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Transformative Way of Becoming a Teacher: A Phenomenological-Hermeneutic Analysis of Class Teacher Education in Finland

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Abstract

Transformative learning in teacher education qualitatively changes future teachers' meaning systems of learning, teaching, and education. In this study, I explored transformative learning in Finnish class teacher education. Data were collected by observing student teachers over two academic years. Data also contains writings that student teachers produced during that period. A phenomenological analysis focused on the general characteristics of *the transformative way of becoming a teacher* and identified a process consisting of four phases: starting point, crack, ambivalence, and transformation. A hermeneutic analysis was used to interpret how the process occurred in practice. The results suggest a long and ambivalent process, which challenges educational policy discourses that emphasize efficiency and speed.

Keywords

transformative learning, student teacher, teacher education

We live in a time of change. Questions about health, the environment, politics, and economics constitute "wicked problems" that may even be devastating to humankind.

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Such problems are complex and intertwined, involving many different interest groups; hence, they cannot be solved by linear, engineering-like thinking. For teachers and teacher education, they pose existential questions, such as what it means to learn and teach in times of change and what sort of education is needed. Finland is no exception to these global questions.

Historically, Finnish society has had a strong belief in education, which is why teacher education plays a key role in developing and stabilizing society in Finland. When facing existential questions, answers are typically sought from teacher education. As teachers educate the next generations who will face wicked problems, educating the future teachers themselves is often seen as a good starting point. However, developing teacher education in a way that prepares teachers to address such questions is not an easy task. Along with acquiring new didactic skills, student teachers themselves need to change their ways of thinking (Tucker & Simmons, 2021).

Despite boasting one of the most respected teacher education systems in the world (Andere, 2020; Brandisauskiene et al., 2020), Finland has faced challenges in terms of the effectiveness of teacher education, especially with regard to student teachers' deeply held conceptions, values, and attitudes—for example, concerning learning and teaching. Finnish teacher education is effective in enhancing student teachers' didactic skills, but the effect on a more personal meaning-making level is weaker (Kostiainen et al., 2018; Lanas & Hautala, 2015; Metsäpelto et al., 2021; Sitomaniemi-San, 2015). In this article, I will focus on transformative learning in teacher education as transformative learning processes can address student teachers' deeply held meaning systems.

Transformative Learning in Teacher Education

Transformative learning is defined by Mezirow (1990, 2018) and Kegan (1982, 2000) as learning in which the learner's meaning system—consisting of meanings and ways of making meaning—is transformed. Meaning systems contain assumptions and expectations that frame our thinking, feeling, and acting. They define how we perceive and interpret the world and once they are set, they automatically direct our line of action (Mezirow, 1990, 2018; Kegan, 1982, 2000).

Though transformative learning is not suited for every situation, the need for transformative learning in teacher education has been well recognized (e.g., Bamber, 2020; Welch & Areepattamannil, 2016; Zhu & Chen, 2022). For example, Brandisauskiene et al. (2020, p. 153) note that "in the 21st century, teachers' learning is viewed through the lens of sustainable development as a holistic, transformative, and collaborative learning process." Aarto-Pesonen and Piirainen (2020) argue that meaningful learning in teacher education progresses from professional awakening to transformative community and finally to agency in society. Thus, through transformative learning, (student) teachers may become empowered and active agents in their communities and in society.

Several studies and teaching experiments and programs over the past few years have linked transformative learning to teacher education. Transformative learning and teaching have been used in teacher education to address issues such as neoliberalism (Ural & Öztürk, 2020), social inclusion and justice, cultural pluralism (Anttila et al., 2018; Daniels & Schoem, 2020; Li & Costa, 2022; Siljamäki & Anttila, 2021; Um & Cho, 2022), decolonialist, indigenous, and anti-racist education (Leddy & O'Neill, 2021). Also, student teachers' competencies for global education and understanding have been promoted through transformative learning in international practice programs (Cornelius & Stevenson, 2019; Klein & Wikan, 2019).

