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Teacher Agency and Futures Thinking

Jan Varpanen [1], Antti Laherto [2,*], Jaakko Hilppö [2] and Tuulikki Ukkonen-Mikkola [3]

[1] Faculty of Education and Culture, Tampere University, 33100 Tampere, Finland; jan.varpanen@tuni.fi
[2] Faculty of Educational Sciences, University of Helsinki, 00014 Helsinki, Finland; jaakko.hilppo@helsinki.fi
[3] Department of Education, University of Jyväskylä, 40014 Jyväskylä, Finland; tuulikki.t.ukkonen-mikkola@jyu.fi
* Correspondence: antti.laherto@helsinki.fi

Abstract: Problems encountered in top-down school reforms have repeatedly highlighted the significance of teachers' agency in educational change. At the same time, temporality has been identified as a key element in teachers' agency, with teachers' beliefs about the future and experiences of the past shaping their agentic orientations. However, research on teachers' future orientations is typically limited to short-term trajectories, as opposed to long-term visions of education. To address this, we draw on a futures studies perspective to give more explicit attention to teachers' long-term visions of their work. We argue that the method of future narratives, already well-established in the field of futures studies, is a fruitful methodological framework for studying these long-term visions. In this paper, we first show that the futures studies approach is theoretically compatible with the ecological model of teacher agency. We then outline the method of future narratives to point out the possibilities it offers. Finally, we illustrate our approach with an exploratory analysis of a small set of future narratives where teachers imagine a future workday. Our analysis reveals that the narratives offer a rich view of teachers' longer-term visions of education, including instances of reflecting on the role of education in relation to broader societal developments. Our study suggests that this novel approach can provide tools for research on teacher agency as well as practical development of teacher education, addressing long-term educational issues and policies.

Keywords: educational change; educational reform; chronotope; futures thinking; images of the future; narrative inquiry; professional agency; teacher agency

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1. Introduction

During the first decades of the new Millennium, research interest in teachers' agency has rocketed. A plethora of studies employing teachers' agency as a theoretical lens has been conducted across the field of education; see e.g., [1–6]. The main motivation for the interest in teachers' agency is to be found in the school reforms that have taken place around the globe during the last three decades [7]. Teachers' agency emerged as a key concept following problems that were encountered with top-down educational reforms [8–10].

One example of such earlier approaches to educational reform is the literature on teachers' professional development. Most teachers' professional development programmes and courses aim at diffusing educational innovations, and research-based development of such programmes has typically addressed teachers' beliefs, attitudes and concerns facilitating or hindering that diffusion [11–13]. Although these studies tend to focus on teachers' adoption of a reform/innovation, several studies on teachers' professional development have acknowledged teachers' role, not only in putting an innovation into operation but also changing and refocusing it [12,14]. However, these studies still frame the role of the teacher as a sort of "fidelity" [9] to a reform imported from elsewhere. In contrast, new kinds of approaches to educational reform have been pursued under the concept of teacher agency. The key idea is that teachers matter, not only in terms of their

fidelity—or lack thereof—to the reform, but also by being creative agents who give shape and content to the reform [8,9].

Recent studies have increasingly emphasized time as a key element in conceptualizing professional agency [8–10,15–18]. Extensive research has already been conducted within the life course approach, which foregrounds the interplay of teachers' agency and the experiences they have had during their professional and personal lives [17,19]. Similarly, research into teachers' beliefs has opened up an avenue of investigating the role that orientations towards the future play in teachers' agency [8]. However, explicit attention has not been paid to teachers' images of the future with the result that teachers' visions of longer-term professional purposes and the part they play in orienting teachers' professional agency have not been brought to the fore.

In this paper, we work towards remedying this shortcoming by introducing a novel methodological perspective inspired by the field of futures studies. More specifically, we argue that the methodological approach of future narratives is fruitful for studying teacher agency as it opens possibilities for studying teachers' long-term visions. We begin in Section 2 with theoretical work, showing that some of the key concepts from the field of futures studies [20,21] are compatible with and complement what has been called the ecological approach to professional agency [22,23]. We then (Section 3) describe the methodology of futures narratives in more detail and introduce an exploratory study of preschool and primary school teachers' images of a future workday situated in the Finnish context. In Section 4, we illustrate the possibilities of the futures studies perspective on teacher agency with an experimental analysis of a small data set produced in our exploratory study. We conclude, in Section 5, by discussing the implications of our study for the literature on teachers' professional agency and teacher training practices.

2. Theoretical Background

2.1. Professional Agency

The concept of agency has its roots in sociology, where the structure-agency debate is a foundational question: Which should be considered a more fundamental aspect of social reality—social actors who constitute social structures, or social structures that constitute social actors? The intricacies of the dialectical relationship between structure and agency have inspired sociologists of various theoretical backgrounds [23–27] for the best part of the latter half of the 20th century. Although the importance of the concept of agency is not limited to the sociological analysis of the dialectic between structures and actors—see for example [28] for philosophical employment of the concept—it is precisely the tension between agency and structure that has proven fruitful in the field of education.

