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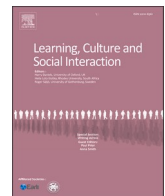
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Crossing boundaries–pre-service teachers' situated and imagined views of socioemotional competence and dialogicality

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A B S T R A C T

Pre-service teachers often hold idealistic or static views of socioemotional competence. More research is needed on their situated reflections and imagined futures. This study focuses on pre-service secondary teachers' situated and imagined views of the socioemotional and dialogical dimensions of becoming and being a teacher. The study took place within multidisciplinary collaboration, online teaching, and the COVID pandemic. Fourteen pre-service teachers' interviews were analyzed with reflexive thematic analysis, applying the concept of boundary crossing. Our findings indicated three boundaries: between (1) disciplines, (2) online and face-to-face practices, and (3) being a student and being a teacher. In their situated views, pre-service teachers crossed disciplinary boundaries in collaboration with the help of social cohesion, perceived a threshold in online interaction, and held a normative conception of talkativeness. In their imagined futures, they struggled to specify socioemotional competence, emphasized challenging situations as a boundary, and expressed dialogical and monological voices regarding teachers' competences. There were tensions at the boundary between situated and imagined views, indicating idealized beliefs. Implications include providing safe spaces and time for collaborative boundary crossing and critical reflection. Our study addresses teachers' socioemotional competence and dialogicality amid crises and further theorizes the boundary between the situated and the imagined.

1. Introduction

Cultivating socioemotional competence and dialogicality has a twofold role in teacher education; to be able to develop such abilities in others, teachers must develop their own competences (Tynjälä, Virtanen, Klemola, Kostiainen, & Rasku-Puttonen, 2016; see also Murray & Male, 2005). Pre-service teachers (PSTs) learn not only about the "discipline" of education, but also through the educational processes they engage in teacher education. The situated practices, resources, and communities, such as peer groups, influence the process of becoming a teacher. From a sociocultural perspective, becoming competent is intertwined with everyday practices and shaped by sociocultural factors like materials and discourses (Ikävalko et al., 2020). During teacher education, PSTs reflect on their past experiences and current learning in the particular context while imagining themselves as future professionals (Lee & Schallert, 2016). Their situated and contextual views may conflict with how they imagine their future as teachers (e.g., Moate, 2023). PSTs may have idealistic or static views about involving others (Moate, 2023), caring (Goldstein & Lake, 2000; Laletas &

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Reupert, 2016), and socioemotional competence (Aspelin & Jonsson, 2019; see also Lee & Schallert, 2016).

Such tensions between the student perspective (being a PST) and the teacher perspective underscore the need for critical reflection in teacher education (e.g. Arvaja, Sarja, & Rönnberg, 2022), an area that calls for further research and theorization (Moate, 2023). In this study, we aim to understand PSTs' situated and imagined views of the socioemotional and dialogical dimensions of becoming and being a teacher. We also consider the potential tensions between these situated and imagined perspectives. In the sociocultural context, we highlight the following phenomena: the influence of the COVID pandemic, online learning, and learning within and about multidisciplinary collaboration. We apply the concept of boundary crossing (Akkerman & Bakker, 2011) to study these contextual phenomena and to focus on the boundary between being a student and becoming a teacher, as this is one of the key boundaries in teacher education and is a site of struggle. Our study aims to offer implications for teacher education by addressing socioemotional competence and dialogicality in the post-COVID era and by further theorizing the boundary between the situated and the imagined.