In Finnish teacher education, wicked problems have been addressed, for example, through various emphasized curricula and teaching interventions (Gretschel et al., 2023). However, transformative learning theory has rarely explicitly been used to address the issues in teacher education and teacher education research, with the exception of few recent studies. Anttila et al. (2018) and Siljamäki and Anttila (2021) studied how transformative learning might better prepare future physical education and dance teachers to work in culturally diverse environments. Also, Acquah and Szelei (2020) researched student teachers' transformative learning in relation to multiculturalism. Matikainen et al. (2018) focused on how teacher education could guide student teachers' agency toward a transformational view of the teaching profession, making it possible for schools to enable social change.

In addition to the purpose of addressing wicked problems, transformative learning in teacher education is also needed because teaching is, at its core, a human endeavor (Leddy & O'Neill, 2021). This line of research focuses on teaching as an educational profession and human endeavor rather than on individual themes. Even changes in student teachers' personal identities are considered important in teacher education because student teachers' identity positioning has an intimate bearing on their pedagogical reasoning (Korthagen, 2017; Zhu & Chen, 2022). Because teacher's own personality is teacher's working instrument or, as the Finnish saying goes, "teachers work with their own personality," teacher education should not only affect the knowledge and skills of future teachers but also their deeper humanity and personal ways of thinking and meaning-making (Korthagen, 2017).

This sort of transformative change can be described as a change in a student teacher's (work) identity that essentially shakes the whole person (Illeris, 2014). For example, in a study of the identity transformation that occurs when one becomes a teacher, Tucker and Simmons (2021) found that transformative learning is inherently personal since the focus is on the learner's sense of self and worldview. Shaw (2023) reported transformative changes in preservice teachers' self-perceptions as learners when they worked as student researchers during their teacher education. Li and Costa (2022) also referred to the "emotional maturing" that occurs when student teachers' taken-for-granted views are challenged and when they move out of their comfort zones. Addleman et al. (2014) and Dunn et al. (2014) use the term "personal growth" when viewing transformative learning during teacher education.

Based on previous studies (Lanas & Hautala, 2015; Metsäpelto et al., 2021), transformative learning and research on it are rather scarce in Finnish teacher education. There might be a transition underway in this respect as some more recent studies (Arvaja et al., 2020; Kostiainen et al., 2018; Maijala, 2023; Matikainen et al., 2018) have found meaningful and transformative learning that focuses on Finnish student teachers' teacher identity. However, more systematicity is needed. In this study, I explored transformative learning in an alternative model of teacher education in Finland, in which long-term work is conducted to promote change in student teachers' meaning systems.

Research Context: Critical Integrative Teacher Education

In this research, I explored a transformative way of becoming a teacher in class teacher education in Finland. Class teacher education refers to teacher education in universities from which graduates are qualified to work as class teachers. Class teachers teach all pupils and subjects in grades one to six (ages 7–12) of basic education. Class teacher students major in educational sciences and their teacher education takes a total of five years, as all basic education class teachers are required to have a master's degree in Finland. Class teacher educations in Finnish universities are typically organized in the form of courses that focus on educational psychology, sociology, and philosophy as well as the didactics on subjects taught in grades one to six. Although group activities may be given to student teachers during these courses, the focus usually is on tasks carried out independently by student teachers.

This study concerned an alternative teacher education model at the University of Jyväskylä called the Critical Integrative Teacher Education (CITE). Established in 2003, CITE is one of the first and longest-running alternative teacher education models in Finland. It was originally established to unify the fragmented teacher education system and to give student teachers a place to reflect on the essential issues of teaching and learning in an explorative community (Nikkola et al., 2013).