Putting the concept of agency to work on the challenges of educational reform has provided an opening where a new kind of understanding of educational change has become possible. When viewed through the lens of agency and structure, educational reforms that reduce the teacher's role to an implementer of procedures, prescribed from the above, are exposed as one-sided [9]. In such top-down models, there is an inherent emphasis on structure, that is, on rigid practices and discourses that seek to remove any contingencies—such as teachers—from the equation. While avoiding contingencies to secure good results might sound reasonable, the problem is that rigid prescriptions do not allow for fine-tuning or practical adjustments when faced with the changing realities of everyday life at school. Reforms that take account of teacher agency, on the other hand, have the benefit of relying on the judgment of the teacher on how to implement the principles inscribed in the curriculum. This makes it possible for the contents of the reform to be realized, even in unexpected circumstances.

However, new issues emerge when teachers' agency is affirmed. While in some of the literature teachers' agency is seen as synonymous with change, either explicitly [5,29] or implicitly [30], it has also been found that teachers can employ their agency to resist change [31]. In the words of Priestley et al. [9] (pp. 210–211), this raises the question of "Agency for what?"—the concept of agency by itself does not yet tell us what kind of

influence the teachers in question are trying to have. Since it is not warranted to assume that teachers form a unitary group of people, all of whom share a particular set of beliefs about education, research on teachers' agency has inquired into the various relations that shape the way teachers come to hold certain beliefs and not others.

Due to the history of the concept of agency within sociology and the structure-agency debate, a natural direction in investigating the "for what" of teachers' agency has been the context where the teachers operate. Consequently, extant research has revealed how a variety of contextual factors play their part in shaping teachers' agency [2,30,32,33]. These and other studies show that teachers' agency is both constrained and made possible by contextual factors. As Biesta and Tedder put it: "actors always act by means of an environment rather than simply in an environment" [22] (p. 137). Following Biesta's and Tedder's work, this approach to teachers' agency has become to be known as the ecological model of agency [8,9,18,22].

Within the ecological approach, increasing emphasis has been paid to the temporality of agency in recent years. Several types of temporalities can be discerned in theories of agency. Archer [24] argues that agency always takes place in a temporal series, where the agent is conditioned by existing structures, the agent's actions transform said structures and eventually result in new structures which in turn condition future agents. Archer's theory has been employed to good effect in individual studies [34,35]. However, the downside of this approach is that it is not possible to live through a series. We do not move from the past to the present and then to the future. Our experience of time is not that of a series but a form—the present is the only time that exists, while the past and the future subsist or insist on the present; for an imaginative analysis of this, see [36] (pp. 100–118). It is perhaps for this reason that the majority of studies drawing on the ecological approach to study teachers' agency have followed the work of Emirbayer and Mische [23] in distinguishing the past, the present and the future as temporal dimensions that structure agency from within [8,9,16–18,22].

For Emirbayer and Mische, agency consists of three dimensions that resonate with each other—"the chordal triad of agency" [23] (p. 970), to borrow their fitting expression. The *iterative* dimension is mainly orientated towards the past. It describes the way agency involves the selective reproduction of existing (habitual) ways of action. The *projective* dimension, in contrast, is mainly oriented towards the future. It draws attention to agency involving the imagining of possible futures that might be different from the habitual ways of acting. The *practical-evaluative* dimension, which is focused on the present, is a balancing act where the past habits and future projects are evaluated and acted on in response to problems encountered in the now.

Of the three dimensions of time included in Emirbayer and Mische's conceptualization, the future has so far received the least attention in the literature on teachers' agency. The past has received careful attention in that the influence on their agency of the various experiences the teachers have encountered during their life course has been examined in several studies [15,17,19,33]. Furthermore, the way the three dimensions of agency come together in the present has received explicit attention [9,16,18]. Although many of the aforementioned studies include the *projective* dimension, it has yet to be examined with the help of an explicit engagement with the future.

In the few studies that have discussed the *projective* dimension in detail, the results have emphasized short-term goals [8,10,16]. For example, Biesta et al. [8] found that the teachers involved in their study held beliefs focused on short-term purposes. That is, longer-term visions of educational purpose were absent from their data. Similarly, Rajala and Kumpulainen [10] identified four agentic orientations toward educational reform. Although there are short flashes of long-term visions in their data, their results, in general, are in line with those of Biesta et al. [8]. It is difficult to know whether these results are due to the teachers not having such beliefs, or due to data collection procedures where no explicit attention was given to long-term beliefs. Thus, answers to the question of "Agency for what?" remain ambiguous in the sense that it is difficult to discern whether the teachers

orient their agency towards the immediate future or whether there are long-term aims that remain hidden.

2.2. Futures Thinking

To develop a better understanding of the long-term projections teachers have in response to educational reform, it is useful to complement the ecological model of agency with theoretical and methodological perspectives on futures thinking drawn from the fields of futures studies (e.g., [37–39]) and youth studies (e.g., [40–42]). A typical approach to analyze futures thinking in the field of futures studies is that scenarios, or images of the future, can be created from various orientations [20,21,43,44]. The first type of orientation discusses what the future is likely to be (probable futures), and rests on an extrapolation of current trends. We connect this type of futures thinking with Emirbayer's and Mische's [23] *iterative* dimension of agency, demonstrating capacities to selectively recognize, locate and implement familiar schemas (experiences, habits and trends).