2. Theoretical framework

2.1. Sociocultural theory: lived experience within sociocultural context

This study is grounded in sociocultural and dialogic theories. Sociocultural theory builds on the work of Vygotsky (1978), and its central insights include viewing knowledge and intellectual processes as deeply intertwined with cultural and situated forms of social interaction, such as spoken and written language, and practices within institutions, such as schools (Mercer & Howe, 2012). Language is seen as both a cultural and a psychological tool; it is used both to create knowledge in communities and to organize the processes of individual thought (Mercer & Howe, 2012; Vygotsky, 1978). Teacher development, from a sociocultural perspective, is seen as a dynamic, holistic, and situated process (Olsen, 2008). When people, in this case PSTs, make sense of the world, they navigate across multiple settings and time scales: past and present as well as micro and macro levels (Esteban-Guitart & Moll, 2014). The micro level includes subjective lived experiences, and the macro level includes, for example, socio-political conditions. Lived experience as a construct stresses how thinking and intellectual acts are not separate from the full spectrum of life, including emotional experiences (Esteban-Guitart & Moll, 2014). In this study, we are interested in PSTs' lived experiences (micro level) within the context (macro level) of the COVID pandemic, online teaching, and the educational policies and practices that embrace multidisciplinary collaboration. Particularly, we draw on ideas from situated learning theory (Lave & Wenger, 1991) as part of sociocultural approaches and complement them with dialogic perspectives (see Section 2.5).

2.2. Defining boundary crossing

In this study, we use the term *boundary crossing* (Akkerman & Bakker, 2011) to draw attention to how pre-service teachers, representing various subject disciplines, cross disciplinary boundaries in multidisciplinary collaboration and work at the boundary between being a student and being a future teacher. Furthermore, given the increased role of online teaching, we argue that another boundary can be seen between face-to-face and online practices. Boundary crossing focuses on how to sustain participation and collaboration across different sites despite their differences (Akkerman & Bakker, 2011). Sociocultural differences call for reorganizing action or interaction, which is seen as a resource for learning (Akkerman & Bakker, 2011).

There are various examples of boundaries. In schools, disciplinary boundaries are evident. Moreover, there are boundaries between, for example, formal education, work practice, and everyday life. One example is teachers working as school numeracy coordinators, since they work at the boundary between their teacher colleagues and the research and development group at the university (Akkerman & Bakker, 2011; Williams et al., 2007). In the study by Williams et al. (2007), the teacher–coordinators' talk was characterized mostly by conflict and tensions, but boundary crossing enabled reflective identity work.

Akkerman and Bakker (2011) explained boundaries as a dialogical phenomenon, the notion of boundary being central to Bakhtin's ideas about dialogue (see also Section 2.5). They identified four possible learning mechanisms at boundaries: identification, coordination, reflection, and transformation. Identification involves questioning core features of practices, leading to new insights. An example of this is defining one practice in light of another, that is, *othering* (e.g., contrasting history teaching with chemistry teaching). Coordination, in turn, means effortless movement between practices with minimal dialogue. Reflection involves grasping and explaining differences between practices and learning about one's own and others' practices. Transformation is about collaboration and co-development of (potentially new) practices.

2.3. Situated learning in teacher education amid pandemics and within multidisciplinary collaboration

The *situated perspective* to teacher learning highlights the role of social contexts (Cherrington, 2017; Lee & Schallert, 2016; Putnam & Borko, 2000) and learning within a *community of practice* where participants move from being "newcomers" toward full participation in the sociocultural practice (Cherrington, 2017; Lave & Wenger, 1991). In this sense, there is a boundary between being a novice and being an expert in a particular domain or community. The situated perspective holds that individuals negotiate meaning within the community of practice and "learn though participation – involving social, affective and cognitive aspects – with others" (Cherrington, 2017, p. 162) and with artifacts used in collaborative negotiations. In initial teacher education, PSTs negotiate their membership within social communities, such as teacher education departments or training schools, which is reflected in their developing teacher identities. However, communities are not static; learners also shape others' learning and community practices (Cherrington, 2017). Since teaching as a profession is somewhat familiar to everyone through personal experiences in school, critical reflection is essential

(Arvaja et al., 2022).