CITE studies are organized in small long-term (two-year) groups based on the ideas of democracy and dialogue. The aim is to move beyond the traditional understanding of teaching and learning and to study educational phenomena on a deeper level—for example, the unconscious aspects of learning. CITE is theoretically grounded in psychodynamic and social theories and critical pedagogy. Studies are not organized by subject matter but as larger integrated study projects. The central idea is to learn to investigate the learning processes of individuals and groups. The aim is to prompt student teachers to become interested, reflect, and take responsibility for their personal meaning systems as well as their own and the group's learning (Nikkola et al., 2013). Student teachers apply to CITE at the beginning of their teacher education, and the ones selected spend most of the first two years of education in CITE, after which they move on to studies common to all student teachers.

Choosing CITE as the research context had both personal and methodological reasons. I have studied in CITE and found it profoundly transformative though at the

time I was unaware of the theory of transformative learning. I therefore had insider knowledge of the model and a preliminary idea that CITE would allow me to explore in depth the process of transformative way of becoming a teacher. In this article, I am interested in the transformative learning process taking place in teacher education. I do not know whether the study subjects became transformative teachers after graduation but their learning process in CITE could be described transformative. Hence, this study examined the transformative way of becoming a teacher especially in CITE and addressed the following research questions:

RQ1. What kind of phenomenon is a transformative way of becoming a teacher?

RQ2. How did transformative way of becoming a teacher occur in CITE for the study subjects?

Methodology

Participants

The CITE group I studied contained 11 student teachers (four men and seven women) all of whom gave me permission to study them during their CITE studies. These student teachers had chosen to apply to CITE, but other than that they did not differ from students in teacher education in general in any other way. They came from various places in Finland and were all general upper secondary school graduates. All were white and native Finnish speakers. When the data collection started, they were aged between 19 and 26 years. In results section I uses typical Finnish name pseudonyms of the subjects.

Data Collection

I used phenomenological close observation to collect data. According to Van Manen (1990) in phenomenological close observation, the researcher aims to enter the life-world of the subjects by participating in it, but while maintaining a reflective distance from the phenomenon under study. Material is sought without preconceptions from all aspects of lived experience which, in a reflective analysis, can tell us something about the essential nature of the lived experience (Van Manen, 1990).

I observed the student teachers in CITE over two academic years. For anonymization purposes, the exact years of data collection are undisclosed. I participated in all the study sessions during the first year and approximately half of the sessions during the second year. I recorded observations in a field diary by handwriting. I also kept a research diary in which I reflected on and pre-analyzed the field notes after typing them in a word processor. These two diaries contain 320 pages of notes (Microsoft Word, font Calibri size 11, single spaced). The data also includes student teachers' writings and essays. I collected the writings that were part of CITE studies, but I also collected some

writings only for my research. For example, I asked the students to write to me about their own relationship to learning and about the three most difficult things in CITE. It was up to the subjects to decide whether to give me access to their texts for research purposes and in the end the writings given to me generated 124 pages of data.

According to the ethical guidelines of University of Jyväskylä, there was no need for ethical approvement from the authorities. However, some ethical issues can be clarified. First, my relationship with the student teachers was purely research based, that is, I did not work as their teacher in any point of the data collection nor after it. Secondly, my presence at the study sessions might have influenced the situations some way. I asked the student teachers to reflect this in writing at the end of the first year and all eleven replied that after a week or so, they had even forgotten that I was there and that my presence did not affect them. Whether this is true is hard to say but that is what they stated.

Data Analysis

During the data collection, I remained open to what was happening in the field, with no theoretical framework or final research questions formulated. After initial coding of the data, I was intrigued by student teachers' descriptions of their learning as "profound" and even "growing as a human being." Spurred by this interest, I consulted the theoretical literature and discovered the theory of transformative learning. During the analysis, I was particularly interested in the transformative way of becoming a teacher in two ways. First, I was interested in what kind of phenomenon the transformative way of becoming a teacher was in general (RQ1). Second, I was interested in how the transformative way of becoming a teacher occurred in CITE (RQ2).

