or the workplace depending on the policy of the school or the municipality. A purposeful sampling strategy was used to ensure a representative gender distribution and adequate variation among the participants in the work experience, the grade taught, and the location. Of the participants, 15 were women and five were men, which is a rather typical gender ratio among Finnish primary teachers (OECD 2020). The work experience of teachers ranged between 2 and 25 years. The participants were located around the country, and all grades in the Finnish primary school (1–6) were covered by the participants.

Semi-structured interviews were individually conducted via Microsoft Teams or Zoom, depending on the preference of the interviewee. The interviews lasted from 30 to 40 minutes. An interview guide – a script that lists the themes and the main questions to be discussed in the interview (Kvale and Brinkmann 2009) – was used as a support. The interview guide was generated in collaboration with educational experts, including scholars and primary teachers, and tested in pilot interviews. Finally, the guide included three themes: (1) quality distance teaching, (2) support received in the transition to distance teaching, and (3) professional learning during the distance teaching period.

The analysis began by carefully reading the transcribed interviews several times from a new materialist perspective. Here, we did not want to imply an intentional subject standing separate and outside of 'the data', identifying higher-order meanings, themes, or categories (MacLure 2013). Instead, we wanted to stay open to the perspective of the materiality and the assemblages because, from a new materialist perspective, agency is constituted as an enactment, not as an individual possession (Mazzei and Jackson 2017). Thus, we acknowledged that the voice of the teachers in the assemblages of teaching and being interviewed was continually made and unmade.

This reading evoked insights into how the interviews could be analysed. Although avoiding strict patterns, finally, we found three foci for the analysis, which were intertwined in the findings. First, the focus of the analysis was on 'things' (for example applications and software): the kinds of roles the teachers gave to them, what kind of relations they depicted with them, and in consequence, how their agency was shaped. In particular, Bennett's (2004, 2010) thing-power materialism was utilised here, illustrating how things' power affects human agency.

Second, the focus was on how the teachers described the continuum of the physical presence and the distance to the pupils in the sudden change of materiality and what kind of meanings they gave to this. In this situation, the teaching continued but in different premises, mostly in the home environment. Due to this, various psychological, physical, or temporal boundaries suddenly faded: teachers' work and children's studying became visible to parents via online lessons, parents' wishes and feedback were directly communicated to the teachers, and teachers were able to personally meet the shy and

quieter children (who usually remain in the background) without others disturbing them. In turn, the teachers lost contact with some children with special needs. How the teachers addressed the fading boundaries, and thus, perspectives of in-person presence and distance, guided the analysis.

Third, materialist metaphors (for example 'grass-roots level support in ICT [information and communication technologies]' or 'the cornerstones of my teaching') and their significance for the teachers' agency were analysed. Material metaphors matter because they seemed to help teachers to make sense of their agency in concrete terms. It is natural to depict one's stance using metaphors related to materiality, nature, and physicality, as we are not apart from wholeness. In the first example, ICT, which is virtual, is coupled with the grass-roots level to highlight the need for support at a practical and even natural level. In the second example, natural material elements, stones, were used as a tangible means to make sense of one's teaching practices. In both examples, the material metaphors exhibited agency by apprising the listener of the teachers' needs and aims.

Through the analysis, two major themes began to take shape. First, the perspectives of the physical presence emerged when the possibility for physical presence was suddenly taken away from the teachers and the children, affecting teachers' agency. Second, the turmoil, as it can be depicted, aroused new kind of agency for teachers. In the following section, the aim of the study is covered by two passages that both illustrate how the teachers verbalised the rapid transition to distance teaching and the kind of agency that shift unfolded.