The two other types of futures thinking concern what the future could be (possible futures), and what it should be (preferable futures) [21]. Both possible and preferable scenarios demonstrate capacities to imagine alternative possibilities by hypothesization of experience and imaginative distancing [23]—detaching oneself from constraining assumptions, schemas, habits and traditions. These are central to the *projective* dimension of agency. Imagining preferable futures further demonstrates a capacity to start off from one's dreams, hopes and aspirations, which is another characteristic of the *projective* dimension of agency. Techniques used in this third type of futures thinking involve visioning the future and the backcasting method [20,45], which strongly relate to the *projective* dimension of agency as actors "move 'beyond themselves' into the future and construct changing images of where they think they are going, where they want to go, and how they can get there from where they are at present" [23] (p. 984).

Our suggestion of connecting individuals' futures thinking to Emirbayer's and Mische's [23] dimensions of agency finds support also from extant literature on the field of futures studies. Scholars in futures thinking have argued that employing the two latter ways of thinking (possible and preferable) by telling stories about alternative future scenarios widens our futures views [20,46,47]. In contrast, not questioning 'automatic' future-thinking patterns keeps us from considering alternative futures [48] and, thereby, effectively manifests the dominant future narrative as reality, limiting possibilities for the realization of alternative futures.

Constructing a novel conceptual apparatus by connecting the notions of probable, possible and preferable futures with the *iterative* and *projective* dimensions of agency emphasizes the question of "Agency for what?" at the expense of the ecology surrounding this question. If we are to remain true to Biesta's and Tedder's [22] insight that agency always happens in an environment and also by means of that environment, it is necessary to also ask the question "agency in what?" since an orientation is always an orientation in relation to something. In other words, we need to complement the agentic orientations with the notion that, like the figure-background pairing in Gestalt psychology, agency has its background or space. Given the emphasis on temporality that is a focus in the present study, we rephrase this background productively as a temporal landscape in which and through which the various actors are revealed as agents. That is, instead of a space or environment that sustains agency, we might speak of a time-space that sustains agency.

2.3. Chronotope

The kind of background we are talking about here is already present in Emirbayer's and Mische's definition of agency: "Agency is the *temporally constructed engagement* by actors of different structural environments—the *temporal relational contexts* of action—which —-reproduces and transforms those structures—-" [23] (p. 970, italics ours; see also [22]) Similarly, the concept of chronotope, derived from the works of Bakhtin [49], is emerging in educational research as a tool to analyze the time-spaces that underlie and structure

various educational activities [50]. Furthermore, Adam's extensive theorization of time and, more specifically, her concept of 'timescape' has been applied to similar ends in educational contexts [51].

Without getting into theoretical detail about the differences between the three, we slightly prefer the Bakhtinian term chronotope for its straightforwardness. After all, the word is a derivation and combination of the Greek words chronos and topos, which mean time and place, respectively. Originally, Bakhtin developed the concept of chronotope as a tool to distinguish between different novel genres [49]. The flow of time and space of a Greek drama is significantly different to the time and space in a German Bildungsroman and hence also makes visible the novel's characters' actions in different ways. To use Bakhtin's words [49] (p. 250), "the chronotope makes narrative events concrete, makes them take on flesh, causes blood to flow in their veins". The chronotope is time embodied in space and as such, it has unique representational powers: it allows us to see the temporal-relational field that grounds the actors' agency (ibid.). The chronotope is the temporal background of agency made visible [49] cf. [23].

This naturally raises the question of how the chronotope is able to achieve this. The answer lies in the notion of emergence [23] (p. 968). The flow of time is constituted by events that emerge, events that appear seemingly out of nowhere, and events that are suddenly just there. Emerging events are the building blocks of time. Strictly speaking, however, the emerging events themselves are not chronotopes. Rather, the chronotopes "are the organizing centers for the fundamental narrative events of the novel. The chronotope is the place where the knots of narrative are tied and untied. It can be said without qualification that to them belongs the meaning that shapes narrative" [49] (p. 250). Thus, in our interpretation, the chronotope is to be found behind the manifest events as a structure that gives shape to whatever is in the foreground.

This makes it possible to apply the chronotope to futures thinking. We consider futures images to be inherently chronotopical. By its very nature, a future image depicts some future event or, more typically, a series of events. These events also have some relation to the present with the result that they manifest a relationship between "the old and the new" [23] (p. 968). It is this relationship that constitutes the flow of time. If this relationship is to make any sense as a coherent narrative, it needs to have an organizing center that weaves the different strands together. Thus, embedded in a future image is a chronotope that acts as a gravitational center for the agentic orientations around it and which can be made visible with the help of analysis.