As my interest in the phenomenon was not only empirical but also philosophical, I first used a phenomenological approach to analyze it—specifically, Husserlian phenomenological eidetic reduction (Friesen et al., 2012; Husserl, 1907/1995; Van Manen, 1990; Zahavi, 2003). In eidetic reduction, the essence of a phenomenon (*eidos*) is elaborated upon by varying the phenomenon in different ways. In other words, the phenomenon is imagined from also different perspectives than how it appeared at the specific moment of data collection. The aim is to discover the essence of the phenomenon, which can no longer be varied. In eidetic reduction, it is not essential to be locked into the actual data or variations in empirical observations, because the researcher is searching for an eidos that can manifest itself empirically in many ways. The data is only one example of the eidos manifesting itself. This is why scenarios imagined by the researcher are, at the stage of variation, equivalent to the actual observations (Husserl, 1907/1995).

During eidetic reduction, I drew on both data and my own reasoning and imagination to create a picture of the factors that constitute the phenomenon of the transformative way of becoming a teacher. I experimented with different scenarios in pursuit to find the factors that were necessary and essential to define the phenomenon. Ultimately, my thought process during eidetic reduction was as follows: First, for there to

be transformative learning there had to be something that transforms. I defined that transformative way of becoming a teacher transforms especially student teachers' meaning systems related to learning, teaching, and education. Secondly, transformative way of becoming a teacher was essentially a process. I deduced that there had to be a *starting point* to the process that included the student teachers' meaning systems as they were before the transformation. After the starting point something needed to *crack* the pre-existing meaning system and begin the actual process. Next the process seemed to include *ambivalence* with both regressive and progressive interests. If the process did not generate any sort of resistance, it would perhaps be a case of unquestioned incorporation of new knowledge into the old meaning system rather than a qualitatively transformative change in the meaning system itself. However, for the learning process to continue (and not to be interrupted by the challenges faced), forward momentum was also necessary. Lastly, after navigating the ambivalence, *transformation* on the meaning system can occur. Thus, I had achieved a phenomenological description of the transformative way of becoming a teacher as a four-phase process during which student teacher's meaning system on teaching, learning, and education changes.

My next aim was to analyze how this process occurred in practice for the study subjects. Using more hermeneutic interpretative approach (Friesen et al., 2012; Van Manen, 1990), I analyzed how the phases were reflected in the process. I used the four-phased description of transformative way of becoming a teacher as a pre-understanding and placed the events and discussions from the field in this process description. The main data used at this analysis was the field diary as it included authentic descriptions from the field, but I also used writings of the student teachers as a complementary data. Although the four phases somewhat overlapped in the studied group, each could be identified as a separate step in the process.

In the results section, I deepen the phenomenological description of each of the phases of transformative way of becoming a teacher and then highlight the student teachers' experiences in each. As I am describing, above all, a phenomenological phenomenon, I use the group as a collective example of the process and do not focus on the student teachers' individual learning processes. I describe the transformative way of becoming a teacher on general level.

Results

Phase 1: Starting Point

Student teachers do not start the transformative learning process in teacher education as tabulae rasae. They already have meaning systems (conscious or unconscious) related to learning, teaching, and education that have been adopted during earlier life and education experiences (Shaw, 2023). I named this *the starting point* of the process. The pre-existing meaning system sets the starting point for the upcoming transformative learning process in two ways. First, student teachers' meaning systems are like lenses through which they see the world (Malinen, 2000). For example, student teachers create

expectations of the future through their meaning systems, which they suppose will continue to work in the same way. Thus, the process orients itself in a certain direction based on their existing meaning systems. Student teachers' existing meaning systems also set the starting point for the process outcomes since it is these meaning systems that will be transformed (Mezirow, 2018). In other words, the learning outcomes depend on the student teachers' meaning systems at the beginning of the process.