Findings

The lack of physical presence in the classroom – verbalising lost agency

The school lockdowns interrupted the normal physical schoolwork in the classrooms and schools. With a only a couple of days' notice teachers implemented various solutions for delivering distance teaching. Switching the teaching from classrooms to online settings did not signify the disappearing of the materiality, but changes in it. Suddenly, rather than being a useful tool in the classroom, ICT was a necessity enabling teaching to continue. Despite moving all communication with pupils (and their parents) online, teachers still strove to keep the assemblage of the teaching as normal as possible, as one teacher depicted it:

We need the rhythm. Of course, as a teacher, you can largely say that the rhythm of schooling goes on at homes and that you give live lessons at noon and contact the pupils at noon. I find it important that the pupils can keep up with the routines, at least in some way. In addition, in a sense, talking about other things than the learning content and small talk about the weekend is important. The purpose of a live lesson cannot be to go straight to the matter with a massive intensity but to try to keep the interaction quite similar, as it would be at school. In that way, we can create a sense of safety and familiarity for the children when we are in distance teaching but quite similarly present as at school. (Interviewee 19)

Although the assemblage of teaching had dramatically changed, the teacher strove to maintain the essential elements of traditional schooling, such as repeating routines and following the schedule. The comments point to a tension in agency. On the one hand, the teacher's voice is agentic as she is still able to define the rhythm of the day in the distance

setting. On the other hand, at the same time, these troubled efforts to guarantee the ordinairiness of the teaching and resemblance to the normal circumstances depict lost agency, as the agency used to be natural and taken for granted.

Teachers explicitly compared the aspects of in-person and distance teaching from various perspectives, such as well-being, methods, and learning. This comparison can also be called a used-to-be assemblage. In the following extract, the teacher points to the challenge in supporting the pupils with special needs in the distance setting compared to in-person teaching:

In our school, we have now introduced 'Meet-moments' for these pupils, held by assistant teachers. However, the problem is that you are not beside the pupil although you are in video contact. For part of the pupils, it is, like 'Please take that pen in your hand and let's try!' Or putting a hand on a pupil's back or something else in order to make the pupil sit still or using other physical means – that is a great challenge. (Interviewee 2)

A pen, which is an inanimate thing, seems to have remarkable significance for the teacher's work. When the teacher is not physically next to the pupil, the power of a traditional thing (pen) cannot be used, which causes a feeling of powerlessness. From this perspective, the sudden change in the setting revealed a thing-power existing in in-person teaching. Other ways of giving physical support that are natural and implicit in the classroom have become exceedingly visible when they are off limits. In turn, a thing-power concerning textbooks has changed in distance teaching in a peculiar way, as described in the following quote:

This is quite much based on the chance to find suitable tasks in the textbooks. Luckily, we have a good situation because we have been doing quite a lot of other things during the school year, so there are tasks left in the textbooks. That serves this situation quite nicely because it is quite hard to come up with other kinds of tasks because in the homes, there are various situations and no materials available, so the tasks in the textbooks are vital now. (Interviewee 2)

The extract illustrates how things in classrooms and things now available in homes had both positive and negative effects on teachers' agency. Although it would have been appropriate in effective teaching to utilise all kinds of materials in the classroom and outside the school building, as well as technology, the power of the textbooks was valuable for the teacher to provide safety, support, and attachment for teaching under the emergency circumstances and therefore positively affected teachers' agency. In turn, the diversity of things in pupils' home environments was negatively loaded: different things are available there to be used as materials for learning and teaching. The power of textbooks resists the negative power produced by the variation in home environments and, thus, produces predictability and safety for teachers in an environment that is otherwise difficult to control.

The change to distance teaching was also regarded in terms of the lack of interaction. Teachers brought forth the difficulty of gaining information on and supporting children's progress because they could not see them or be with them in the same space. Using the material space by for example circulating around the classroom was also out of the question. Instead, they often felt that they only saw the final 'output' the children had produced during the day. In addition, the teachers worried about not being able to show empathy. Simply 'living the school day together with the child', as one teacher put it, was

missing. Also gestures and other expressive forms of behaviour supporting the intelligibility of the instructions in the in-person teaching could not be used. The following comment illustrates that dilemma:

Giving help is more challenging in my opinion. Especially for those who do not ask for it. At school, I would always already see roughly from the facial expression and physical position that maybe I have to go to that person to have a little chat separately. However, now I cannot see that, but maybe they should somehow themselves be brave enough to ask for more help if they need it. (Interviewee 4)