3. Materials and Methods

3.1. The Context of the Study and Participants

To illustrate the novel approach, we have theoretically outlined above, we employ a small data set produced in a study of Finnish educational reform. Recent efforts at reforming the Finnish education system form the background for the study. The Finnish Ministry of Education and Culture founded the Forum for Teacher Education in 2016 to develop teachers' professional competencies. The aims of the forum are, inter alia, to develop Finnish teachers as future-oriented experts who create new pedagogical innovations, use new learning environments, and develop their own competencies and working communities [52]. The context of the study is the development project "InnoPlay" initiated by the Forum.

The InnoPlay project is implemented by three Finnish universities. A key motivation for the project is the recent addition of learning about technology to the national curriculum for early childhood education and the increasing importance of this domain in the primary school curriculum. The project aims at developing pedagogical models for pre-primary education, in which technology education is approached through child-centered means of exploratory and inventive learning and play [53]. Thus, although the InnoPlay project does not aim at educational reform per se, it does lead to the kind of situation familiar to studies on teacher agency, where teachers need to position themselves in relation to

new pedagogical practices. This makes it a suitable context for exploring the opportunities presented by the futures studies approach.

The data for the study were collected as part of a further training course carried out in one of the universities involved in the InnoPlay project during the year 2019. In the course, lectures, seminars, workshops and reflective tasks were employed to work on relevant themes. Central topics were children's participation and agency in the learning process, learning about and with technology, and ways of supporting and guiding children's design processes. Seven primary school teachers and five preschool teachers participated in the course. The teachers were recruited via an existing network of collaboration between the university and the municipality. For a more detailed description of the project, see [54].

3.2. Data

In line with our futures studies perspective, we employed teachers' writings on the future as the data production technique. Narrative inquiry is an established methodological approach in qualitative social science, and is increasingly used also in educational research [55]. Future narratives, like the ones we employed here, have previously been used in research on youth's images of the future [56,57] and agency [40,41]. Images of the future have, for a long time, been a significant research interest in the fields of sociology, ethnography, science and technology studies (STS), youth studies and futures studies. During the past decade, educational researchers as well have realized the importance of understanding and addressing individuals' images of the future in order to respond to the burning challenges of all education due to the global sustainability crisis [58]. Indeed, images of the future are of high educational interest since they are products of our beliefs, values, hopes, fears and knowledge, and are deeply tied to our perceived agency (e.g., [56]).

The data were produced during a seminar day in December 2019. Of the twelve teachers participating in the course, nine were present at the meeting where the data were produced. The nine teachers were given the task of individually writing a short, snapshot image of their professional future under the heading "My workday in 2040", resulting in nine hand-written writings about one page long each. No limitations were placed on the teachers' choice of content, except the title. Long-term future trajectories of school reforms and their prospective influence on teachers' work had not been discussed during the training course. Thereby, no explicit guidance on future orientation was given to the respondents. Perhaps because of that, however, many of the participants were at a loss on how to start with the task. In response to this, a senior researcher (who is not an author in this paper) spoke a few words on how one might go about the writing. Although they did not offer any specific instructions for content, it is possible that something was produced in the data based on their instructions that would not have been there otherwise. Since no recording was made of the advice, its effects on the data are impossible to analyze.

3.3. Analysis

Our analysis of the data was iterative and interpretive in nature. To use a fitting expression by Jackson and Mazzei [59], we "plugged in" the conceptual framework of our study with the data in a series of readings aimed at a detailed and complex understanding of the snapshot images of a future workday produced by the teachers. To explore the possibilities offered by the futures studies framework, we chose two analytic questions:

(1) What kind of chronotope/s manifest in teachers' images of a future workday?
(2) What kind of orientation/s of professional agency manifest in teachers' images of a future workday?

The data analysis started with two researchers (the first and second author) independently acquainting themselves with the data and identifying sentences (or groups of sentences) that manifest some kind of orientation towards the future. All the writings contained plenty of such sentences, albeit not quite all sentences were seen as relevant for the analysis.

Following this initial familiarization, the two researchers engaged with the data in a second iteration, this time reading the data in light of Emirbayer and Mische's [23] chordal triad of agency. At this point, careful attention was paid to connecting passages of data with the sub-categories of *iterative* and *projective* dimensions of agency [23]. This iteration of the analysis offered insights into "agency for what" by helping us establish two distinct orientations where one or other of the dimensions was the dominant voice of the chord. However, at this point, we were unable to accurately conceptualize the "agency in what".

These results were discussed together with the third and fourth authors. Based on the shared discussion—a sort of triangulated abductive reasoning [60,61]—the chronotope was identified as a potentially useful tool for better understanding the background for agency present in the data. This led to the final layer of the analysis, which was conducted in a similar fashion to the second iteration, with the two lead authors first creating an initial reading, which then became the object of a shared discussion between all four authors. Whereas plugging the data into Emirbayer and Mische's [23] concepts followed a relatively theory-driven approach, the final iteration of analysis was more data-driven with the chronotope offering a suitable conceptualization for what had already been perceived to be present in the data, even if it had so far eluded thematization.

3.4. Research Ethics

In conducting the study, we followed the guidelines for good and responsible research ethics given by the Finnish Advisory Board on Research Integrity [62]. Signed research permission based on informed consent was asked from the municipality, pre-primary and primary units, and teachers. Participation in the study was voluntary, the teachers' anonymity was protected, and instructions on how to interrupt the study were given. The names of the preschool and primary school units have been withheld and quotations have been anonymized.