In this case, the starting point for transformative learning was the meaning systems that student teachers had when they entered CITE. Their meaning systems consisted of rather traditional views of teaching, learning, and education as well as a socialized way of meaning-making. Student teachers seemed to have internalized the meanings that they had previously encountered in society. These meanings were normative and unquestioned. For example, student teachers thought that the teacher was in charge of the learning situation and that it was up to them to absorb the information provided by the teacher as efficiently as possible. In general, learning was seen as an individual endeavor to acquire information and skills. This was often done for parents, teachers, or good grades. Vesa wrote, "I studied to get from one grade to the next and to keep my parents happy" (Sept., Year 1).

Based on their pre-existing meaning systems, student teachers also had expectations about their future teacher education studies. They expected teacher education to function according to the principles to which they were used to. For example, they expected educators to teach them how to become "proper" teachers. During one of the first CITE meetings, Aleksi pondered, "When will I understand what the idea is? I was most interested in when the 'light bulb goes on'" (Sept. 15, Year 1). It seemed that student teachers expected teachers to provide them with some essential information that, once internalized, would "light the lamp" and enable them to function as proper teachers. Teacher knowledge was therefore seen as something concrete, such as knowledge and skills or correct practices, that teachers could pass on to student teachers.

In this phase, student teachers saw themselves as passive recipients of the right information (Shaw, 2023). For example, when discussing the visual arts course, Varpu asked, "Are we going to learn [visual arts] techniques during this course?" and continued, "We should be able to teach techniques based on this course" (Sept. 20, Year 1). The question was based on the unchallenged assumption that in a teacher education course in visual arts, student teachers should practice the techniques used in teaching visual arts in comprehensive schools so that they would be able to teach them later. As the CITE course did not focus on developing technical skills, this assumption raised questions about the appropriateness of the course rather than the necessity of teaching skills in teacher education.

At the beginning of the process, the unquestioning and self-evident quality of student teachers' meanings and their desire to act according to norms determined their way of making meaning as "socialized minds." Kegan (1982, 2000) considers this to be typical at the threshold of adulthood, around the age of 20 years, which was the age of most study subjects. By socialized mind, Kegan means a way of making meaning that is

strongly influenced by culturally assimilated and socialized beliefs and ways of acting, which include ideals and values. The socialized mind is not guided only by its socialization. Independent thought processes, such as generalization and reasoning, are however colored by an adopted frame of reference—for example, the internalization of a particular culture—which clearly influences meaning-making. Thinking is thus preoccupied with the concrete and with different perspectives within the internalized frame of reference (Kegan, 1982, 2000). This was illustrated by student teachers' ideas about how to best teach a particular subject, which lacked any deep reflection, for example, on the subject's purpose or necessity. According to Kegan (1982, 2000), the ways in which the socialized mind assigns meaning are related to traditionalism, which emphasizes traditions, norms, and truths. In the second phase of the process, there was a crack in the student teachers' meaning systems.

Phase 2: Crack

In the second phase, student teachers' meaning systems cracked because CITE's theoretical background and educational practices were unfamiliar to them. For example, intensive small-group work, an emphasis on responsibility, relationships based on dialogue and equality between student teachers and teachers, and a constant reflective attitude deviated from their pre-existing meaning systems. Because of these characteristics, the meanings of learning, teaching, and education and their ways of making meaning were challenged and reflected upon. This sparked interest and excitement among the student teachers.

Student teachers seemed to have become aware for the first time that their previous meaning systems were not the only possible ones (for them). According to Malinen (2000), adult learning often starts with an educational crack; something new and different from previous understandings breaks through the adult's protective wall, leading the individual to question earlier beliefs and what is considered normal and allowing the absorption of new experiences or knowledge. Mezirow (1990) described this event using the term "disorienting dilemma," which can lead to the realization that one can do and see things differently.

The crack prevented student teachers from operating according to the same principles as before, pushing them toward change to the extent that it may have even been experienced as coercive. Nevertheless, for the learning process to continue to the next phase, student teachers must have interpreted the possible (but not yet articulated) new meaning systems as somehow meaningful or worth pursuing. For example, Varpu noted, "I and probably the whole group need to learn to organize our learning independently. […] We need to move away from teacher-led studying and performing" (Dec. 7, Year 1).