Distance teaching set new requirements for interaction and intercommunication, pushing the teachers (and also pupils) to verbalise their expressions instead of using a wide range of expressional behaviours. Bodily agency was restricted and replaced by language-related means. The materiality of in-person teaching and the characteristics of physicality and missing informal interaction are described in the following extract:

For me, teaching is so much about communication, breaks, lunch breaks, and that the children come to tell how they are doing; they tug my sleeve or something. For me, it is important, in a sense, that we are really present and now it feels kind of boring that now it is so little about that. Maybe it is quite a large part of my personality. Maybe I am quite an easily approachable teacher, and that is my resource and strength in this work. (Interviewee 11)

Tugging the teacher's sleeve symbolises an act that is hard to replicate in its spontaneity and corporeality in interaction via digital devices; fewer tools were available for teachers' agency in the distance setting. The teacher also argues that being easily approachable is part of her teacher identity that cannot be used, at least not in the same way, in the online environment. Other teachers, too, highlighted their strengths, such as creating a good atmosphere and making situation-based comedy in the classroom. They had limited opportunities to use their strengths, and it diminished their agency.

New assemblages in the turmoil – verbalising the new agency

The unexpected transition into distance teaching did not completely weaken teachers' agency. The new assemblages had, for example, fostered collaboration with parents and diminished discipline problems. The change also enhanced the teachers' explorative orientation, as described in the following:

Maybe I have dared to experiment a lot more than I would do in normal classroom work. In this situation, I think we are having an exceptional situation, so it is okay to experiment a little more freely with something that might normally take more time and that I would have thought like 'Let's not do that'. (Interviewee 9)

The teacher compares the situation to normal classroom practice, where the materiality in the classroom may sometimes restrict the teacher from experimenting with new methods and practices. Now, stepping into a new space which had not been predetermined and where it was acceptable to try out new practices, had the potential to emancipate teachers and positively affect their sense of agency. Teachers also depicted how new

collegial cultures of sharing and helping had emerged in this space, boosting their agency. In the following, the teacher talks about sharing materials across the whole country on the Internet:

In my opinion, it has been nice that teachers all over Finland have shared a lot of material in different forums. I think that is very welcome. We are all in this same new situation, so I think it is nice to see that teachers have, in a sense, started to open the doors of the classroom and not shut them, but sharing anything one has developed or experimented with. (Interviewee 3)

In the extract, a thing metaphor – the door of the classroom – is used. It is a common metaphor used to describe school culture that emphasises openness and collaboration in comparison to withdrawal and isolation. The use of the collective expression ‘we’ implies that the sharing has been reciprocal. However, in some interviews, the sharing caused pressure for teachers by comparing them to other teachers and the creative solutions the other teachers had engendered in their teaching.

The new teaching assemblages covered online lessons, digital tools for giving instructions and returning tasks, online clinics for children’s questions, email and instant message discussions with individual children and their parents, and regular ‘check-in’ video and phone calls to children and their parents. In working with colleagues, the assemblages were characterised by online meetings, message discussions, open websites, and social media groups for sharing teaching materials. The power of digital things was primarily in enabling communication with the children, their parents, and colleagues and thus guaranteeing the collaborative continuity of education. Therefore, the devices supported teachers’ agency, as the teachers were able to continue to support pupils by teaching them instead of just handing a list of assignments for them to finish every day. The digital devices also enhanced valuable practices supporting learning, such as giving more individual and personalised feedback to pupils:

Now I have given much more personalised feedback to my pupils, paying personal attention to pupils as individuals has been given a stronger role. That is something I could concentrate on even more in in-person teaching because the pupils seem to like to get straight personal feedback every day. (Interviewee 17)

The understanding of the value of the feedback seems to be emphasised in the new assemblage of distance teaching. Hence, reflecting on the principles for teaching in a distance setting could also support promoting adaptable practices when returning to in-person teaching. Therefore, the changed assemblages can bring new agency for teachers. The distance environment also enabled material encounters that would otherwise have been impossible, as one teacher explained:

In this situation, there is also something good that we usually cannot do at school. For example, the pupils often ask, ‘When can we have a pet day?’ Well, I have used allergies as an excuse that we cannot do that in school. However, yesterday we had a pet live session for one and a half hours. So, well, it can be said that the [animal] participation was roughly 90 percent, and indeed, there were all bunnies, rabbits, and gerbils online. (Interviewee 19)

These special objects, animals, helped the teacher to keep up children's motivation and, thus, provided agency for the teacher. The presence of the animals reorganised the assemblage, as the animals suddenly could be included. Animals, although inanimate, were also present in the following extract, in which the teacher discussed promoting physical material on distance teaching:

I have read that teachers' have come up with new ways, putting soft toys in front of the display to not to have to give the lesson to an empty classroom. Then you have someone to give the lesson to. That's interesting. It's kind of a psychological thing that affects them. (Interviewee 16)

In this extract, soft toys have the power to make the distance-teaching situation more bearable for the teacher by removing the weirdness of having a lesson without the physical presence of pupils. The teacher also illustrates how various means, material and immaterial, were needed and used to boost teachers' agency under the emergency circumstances.

Discussion

This study has illustrated primary teachers' agency from a new materialist perspective during the Covid-19 school lockdown. The study has been guided by the insight that teachers' agency cannot be conceptualised merely from a human perspective, but it results from assemblages consisting of both human and nonhuman materialities. The findings suggest that the change in the materiality of the teaching had both positive and negative consequences for teachers' agency: on the one hand, the change restricted their action by not allowing them to use their strengths in teaching; on the other hand, it promoted their pedagogical innovativeness and self-efficacy. Therefore, the study provides an important insight to dismantle the either-or view of teacher agency (cf. Bennett 2010; Strom 2015; Strom and Viesca 2020). In addition, the findings describe how agency was manifested relationally through various human–human and human–material assemblages. By doing this, the study has added to previous research on teachers' agency by providing a distributive and, thus, a more realistic picture of teachers' agency during the emergency circumstances.

Understanding teachers' agency from the perspective of new materialism has strong implications for initial teacher education and in-service teachers' professional learning. The new materialist stance on teachers' professional learning is not merely about teachers' will, judgement, or an imperative to be responsible for something, but it is rather responsiveness to ever new situations the teachers are exposed to (Sonu and Snaza 2015). This understanding of teachers' agency is necessary for teachers struggling with growing societal expectations and increasing accountability. The recent research on teachers' agency during the Covid-19 pandemic shows that, despite the fact that teachers might have been unprepared for distance teaching, they were willing to make it work for them and their pupils (Gudmundsdottir and Hathaway 2020). Teachers were largely left to decide what best suited their own classroom, which in some contexts has been described as creating a chaotic plurality (Teruya 2021). In this situation, a significant reliance on teachers to engage in new ways to teach and steer their own professional learning (Campbell 2020) created openings for teachers to agentically (re)interpret their roles, responsibilities, and pedagogical actions (Teruya 2021). Accordingly, the teachers in this

study described a wide range of solutions to continue teaching and to support the children's learning and well-being, although their teaching assemblages had been dramatically reorganised. However, as teachers and teaching seem to be an answer for any problem in society nowadays, a distributive and thus a more realistic understanding of the possibilities for their agency can bring compassion to teachers' work, learning, and well-being.

The Covid-19 pandemic and its fatal consequences can help researchers to analyse the assumed separateness of human beings and materiality more critically (Nelson, Segall, and Scott Durham 2021). As disruptive crises for education, such as pandemics and climate disasters, will inevitably occur again in the future, the pandemic has shown the interconnectedness and interdependence of human and nonhuman materialities, raising questions about some of the previous assumptions about pedagogics. From the viewpoint of materiality, one could question whether it is fruitful to discuss *teachers' agency* and not the assemblages where teachers are only one part. However, considering the vast amount of literature on teachers' agency conducted from an individualistic perspective, the kind of bridging made in this article is necessary. In increasingly complex and contradictory educational settings researchers can no longer achieve an understanding of teachers' agency that disregards the assemblages that agency is connected with. Therefore, we believe that the new materialist approach is needed to renew and reimagine teaching and teacher learning from a broader perspective.