4. Results

We illustrate the opportunities offered by the futures studies approach with the help of two images of a future workday drawn from the teachers' writings. We chose these two writings to exemplify the key orientations of teachers' futures thinking we identified through our analysis. In the first Section 4.1, we describe the chronotope of the images of a future workday, and in the second Section 4.2, we describe the orientations of professional agency. We present the two short writings in their entirety immediately below and quote individual passages from them throughout our analysis. The writings have been translated from Finnish by the authors of this paper as accurately as possible and the line numbers have been added for ease of reference.

Image of the future #1:

1. Age groups have been abandoned;
2. Books have been entirely abandoned in the primary school as well;
3. The students have personal laptops with digital books;
4. The students progress at their own pace and do assignments according to their grade level;
5. Having completed the assignments of one level, they move on to the next level;
6. They can move forward to further studies at different ages;
7. The teacher is mainly an aid and helps with the assignments if needed;
8. The students order their preferred dishes to a food machine.

Image of the future #2:

9. The preschool will be more and more automated;
10. The children have their personal computer stations where learning happens;
11. Learning problem-solving and developing individual thinking are emphasized;
12. Investigating and recognizing phenomena is becoming more and more important;
13. Principles of sustainable development are already present in all activities;

14. The problem we wrestle with is how to coexist, the weakening of social
15. and emotional skills;
16. Another big problem is students who may be little
17. less academically competent. To where do we guide them in life?
18. Or, we have returned to the old ways, because

4.1. The Chronotope in Images of a Future Workday

The main result of our analysis of the chronotopes was the existence of a single overarching chronotope in the data. As we were working on our analysis of the orientations of professional agency (Section 4.2), it became clear that, although we were able to identify distinct agentic orientations, these orientations seemed to converge around a process that was depicted in a remarkably unified way across the data. It was this unity that provided the incentive for employing the concept of chronotope. Thus, the very existence of such an overarching chronotope is the main result of our analysis. In what follows, we describe in more detail the features that define the chronotope with the help of the two exemplifying images of a future workday.

First, a theme of individual learning is clearly visible in the data. In the first writing, on lines one and three through six, we read that school classes based on age groups have been abandoned; the students have their personal laptops, and they progress at an individual pace. In the present, schools in Finland are organized according to class levels and learning happens in groups, with the age group progressing together through the curriculum. In this image of the future, such communality has been replaced by individuals progressing according to personal ability and engagement. This idea was expressed in a remarkably similar fashion throughout the data. In the first image of the future, the flexibility of individual paths also applies to progressing to the higher levels of education (see line six).

In the second writing, the theme of individualization appears in lines nine through eleven. Here, we again find that the students have their personal workstations and computers. Learning is directed mainly at developing the individual's skills for problem-solving and autonomous thinking. In this image of the future, we also find the ethos of individuality expressed in negative terms when the writer notes (on lines 14–18) two challenges that occupy us in the future depicted here: coexistence and finding a suitable path in life for children that are not particularly talented in academic subjects. Coexistence has become a problem because of the excessive focus on the individual. Similarly, those individuals who lack any special skills have trouble finding their place in society.

Second, the teachers see that the practices of individual learning are supported by technology. The most straightforward example of this is that both images of the future involve students having personal computers (lines 3 and 10). We also find on line 9 an explicit statement that the preschool is more and more automated. Similarly, the passage on lines 3 through 7 taken as a whole suggests that it is precisely the laptop that makes individual learning paths possible. The writer of the second image of the future goes as far as suggesting that learning happens in individual workstations (line 10). In both writings—and this was true of the data in their entirety—the technological tools that enable individualized learning are rather simple. Nothing more is needed than a computer where assignments can be completed autonomously and at their pace. Thus, the increasing application of already existing technologies makes individualized learning possible.

Third, given the emphasis on technology as an enabler of learning, it is no surprise that the role of the teacher in both writings, and the data as a whole, is close to what Biesta [63] has described as "a guide on the side" (p. 1). Instead of the traditional role of a teacher that lectures to the children on a particular topic—"the sage on stage" [63]—the teacher is perceived to offer guidance and support where it is needed without interfering too much with the learning occurring at the workstations. In the first writing, this is stated explicitly on line 7, where it is noted that the teacher is a kind of helper who assists with the assignments when needed. More details are needed for the second writing, however, especially given our insistence in Section 4.2 below, that this image of a future workday

is also a case of a transformative orientation of professional agency. The first two lines (lines 9 and 10) are telling, although the role of the teacher is not mentioned. On line 9, it is suggested that more and more of the preschool is going to be automated, which implies that the teacher—who is surely no automaton—will have an increasingly minor role. Further, on line 10, learning is said to happen at the individual workstations, suggesting that the students go about learning by themselves, with the teacher only there to lend a hand when problems emerge.