The first contextual aspect this study highlights is the influence of the COVID pandemic, which has shaped the learning of a large number of prospective teachers. It has led to a transformative change in the field of education and challenged teacher learning (e.g., Darling-Hammond & Hyler, 2020). Such a disruption can enable the rethinking of education and teacher training (Darling-Hammond & Hyler, 2020) and make explicit some overshadowed aspects of being a teacher. One example is being a professional "teacher body," since online environments – largely used during and after the pandemic – eliminate many physical cues and limit body language and gaze (Godhe & Wennås Brante, 2022). Overall, the COVID pandemic has foregrounded the need to foster social and emotional competences, both in teacher education and among pupils (Sánchez-Tarazaga, Sanahuja Ribés, Ruiz-Bernardo, & Ferrández-Berrueco, 2023). New teachers, whose teacher training has been affected by the pandemic, may need additional support at the beginning of their careers; at the same time, they may bring about original perspectives and practices that are shaped by their experiences, such as awareness of equity concerns highlighted by the pandemic (Darling-Hammond & Hyler, 2020; Glenn et al., 2020). They may also be aware of how different crises affect teaching and learning, even into the future.

The second contextual aspect we address is multidisciplinary collaboration. Teacher collaboration is important for school development processes, school quality, and teacher professional development for several reasons. Among these are that change in schools is not possible without the involvement of teacher teams who are the primary implementers of reform; that teacher collaboration can support teachers' reflection on their practice, help them change their behavior, and protect against burnout; and that it can benefit students, for example, by making teachers more responsive to individual student needs (Muckenthaler, Tillmann, Weiß, & Kiel, 2020). In our context, a specific feature of collaboration is that of multidisciplinary learning. Prospective secondary school teachers study education in multidisciplinary groups to prepare for professional collaboration and development across different disciplines. They major in various disciplines, such as mathematics, English language, or history. Multidisciplinary collaboration is also encouraged in the Finnish educational policy (see also Section 4.1). This brings forth situated perspectives relevant to our study, namely tensions between being a subject matter expert and collaborating across disciplines.

The PSTs' positions as subject matter experts are expected to be reflected in their views of their future profession. In a review of teacher identity as a content expert, Peterman (2017) found that it was mostly contexts (e.g., schools, informal settings, and higher education), not content, that affected identity formation. Yet, personal experiences and the way PSTs felt about themselves as learners of content influenced their approach to teaching. As a conclusion, Peterman (2017) highlighted the importance of collective reflection on identity tensions and safe spaces for collaborative learning in teacher education. In addition, teacher education programs should scaffold PSTs' competences in building collegiality and collaboration, as well as their socioemotional and leadership skills, because such skills are needed to build bonds of trust in schools, which in turn may enhance job satisfaction by reducing loneliness and encouraging dialogue, reflection, and problem solving (García-Martínez, Montenegro-Rueda, Molina-Fernandez, & Fernández-Batanero, 2021).

To prepare for multidisciplinary professional collaboration, boundary crossing competences are relevant. Addressing challenging societal issues, such as climate change, through education, is impossible within single disciplines. Boundary crossing as a competence refers to the ability to collaborate across unfamiliar domains and to integrate knowledge from various fields, that is, to co-create in interdisciplinary and multicultural teams (Fortuin, Gulikers, Post Uiterweer, Oonk, & Tho, 2023). According to Markauskaite et al. (2024), interdisciplinary teaching and learning have been one of the most under-theorized and under-researched areas in education, and our study aims to address this gap.

2.4. Pre-service secondary teachers' views of socioemotional competence

According to Goegan, Wagner, and Daniels (2017), despite recognizing the importance of teachers' socioemotional competence, research is scant on teachers' beliefs about their own socioemotional competence. They stated that related research has focused mostly on teachers' beliefs about socioemotional learning. Moreover, the focus has been more on the beliefs of in-service teachers, rather than those of PSTs (Goegan et al., 2017). However, there are many overlapping concepts that may connect with this research gap. Researchers have analyzed PSTs' views of similar competences, such as *social competences* (Sánchez-Tarazaga et al., 2023), *relational competences* (Aspelin & Jonsson, 2019), and *emotional intelligence* (Gallardo, Tan, & Gindidis, 2019). Related concepts include teachers' *interpersonal competences* (Wubbels, Den Brok, Veldman, & van Tartwijk, 2006), *care* in teaching (Laletas & Reupert, 2016), and teachers' competences to foster *dialogic teaching* (Alexander, 2018; Vasalampi et al., 2021).