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References

- Allen, J., L. Rowan, and P. Singh. 2020. "Teaching and Teacher Education in the Time of COVID-19." *Asia-Pacific Journal of Teacher Education* 48 (3): 233–236. doi:10.1080/1359866X.2020.1752051.
- Anwaruddin, S. M. 2016. "ICT and Language Teacher Development in the Global South: A New Materialist Discourse Analysis." *Educational Studies* 52 (3): 260–278. doi:10.1080/00131946.2016.1169183.
- Bennett, J. 2004. "The Force of Things. Steps toward an Ecology of Matter." *Political Theory* 32 (3): 347–372. doi:10.1177/0090591703260853.
- Bennett, J. 2010. *Vibrant Matter. A Political Ecology of Things*. Durham, NC: Duke University Press.
- Biesta, G., M. Priestley, and S. Robinson. 2017. "Talking about Education: Exploring the Significance of Teachers." *Talk for Teacher Agency'. Journal of Curriculum Studies* 49 (1): 38–54. doi:10.1080/00220272.2016.1205143.
- Brøgger, K. 2018. "The Performative Power of (Non)human Agency Assemblages of Soft Governance." *International Journal of Qualitative Studies in Education* 31 (5): 353–366. doi:10.1080/09518398.2018.1449985.
- Bruner, J. 1991. "The Narrative Construction of Reality." *Critical Inquiry* 18 (1): 1–21. doi:10.1086/448619.