A chronotope is beginning to take shape in these images of the future. Interpreting the themes explored above as emergent events, we can see that both writings display the same set of intertwined emergent events: (1) a focus on individual learning, (2) technology as something that enables individual learning, and (3) the role of the teacher as a helper that supports individual learning. Although we have only discussed two writings as examples, these features were present throughout the data in the teachers' images of the future workday. More importantly, there were no clear counterexamples, i.e., images where the focus would be on communal learning, technology would appear as a hindrance, or the teacher would be perceived as an authority.

Let us now recall that we defined the chronotope as an organizing center that underlies the manifest events. We should therefore ask, like Bakhtin [49] (p. 250), what is the knot that ties these threads of the narrative together? It is perhaps not surprising to find that the chronotope taking shape here is, in fact, the ongoing transformation of pedagogical practices in Finland. The three features that constitute the chronotope are also some of the main contents of the InnoPlay project, which formed the context of the study. However, they became the aims of the InnoPlay project because they are also some of the more novel aspects of the latest curriculum reforms in Finland. This justifies the following conclusion: the ongoing reform in the Finnish system of education is the chronotope that acts as the background for the teachers' professional agency.

4.2. Towards Orientations of Professional Agency

Our analysis indicated two orientations of professional agency in teachers' images of a future workday. We call these agentic orientations (1) the conservative and (2) the transformative orientation, respectively. The two images of the future we employ as typical examples represent these two orientations, the first writing being an example of the conservative orientation and the second writing an example of the transformative orientation. We need to be careful not to read this as a claim that the first writing—or worse, the author behind it—is, in toto, conservative in orientation and the second transformative. In fact, all the writings displayed features of both orientations. The orientation assigned to each writing as a whole is, following Emirbayer and Mische [23], the leading tone in a chord. As our analysis is primarily intended to illustrate the opportunities presented by the futures studies approach, our focus here is on describing the main features of the respective orientations. To do that, we follow the same formula as in Section 4.1 above by reading the two exemplary writings side by side. However, this time, we focus on the differences between these two exemplary writings.

Each of the two orientations of professional agency is defined as a unique distribution in the chordal triad of agency. The conservative orientation consists of a strong focus on extrapolation from current trends and the related distribution of the chordal triad of agency as emphasizing the undertones of iteration. Several such undertones are visible in the first writing. We identified lines 1 through 7 as an extrapolation from current trends of co-operation between preschool and primary school (lines 1, 4), the shift towards more action-based learning methods as well as increased use of technology as a tool for learning (2, 3, 5, 6), and the shift in the role of the teacher from a "sage on stage" to "a guide on the side" (3, 4, 7) (see [63]). What the future adds to these current trends is only a question of degree—all three trends become intensified in the image of the future. They are taken to their limits, so to speak.

Although projective aspects were also present, they played a minor role and were often qualitative modifications of current trends. An example of such qualitative modifications can be found on line 8 where the writer notes that "the students order their preferred meals to a food machine". In the Finnish context, there are no existing trends that point towards automatizing lunch practices in schools, nor is there a current trend of increasing individual choice in the food that students eat. Thus, line 8 introduces a future that is quite possibly based on current trends but does not follow from them in any straightforward manner.

The transformative orientation, by contrast, resonates much more strongly with the *projective* dimension of the chordal triad. This orientation typically appeared in the form of a commitment to oppose the current trends and some of their projected darker elements, hence the term transformative. In the second writing, these appear on lines 14 through 18. As we already saw in the previous section, in this passage, the writer describes two challenges that face us in the future. These challenges seem to arise from the general image of the future, and it is the task of the writer and their colleagues to work towards overcoming them: "—-how can we coexist —-where do we guide [the academically less talented] students in life—-". The "we"—and we shall see shortly a stronger version where it was rather an I—is not unlike a protagonist in a story, someone who upholds values to counteract what is perceived as undesirable. Thus, a preferred future is introduced in the writing in addition to a possible future.

It is crucial to avoid a misstep here. It would be easy to read the transformative orientation as manifesting agency and the conservative orientation as not manifesting agency. In light of Emirbayer and Mische's work, such an interpretation would be a mistake in our view. This can be clarified by considering what would happen if we named the latter orientation differently, as "the committed" orientation, for example. Such a name would be quite possible given the way this orientation manifests a commitment to oppose an undesirable trend. That would suggest the other orientation—the one lacking such a commitment—to be a passive or non-committed orientation. However, this would contradict one of Emirbayer and Mische's [23] foundational insights: that agency is equally concerned with upholding and reproducing existing habits and practices as it is with changing them. What is implied here is that upholding existing practices might be a result of a serious commitment. This commitment could, however, remain invisible because it is aligned with existing habits. We have chosen the terms conservative and transformative precisely to avoid the impression that only the transformative orientation is 'agentic'; see also [9]. We will develop this point further in the discussion.

Instead, we suggest that the two are equally agentic, but oriented differently. Whereas the transformative orientation appears as a commitment to oppose a certain image of the future, the conservative orientation is aligned with the same future. We can add a bit more analytic detail to justify this claim by considering passages from two further writings, where the contrasting orientations of the "I" in the story are more pronounced. First, in a writing where the transformative orientation was dominant, the following beautifully written lines can be found:

> "Facelessness has taken over the world, which can be seen in the difficulty of taking responsibility. This is apparent in the children, the school. Caring, responsibility; I worry for these values and I fear it will show even more in the school in the future. Upholding such basic values is the teacher's challenge in the future."