What these terms have in common is building educational relationships and contexts that are safe, supportive, reciprocal, collective, respectful, empathetic, and dialogical. These concepts are needed to foster broader purposes, such as social justice and equity (McGraw, Fernandes, Wolfe, & Jarnutowski, 2023), inclusion, engagement (Vasalampi et al., 2021), and democracy (Sánchez-Tarazaga et al., 2023). However, without conscious efforts and further knowledge (e.g., on equity), such broader perspectives may be disregarded, and teacher competences may be presented as if they were value-neutral, focusing only on the technical aspects of teaching (Miller Marsh & Castner, 2017).

Competence as a term is more than skills; it encompasses cognitive, affective, and behavioral elements, including knowledge, skills, attitudes, and behaviors (e.g., Spitzberg & Cupach, 2011). For example, Ikävalko et al. (2020) defined emotional competence as the ability to "perceive, understand, recognize, express and practice/apply emotions" (p. 1487). They highlighted that competence is enacted in everyday practices and influenced by sociocultural circumstances. We are interested in how these circumstances and situated reflections shape PSTs' understanding of socioemotional competence. In teacher education, the "discipline" of education and the pedagogical methods for teaching it to prospective teachers are inseparable (Murray & Male, 2005).

More research is needed on PSTs' perceptions of care, particularly in secondary school settings (Laletas & Reupert, 2016). Focusing

on secondary education is important for teacher educators since adolescence is a critical developmental phase where young people become more independent, create influential relationship patterns, build their identities, and often undergo both social and academic anxiety about their futures (Laletas & Reupert, 2016). Moreover, the current turbulent times may be reflected in the anxieties young people face in this regard.

Previous research has found that PSTs need a more nuanced understanding of relationships and socioemotional competence. Laletas and Reupert (2016) concluded that many studies have shown PSTs to have idealistic and unrealistic views of caring. Aspelin and Jonsson (2019) studied PSTs' analyses of teacher–student relationships, based on videos where teachers' relational competence was challenged. They found that PSTs' responses involved abstract explanations, which indicated that they viewed competences via a relatively static and general framing, instead of referring to what had actually happened in the videos. Thus, PSTs struggled with analyzing competence as situated practice.

2.5. Dialogicality – constant becoming with and through others

While PSTs' competences are central to our study, we also highlight the broader idea of dialogue as an authentic way of being in educational relationships and as a foundation for building them. Rule (2011) put two central thinkers, Bakhtin and Freire, in dialogue to address their commonalities and dissonances regarding the notions of dialogue and dialectic. According to Rule, they shared an understanding of dialogue as a way of being, rather than just as a technique or a type of communication. Both emphasized the open-endedness of dialogue and the idea of constant becoming, the unfinalizability of being human (Rule, 2011). Humans become with and through others. The opposite of the authentic – dialogical and open-ended – way of being is monologue (Bakhtin) or anti-dialogue (Freire). Monologue and anti-dialogue reduce the other to the status of an object (Bakhtin, 1984) or suppress the other (Freire, 2018; Rule, 2011). Both Freire and Bakhtin stressed the spatially and temporally situated nature of the world (Rule, 2011), akin to sociocultural and situated learning theory. Moreover, dialogicality presupposes alterity: acknowledging differences and multiple meanings and opinions (Arvaja & Hämäläinen, 2021).

In education, there is always a tension related to power imbalances: teachers need to balance between dialogical practices – giving space to students' voices, experiences, and agency – and social control of students, classroom management, and curricular demands (e. g., Rajala, Kumpulainen, Rainio, Hilppö, & Lipponen, 2016). To create dialogic spaces, it is essential to build trust and responsibility, remain open to learning from others, encourage self-expression, and commit to resolving issues through discussion and reflection rather than forceful persuasion (Rule, 2004). This is not to say that dialogue is without struggle, conflict, or power asymmetries, but that these issues can be worked through in the process of dialogue (Rule, 2004). The teacher and students must creatively navigate the contradiction between agency and control (Rajala et al., 2016).