- Campbell, P. 2020. "Rethinking Professional Collaboration and Agency in a Post-pandemic Era." *Journal of Professional Capital and Community* 5 (3/4): 337–341. doi:10.1108/JPC-06-2020-0033.
- Carrillo, C., and M. A. Flores. 2020. "COVID-19 and Teacher Education: A Literature Review of Online Teaching and Learning Practices." *European Journal of Teacher Education* 43 (4): 466–487. doi:10.1080/02619768.2020.1821184.
- Charteris, J., D. Smardon, and E. Nelson. 2017. "Innovative Learning Environments and New Materialism: A Conjunctural Analysis of Pedagogic Spaces." *Educational Philosophy and Theory* 49 (8): 808–821. doi:10.1080/00131857.2017.1298035.
- Charteris, J., D. Smardon, R. Foulkes, and S. Bewley. 2017. "Heterarchical Coaching for Continuing Teacher Professional Learning and Development: A Transversal Analysis of Agency." *International Journal of Qualitative Studies in Education* 30 (6): 546–559. doi:10.1080/09518398.2016.1265688.
- Darling-Hammond, L., and M. E. Hyler. 2020. "Preparing Educators for the Time of COVID ... and Beyond." *European Journal of Teacher Education* 43 (4): 457–465. doi:10.1080/02619768.2020.1816961.
- de Freitas, E., and M. X. Curinga. 2015. "New Materialist Approaches to the Study of Language and Identity: Assembling the Posthuman Subject." *Curriculum Inquiry* 45 (3): 249–265. doi:10.1080/03626784.2015.1031059.
- Fenwick, T., and M. Nerland. 2014. "Sociomaterial Professional Knowing, Work Arrangements and Responsibility – New Times, New Concepts?" In *Reconceptualising Professional Learning: Sociomaterial Knowledges, Practices, and Responsibilities*, edited by T. Fenwick and M. Nerland, 1–8. New York: Routledge.
- Fenwick, T., and P. Landri. 2012. "Materialities, Textures and Pedagogies: Socio-material Assemblages in Education." *Pedagogy, Culture & Society* 20 (1): 1–7. doi:10.1080/14681366.2012.649421.
- Fox, N. J. 2015. "Emotions, Affects and the Production of Social Life." *The British Journal of Sociology* 66 (2): 301–318. doi:10.1111/1468-4446.12119.
- Fox, N. J., and P. Alldred. 2020. "Sustainability, Feminist Posthumanism and the Unusual Capacities of (Post)humans." *Environmental Sociology* 6 (2): 121–131. doi:10.1080/23251042.2019.1704480.
- Gudmundsdottir, G. B., and D. M. Hathaway. 2020. "'We Always Make It Work': Teachers' Agency in the Time of Crisis." *Journal of Technology and Teacher Education* 28 (2): 239–250.
- Heikkilä, M., H. Hermansen, T. Iiskala, M. Mikkilä-Erdmann, and A. Warinowski. 2020a. "Epistemic Agency in Student Teachers' Engagement with Research Skills." *Teaching in Higher Education*. Advance online publication. doi:10.1080/13562517.2020.1821638.
- Heikkilä, M., T. Iiskala, and M. Mikkilä-Erdmann. 2020b. "Voices of Student Teachers' Professional Agency at the Intersection of Theory and Practice." *Learning, Culture and Social Interaction* 25: 100405. doi:10.1016/j.lcsi.2020.100405.
- Hine, C. 2015. *Ethnography for the Internet: Embedded, Embodied and Everyday*. London: Bloomsbury.
- Hood, E. J., and A. M. Kraehe. 2017. "Creative Matter: New Materialism in Art Education Research, Teaching, and Learning." *Art Education* 70 (2): 32–38. doi:10.1080/00043125.2017.1274196.
- Kayi-Aydar, H. 2019. "A Language Teacher's Agency in the Development of Her Professional Identities: A Narrative Case Study." *Journal of Latinos and Education* 18 (1): 4–18. doi:10.1080/15348431.2017.1406360.
- King, H., and E. Nomikou. 2018. "Fostering Critical Teacher Agency: The Impact of a Science Capital Pedagogical Approach." *Pedagogy, Culture & Society* 26 (1): 87–103. doi:10.1080/14681366.2017.1353539.
- Kvale, S., and S. Brinkmann. 2009. *Interviews. Learning the Craft of Qualitative Research Interviewing*. 2nd ed. Thousand Oaks: SAGE.
- Loutzenheiser, L., and K. Heer. 2017. "Unsettling Habitual Ways of Teacher Education through 'Post-theories' of Teacher Agency." In *The SAGE Handbook of Research on Teacher Education*, edited by J. Clandinin and J. Husu, 317–332. Los Angeles, CA: SAGE.