The writer clearly feels that a lack of personal moral accountability currently dominates our societies and that this trend is going to intensify rather than recede in the coming years. However, this lack is countered by the I that appears very strongly in this writing. Unlike the example we discussed above, where a "we" was opposed to the undesirable trend, here, the commitment is of a more personal nature. However, in acting counter to the trends perceived as causing worry, the I is connected to the profession of teacher. Thus, it is the I-as-teacher that intervenes in the unwanted development. It is the writer's own and, more

broadly, all of their colleagues' task to take action against the facelessness that threatens to prevail in our society.

By contrast, the following segments are from a writing where the conservative orientation was in the foreground. They demonstrate an alignment between the I and the trends that surround it.

> "—-as a teacher I need to be prepared to encounter students with various ages and skill-levels. —-I spend my day working together with different teachers or work-life professionals."

Here the "I" first appears as something that reacts to the broader developments: "I need to be prepared". In the second sentence the I is used to express the idea that schoolwork has expanded beyond the school building. In the first sentence, the "I" reacts to events that emerge, while in the second, it is already part of the event that emerges. Both align the "I" with the events that are taking place.

The two orientations of professional agency are, therefore, orientations in a very literal sense. They differ in terms of how the "I" orients itself in relation to trends highlighted in the images of the future. Whereas the transformative orientation positions the I as a force that acts counter to the image, the conservative orientation positions the I as a force that aligns with the image.

5. Discussion

We can now summarize the results of our analysis. In response to the first analytic question, "What kind of chronotope/s manifest in teachers' images of the future?", our analysis revealed a chronotope that was remarkably unified throughout the data. Three features define this chronotope: (1) a focus on individual learning, (2) technology as a tool that enables individual learning, and (3) teacher as someone who operates more as a guide than an instructor. Based on earlier literature and our knowledge of the Finnish educational system, we were able to infer that these features are also present in the educational reform trends taking place in Finland (see Section 3.2).

In response to the second analytic question, "What kind of orientations of professional agency manifest in teachers' images of the future?", our analysis revealed two distinct orientations: (1) the conservative orientation and (2) the transformative orientation. The key difference between the two orientations was the relationship between the person forming the image of the future, or the "I" in the story, and the chronotope that acted as a background for the two orientations. The conservative orientation was characterized by an alignment between the I and the chronotope, whereas the transformative orientation was characterized by an opposition between the I and the chronotope.

The attentive reader has undoubtedly long been wondering about a lingering question we have deliberately left unanswered so far. We defined the conservative orientation as emphasizing the undertones of iteration and habit. In other words, the conservative orientation is aligned with the chronotope that forms the background of the agentic orientations. Furthermore, we identified the chronotope with the reform taking place in the Finnish system of education. This series of identifications points towards an interesting conclusion; the conservative orientation of professional agency is in fact conserving the reform. Conversely, the transformative orientation of professional agency was directed against the reform. This supports the earlier finding that teachers' agency can act as a brake for reform [31] or, to put this in more positive terms, to redirect the reform, giving it content and significance that was not anticipated.

Taking this into account, our analysis implies a dynamic and complex nature of teachers' agency in relation to educational reform. It illustrates that the orientation of professional agency that appears conservative conserves the direction of the ongoing reform and is, thus, transformative if we situate it in a larger time frame of educational practice in Finland. By contrast, the orientation of professional agency that appears transformative aims at transforming or even negating the reform and is thus, in this sense, conservative. It has been known for some time (see e.g., [9]) that we should not equate "agency" with "new"

and "no-agency" with "old". Our analysis contributes to this discussion by pointing out how the meanings of the terms "new" and "old" take on a shifting character. Displaying a relativity comparable to the Lorenz transformations in physics, the meaning of a given orientation of professional agency changes according to the various chronotopes where it is simultaneously situated.

To some extent, the presence of such relativity in the data supports our claim that futures thinking might help in drawing out the teachers' views on their long-term professional goals. In earlier studies [8,10] the teachers' motivations appeared to focus on short-term goals rather than long-term aims (such as the purpose of education at the societal level). We hypothesized that this could be a problem with data. The data production techniques employed in those studies might be unable to make visible any longer-term visions that the teachers might have. Our exploration offers tentative support for the claim that using images of the future as a data production tool brings to light some of the teachers' conceptions of longer-term professional purposes.

Further reflection on the relativity of the agentic orientations also points to a few limitations and open questions regarding our study. It is not difficult to see in the two orientations of professional agency the two basic orientations of the school as a societal agency: to reproduce and transform the basic structures of the society. One of the orientations seeks to reproduce important values so that the continued existence of the society becomes possible, while the other seeks to transform the existing values so that the society can reach a better future. However, given the relativity of the agentic orientations, we face a surprising conundrum here: Which orientation of professional agency represents which societal function? On the one hand, we could say that the conservative orientation is aligned with current trends and thus resonates more strongly with the reproductive function of education. The transformative orientation would then be the orientation that seeks to create a new kind of society. On the other hand, it would be equally plausible to say that it is the conservative orientation that is seeking to transform society. After all, its alignment with current trends is actually an alignment with the educational reform—that is, alignment with ongoing change. In this version, the transformative orientation would be the one seeking to reproduce the society.