CITE teachers encouraged student teachers to question and break down their knee-jerk reactions and truths and to create space and opportunities for new ways of thinking about school and the teaching profession (Granger, 2010). When one teacher asked how the student teachers felt about discussing such themes, they replied that it was

"meaningful," "hard stuff," "at least not pretentious," and that "things seem obvious at first, but they are quite difficult" (Nov. 10, Year 1).

In this phase, the atmosphere in the group was dominated by curiosity and the charm of novelty. Tytti summarized the thoughts that perhaps many of the group had as follows: "I have started to really trust this [CITE] system. […] We are being prepared for what the job is about in a really good way" (Sept. 22, Year 1). In the next phase, ambivalence regarding the change that was taking place emerged.

Phase 3: Ambivalence

In the third phase, student teachers became ambivalent about the change that was taking place in their meaning systems. The learning process was now divided into two types of interest, both of which I saw as necessary. On the one hand, there was a progressive interest: Student teachers perceived the change as meaningful and strived toward it. On the other hand, the possibility of change also created a regressive interest that opposed learning (Ziehe, 1982/1991). Negative emotions, resistance, and even a desire to quit the entire process surfaced because the change that was taking place challenged student teachers' basic structures of functioning and being (Granger, 2010; Illeris, 2014; Leddy & O'Neill, 2021; Mälkki & Green, 2014).

Student teachers experienced the call of the crack but were not yet able to fully realize it, as their old meaning systems were still dominant. At this phase, student teachers found themselves between two meaning systems, which caused anxiety (Mälkki & Green, 2014). Nevertheless, resistance is a sign that the process is in progress (Illeris, 2014). The resisting individual is already committed to the learning process and feels that learning "is worth" resisting. At this point, learning is in a fertile phase and can be taken forward—for example, through discussions and new ideas (Illeris, 2014).

In the studied group regressive interest manifested itself in many forms. For instance, student teachers protested the change and retreated from it in various ways. Sometimes, they seemed to be doing everything they could (perhaps unconsciously) to prevent change. They started to be late for or miss meetings. They would criticize tasks assigned to them, the CITE program, and the teachers. They would become angry and defensive and have arguments among the group and with teachers. One particularly heated discussion ensuing after a teacher did not accept student teachers' explanations for why they had not done an assignment well sums up the mood of the regression interest:

> Vilja [being sarcastic]: That went well!
>
> Vesa: It's really fucking hard to do, because—I'm sorry, but we had a shitty topic [...]
>
> [They make a Word document about the assignment, Aila types:] "Planning: shit; execution: semi-shit; introduction to the teacher: total shit, nonexistent farce" [Deletes.]
>
> Aleksi: I'm really losing my mind over this assignment. (Dec. 7, Year 1)

At the same time, however, there were also signs of a progressive interest: student teachers tried to perform well and learn. This progressive interest is necessary for the transformative learning process to be sustained. Without it, the pain and anxiety caused by change could interrupt the process. According to Ziehe (1982/1991), a progressive interest is an individual's desire to develop and try something new despite the difficulties involved. Trying and learning something new is a source of pleasure. A progressive interest drives learning forward and makes subjects strive toward transformative change, even if the result is unknown at this stage. For example, student teachers tried new ways of working, took responsibility for their own learning and group activities, engaged in deep self-reflection, and sought to resolve conflicts. They were also enthusiastic and had insights. Sometimes, their progressive interest included an effort to work in a way that would be beyond reproach by the CITE teachers:

> Varpu: I fear that we've done this all wrong again. [...]
>
> Mikko: At least we worked on it.
>
> Varpu [laughing]: Last time, we didn't do it at all. (Jan. 18, Year 1)

Besides working "beyond reproach," student teachers' progressive interest included a playful and humorous attitude. For example, student teachers often exchanged jokes, such as the idea that CITE was a "secret society." Student teachers also repeated humorously sentences uttered by their teachers, such as "Why won't the group get to work?" or "This is not about finding the right solution but about seeing what happens when you take different approaches." Through humor, student teachers were able to "try on" new meaning systems but also leave the possibility of withdrawing from them open.