- MacLure, M. 2013. "Researching without Representation? Language and Materiality in Post-qualitative Methodology." *International Journal of Qualitative Studies in Education* 26 (6): 658–667. doi:10.1080/09518398.2013.788755.
- Mankki, V. 2021. "Primary Teachers' Principles for High-quality Distance Teaching during COVID-19." *Scandinavian Journal of Educational Research*. Advance online publication. doi:10.1080/00313831.2021.1939141.
- Massumi, B. 1995. "The Autonomy of Affect." *Cultural Critique* 31 Autumn, 83–109.
- Mazzei, L. A., and A. Y. Jackson. 2017. "Voice in the Agentic Assemblage." *Educational Philosophy and Theory* 49 (11): 1090–1098. doi:10.1080/00131857.2016.1159176.
- Meretoja, H. 2017. "Narrative Hermeneutics." In *The Ethics of Storytelling: Narrative Hermeneutics, History, and the Possible*, edited by H. Meretoja. Oxford: Oxford Scholarship Online. doi:10.1093/oso/9780190649364.003.0002.
- Mulcahy, D. 2014. "Re-thinking Teacher Professional Learning. A More than Representational Account." In *Reconceptualising Professional Learning: Sociomaterial Knowledges, Practices, and Responsibilities*, edited by T. Fenwick and M. Nerland, 52–66. New York: Routledge.
- Nelson, P. M., A. Segall, and B. Scott Durham. 2021. "Between Aspiration and Reality: New Materialism and Social Studies Education." *Theory & Research in Social Education* Advance online publication. 49 (3): 449–476. doi:10.1080/00933104.2021.1912679.
- OEDC. 2020. "Organisation for Economic Co-operation and Development." In *Education at a Glance 2020: OECD Indicators*. Paris: OECD Publishing. doi:10.1787/69096873-en.
- Schadler, C. 2019. "Enactments of a New Materialist Ethnography: Methodological Framework and Research Processes." *Qualitative Research* 19 (2): 215–230. doi:10.1177/1468794117748877.
- Sonu, D., and N. Snaza. 2015. "The Fragility of Ecological Pedagogy: Elementary Social Studies Standards and Possibilities of New Materialism." *Journal of Curriculum and Pedagogy* 12 (3): 258–277. doi:10.1080/15505170.2015.1103671.
- Strom, K. J. 2015. "Teaching as Assemblage: Negotiating Learning and Practice in the First Year of Teaching." *Journal of Teacher Education* 66 (4): 321–333. doi:10.1177/0022487115589990.
- Strom, K. J., and K. M. Viesca. 2020. "Towards a Complex Framework of Teacher Learning-practice." *Professional Development in Education*. Advance online publication. doi:10.1080/19415257.2020.1827449.
- Taylor, C. 2016. "Edu-crafting a Cacophonous Ecology: Posthumanist Research Practices for Education." In *Posthuman Research Practices in Education*, edited by C. Taylor and C. Hughes, 5–24. Basingstoke: Palgrave MacMillan. doi:10.1057/9781137453082.
- Teruya, J. 2021. "Pedagogy in a Pandemic: Responsibilisation and Agency in the (Re)making of Teachers." *Pedagogy, Culture & Society*: 1–17. Advance online publication. doi:10.1080/14681366.2021.1898044.
- Tiainen, M. 2017. "Sonic Technoecology: Voice and Non-anthropocentric Survival in the Algae Opera." *Australian Feminist Studies* 32 (94): 359–376. doi:10.1080/08164649.2017.1466651.
- Tietjen, P., S. O. Bekiroglu, K. Choi, M. M. Rook, and S. P. McDonald. 2021. "Three Sociomaterial Framings for Analysing Emergent Activity in Future Learning Spaces." *Pedagogy, Culture & Society*: 1–20. Advance online publication. doi:10.1080/14681366.2021.1881593.
- Toohey, K., S. Smythe, D. Dagenais, and M. Forte. 2020. "Introduction." In *Transforming Language and Literacy Education: New Materialism, Posthumanism, and Ontoethics*, edited by K. Toohey, S. Smythe, D. Dagenais, and M. Forte, 1–17. New York: Routledge.
- Toom, A., J. Pietarinen, T. Soini, and K. Pyhältö. 2017. "How Does the Learning Environment in Teacher Education Cultivate First Year Student Teachers' Sense of Professional Agency in the Professional Community?" *Teaching and Teacher Education* 63: 126–136. doi:10.1016/j.tate.2016.12.013.

- Tronsmo, E., and M. Nerland. 2018. "Local Curriculum Development as Object Construction: A Sociomaterial Analysis." *Teaching and Teacher Education* 72: 33–43. doi:10.1016/j.tate.2018.02.008.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). 2020. "Global Monitoring of School Closures Caused by COVID-19." Accessed 5 November 2020. <https://en.unesco.org/covid19/educationresponse>
- Verlie, B. 2020. "From Action to Intra-action? Agency, Identity and 'Goals' in a Relational Approach to Climate Change Education." *Environmental Education Research* 26 (9–10): 9–10: 1266–1280. doi:10.1080/13504622.2018.1497147.
- Wertsch, J. 2007. "Mediation." In *The Cambridge Companion to Vygotsky*, edited by H. Daniels, M. Cole, and J. Wertsch, 178–192. Cambridge: Cambridge University Press. doi:10.1017/CCOL0521831040.008.