We seem to run into a sort of circle in here. The two orientations go around each other with their position in the circle, determining which one is the "progressive one" and which one is the "conservative one". This indicates the complexity of the interaction between various temporal-relational fields and agents situated in them, as well as the inherently dialogical nature of social reality [50]. However, it also indicates that, whereas the data produced in some of the earlier studies [8,10] did not allow for long-term futures perspectives to emerge, the data production techniques tried out in the present study, in contrast, lack explicit engagement with the past. This has the unfortunate effect that we cannot ascertain how the teachers situate themselves in relation to longer historical developments in the Finnish school system, which might break the circle. This limitation in our data leaves the teachers' orientations towards the broader historical developments in the Finnish school system an open question. To investigate this issue, future work on professional agency would benefit from a combination of futures thinking and the life course approach to professional agency.

It is also interesting that our conclusions here are missing the orientation that Rajala and Kumpulainen [10] (p. 323) have called the *creative-projective* orientation. That is, an orientation that would not only project an alternative for the present practices but would do so by creating a new practice. Pivotal here is that in the transformative orientation as analyzed by us, the preferred futures projected against the chronotope are derived from the experiences the teachers have had in the past. This is very much in keeping with Emirbayer and Mische's [23] chordal triad, where the *projective* dimension always has undertones of the past. However, we propose that the circle described above might be escaped—resulting in achieving a more constructive agentic orientation—by introducing preferred futures that would have more of a questioning attitude towards the past.

This aspect of our results also adds nuance to our theoretical construct, combining futures thinking and the chordal triad of agency. We argued, in Section 2.2, that both possible and preferable futures are connected to the *projective* dimension of agency in that these concepts involve the imagining of alternative futures as opposed to the probable futures of the *iterative* dimension of agency. Our analysis certainly supports this assumption in that the transformative orientation of professional agency appeared in the form of an alternative scenario the "I" or "we" sought to achieve in the writing. However, since these alternative scenarios often emerged in response to a danger or a downside perceived to be part of the probable future, they were only partially able to realize the component of imagination inherent in possible and preferable futures: to some extent, they are still tied to the limitations of the present. Indeed, our data were remarkably lacking in any images where the future would be perceived as better than the present in any significant sense. No visionary or utopian images of the future were to be found in the data of this explorative study.

Although it is not the purpose of our paper to analyze the pedagogical uses of writings on the future, considering how the emergence of such utopian futures could be encouraged allows us to point to a few practical implications of our study for teacher training and university-school partnerships. Our discussion above offers tentative support for seeing the images of the future as a successful means of encouraging the teachers to consider the purposes of their professional activities from a broader point of view. This in itself is a valuable pedagogical achievement, given how notoriously difficult it is to get in-service teachers to reflect on the more theoretical or societal dimensions of their work. However, pedagogically speaking, complementing the simple writing task that was set for the participants in this study with a more explicit assignment to imagine several different futures, might help in cultivating the capacity for a more radical imagination. This suggestion seconds the claims made in the field of futures studies: futures thinking is a skill that can and must be trained in order to be able to question the instinctive thinking patterns which narrow down possible futures [48]. For developing such skills and broadening future perceptions, there is a growing number of works of literature on scenario building techniques (e.g., [20,47]) and their educational applications (e.g., [64–68]). Furthermore, the concept of utopia has recently been developed as a method for exploring alternative possible futures [69]. Adapting such methods in teacher education could facilitate the creation of new kinds of projections instead of building on what is familiar.

By way of a limitation of the present study, it should be remembered that our analysis is intended as an illustration of the possibilities inherent in a novel theoretical and methodological framework. Indeed, the limited number of participants in our study would make any substantial conclusions difficult to establish. Our analysis should therefore be taken as a suggestion of a fruitful methodological starting point or an interesting theoretical hypothesis that should be scrutinized in more detail in future studies, preferably with the help of larger data samples. Further, as has been noted by several authors (e.g., [10,70]), the Finnish educational system affords fairly extensive agency for the teachers. Thus, a study in another context might lead to very different results. On the one hand, it is possible that the connections to societal issues would not be found within an educational system that sets narrower limits to teacher agency. It is also possible, however, that a narrower space of operation would force teachers to be more imaginative in pursuing their goals, with the result that their images of the future would be more utopian, displaying a stronger *creative-projective* orientation.

To conclude, there is something to be gained, both in the field of research and in the field of teacher training, by combining professional agency with theoretical and methodological tools borrowed from the field of futures studies. Although several questions remain open due to the limitations of the present study, there are intriguing possibilities to be found in this novel line of research. Most importantly, introducing futures thinking seems to expand the horizon of the teachers' reflections towards long-term and broader societal issues. Developing this capacity in concert with the extant perspectives in the

field of professional agency is sure to offer rich new possibilities for teacher training and research in and with futures.

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