The ambivalence phase was the longest of all. It started to manifest in the group little by little about a month after the start of CITE and lasted at least until the beginning of the spring semester of the second year. Student teachers' progressive and regressive interests differed slightly during this period, but both were visible in one way or another in the group's work the whole time. The concurrence of these interests was often quite conspicuous, with some student teachers emphasizing the progressive interest and others emphasizing the regressive interest even in the same situation.

Building and shaping new meaning systems was both empowering and consuming. Vilja remarked, "This is consuming in a way different from what we are used to. It's extremely empowering but at the same time draining" (Feb. 20, Year 2). Tytti made a similar observation: "I feel like we are in some kind of group therapy [others laugh]—in a good way. And I learn so much about myself all the time" (Nov. 3, Year 1).

Both interests were essential in this phase. Iida wrote "This kind of work requires an intense focus on the topic and very deep reflection. As a result, we were not able to work

for long periods at a time but needed to take a rest from time to time" (May, Year 1). The progressive interest kept the process going, while the regressive interest gave student teachers the opportunity to rest during this psychologically and cognitively wearing process. The regressive interest was also a sign that learning was actually taking place since there would not have been a need to retreat from it if it was not there (Ziehe, 1982/1991).

Phase 4: Transformation

In the fourth phase, the student teachers' meaning systems changed. Qualitative changes occurred both in the meanings of learning, teaching, and education and in the ways in which student teachers constructed these meanings. Changes in meanings alone can sometimes be considered transformative learning. However, following Kegan (2000), I argue that changes in meaning-making ways are necessary for transformative way of becoming a teacher. This is because teacher education in general tends to influence student teachers' meanings of learning, so changes in meanings alone do not fully capture the depth of what I mean by transformative way of becoming a teacher.

In this phase, the transformation of the student teachers' meaning systems was evident to both the student teachers and me as an observer. The meanings of learning, teaching, and education were now more flexible and uncertain as well as more democratic and dialogical. The idea of the hierarchical nature of learning situations abated. The teacher or other authority was no longer seen solely as exemplary but also as capable of erring. Siru wrote, "I no longer look so naively at the teaching methods in use, for example, and find them useful just because they exist. Rather, I want to consider whether things are deliberated and why" (Apr., Year 2).

Student teachers' meaning-making ways transformed, in Kegan's terms (1982, 2000), from the previous socialized mind into a "self-authoring mind." Student teachers' meaning-making became deeper, more autonomous, more versatile, and more critical. They also committed to self-chosen ideologies rather than accepting societal norms and hegemonic ways of perceiving learning, teaching, and education (see also Addleman et al., 2014). Miisa wrote, "I have learned to look at things from more angles and in more diverse ways than before" (Apr., Year 2). Similarly, Tytti wrote, "Instead of one right answer, I was left with a lot of questions to ponder" (May, Year 2).

Student teachers and the group as a whole began to act according to the new meaning systems. They no longer expected to get the right answers from teachers but took responsibility for their own learning and studying (Daniels & Schoem, 2020; Shaw, 2023). This change was reflected by Varpu: "CITE has made teacher education more difficult. My favorite question nowadays is: What is appropriate [in teaching and learning]? It would be easier in teacher education if one wouldn't have to think about that" (Apr. 24, Year 2).

Student teachers perceived this transformation as very important and meaningful and often described it as a process of "growing as a human being." In one discussion, they pondered:

> Aila: No matter what I do after this, this has been useful. I wouldn't change [the experience], even if I had gotten my master's degree in two years.
>
> Tytti: [...] I've grown so much as a human being from this, no matter what I do after this, it's easier to be with people in the future [...] Maybe through understanding the diversity [in the group], I've learned to understand myself more. [...] (Apr. 24, Year 2)

When there is a transformative change in both the meanings assigned to teaching, learning, and education and the ways in which these meanings are constructed, we can speak of a change in a student teacher's work identity (Illeris, 2014). According to Illeris (2014), work identity is one of the most central aspects of adult identity and is often linked to an individual's core identity. Particularly in training that leads to qualification for a specific job, transformation cannot be separated from the individual's overall development (Illeris, 2014). The transformative way of becoming a teacher transforms student teachers into not only a different kind of teacher but also a different kind of person (Aarto-Pesonen & Piirainen, 2020). As Tytti put it already during the first year, "We are accumulating intellectual capital and growing to become teachers. We need to grow as human beings so that we can grow people" (Oct. 10, Year 1).

My field observation period ended when the group's CITE studies ended. Although the process of transformative learning probably continued afterward, transformative changes in the student teachers' meaning systems had clearly taken place by that point.

Discussion and Conclusions

The phenomenological-hermeneutic approach has not been extensively used in the study of transformative learning, although both explore how people make meaning of the world (D'Addelfio, 2017). By combining these approaches, this study brings a fairly new perspective to the research on transformative learning (Addleman et al., 2014). In this type of research, the setting is difficult to duplicate, and the analysis is quite unique. There are however some benefits to this kind of approach. According to Snyder (2008), when studying transformative learning, it is important that the context be appropriate for transformative learning, that the study period be sufficiently long, and that subjects' self-reported data be supplemented with other data, especially field observations. These conditions were met in this study.

The results add to the knowledge of transformative learning and shed light especially on transformative learning processes in teacher education. Although phases 2 (crack) and 4 (transformation) of the transformative learning process are well recognized in the literature (Addleman et al., 2014; Mezirow, 2018), this study also highlights the importance and inevitability of phases 1 (starting point) and 3 (ambivalence). The

learning process does not start in a vacuum (Laros, 2017). Something precedes the crack—namely, a pre-existing meaning system. Moreover, the transition from the crack to the eventual transformation is not as smooth, conscious, or rational as previously thought (see also Illeris, 2014; Mezirow, 2018; Mälkki & Green, 2014).

This study's findings suggest that the phenomenon of the transformative way of becoming a teacher is an ambivalent process that takes time. This notion challenges neoliberal educational policy discourses that emphasize efficiency and speed (Levinsson et al., 2020)—an ethos that has also been adopted in teacher education to some extent. It has been argued that teacher education and public schools have moved to a neoliberal ethos, according to which teachers manage narrow and decontextualized educational services and produce controlled and measurable outcomes for a competitive school market (Levinsson et al., 2020; Um & Cho, 2022; Ural & Öztürk, 2020). This disregards the slowness, difficulty, and uncertainty of transformative learning processes portrayed in this study.

The findings can inform the development of teacher education. The results emphasize the need for long learning modules rather than short courses and the need for teacher educators to understand the nature of resistance that is essential for transformative learning. While it is recognized that dealing with difficult topics in teacher education, such as decolonization or anti-racism, can provoke resistance among student teachers (Leddy & O'Neill, 2021), this study shows that even themes that are not particularly emotionally charged can have a similar effect. It seems that whenever a meaning system changes and one is forced to reflect on it, resistance arises. For example, it can be argued that learning, teaching, and education—the focus of this study—are basic concepts not only for (prospective) teachers but also for people in general. Hence, their transformative changes have the potential to completely change the way in which people perceive the world. This, I would argue, is also one key to tackling wicked problems through teacher education.

This study also brings forth an ethical and pedagogical challenge in teacher education. Shaw (2023) argues that such learning processes are rarely without struggle and ambiguity; therefore, teacher educators must support student teachers through guided reflection. Li and Costa (2022) contend that experiences of discomfort can inflict ethical violence on students if they are forced to transform themselves without appropriate support. This concern must be taken seriously when designing and implementing transformative learning processes in teacher education.

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