However, various crises may add to the challenges of control in educational spaces. Crisis, polarization, and rising authoritarian voices are interconnected in the current times (see Aly et al., 2022). Another example is that during the COVID pandemic, there were governmental and institutional restrictions, and teachers had little room to move within those restrictions. When it comes to dialogue, online interactions tend to be minimally dialogic, and while monologic conversations can foster knowledge construction, they may hinder community building (Delahunty, Verenikina, & Jones, 2014). Given these issues, it is important to address dialogicality in the context of crises.

In our study, the notion of dialogue and dialogicality is relevant from various perspectives: as a data-driven notion, as essential for the theory of boundary crossing (Akkerman & Bakker, 2011; see also Rule, 2011), and as a way of looking at PSTs' views of the socioemotional and dialogical dimensions of being a teacher. We view dialogue as a "value-laden process of acknowledging and engaging with the other as a subject" (Rule, 2011, p. 930), as constant becoming with and through others, and as a process in which diversity and otherness are valued. Dialogical relationship is not self-evident, but "a task, a site of struggle, something that requires constant effort and renewal" (Rule, 2011, p. 929).

3. Research questions

The following research questions (RQs) guide our study:

1. What kind of situated understanding do PSTs have of the socioemotional and dialogical dimensions of becoming a teacher
   a. during a pandemic?
   b. in multidisciplinary collaboration?
2. How do PSTs imagine teachers' socioemotional competence and dialogicality in their future work?

4. Methods

4.1. Context and participants

Participants were recruited using purposive sampling, as is common in qualitative research (Etikan, Musa, & Alkassim, 2016). The teacher educator whose group participated was known to be well informed about the phenomena of interest, that is, initial teacher education and related pedagogical choices, particularly regarding secondary PSTs. In addition, geographic proximity and availability at a particular time were part of the practical selection criteria, meaning that there were also elements of convenience sampling (Etikan et al., 2016). According to the teacher educator, the targeted group was a well-functioning group that generally expressed a positive

attitude toward experimentation. These issues were relevant because the data collection took place during sudden COVID restrictions, that is, in the context of a crisis. We wanted to avoid unnecessary harm to the participants, and therefore felt that a generally a well-functioning group might not be negatively disrupted by the research (which overall included video observations). Participation was voluntary, and PSTs acknowledged that they were free to withdraw their participation at any time and without consequence.

The participating PSTs ($N = 14$) were in their first academic year at a Finnish university. They were majoring in various disciplines, such as English, chemistry, and history. Table 1 lists the participants' pseudonyms, majors, and ages. In Finland, prospective secondary school teachers study for a bachelor's degree (180 ECTS) and master's degree (120 ECTS) that involves studies in their discipline(s) and compulsory pedagogical studies (60 ECTS). They qualify to teach one to three school subjects, usually at lower or upper secondary schools or vocational schools. During the first study year, the PSTs complete three courses (à 5 ECTS) of the Basic Studies in Education at the Department of Teacher Education. This study was conducted during these courses, which the participants studied in the same group and with the same teacher educator. The courses focused on 1) interaction and collaboration, 2) societal issues of education, and 3) scientific knowledge and thinking. All courses comprised lectures and classes, as well as small group collaboration.

During the fall of 2021, the students studied the first course in a face-to-face setting. Initially, they were also supposed to study in person during the second course, in the spring of 2022, but new COVID restrictions were put in place by the university just before the start of the course in January. At that time, almost all university education in Finland was moved to online mode due to the worsened pandemic situation. The studied group carried out their educational studies online from January to April 2022. In April, they returned to face-to-face teaching, when the second course was already finished, and the third had started.

Later in their studies, PSTs' teacher education studies continue in such a way that in their second year, PSTs complete the remainder of the Basic Studies, including a course on learning and pedagogy (5 ECTS) and a teaching practice (5 ECTS). The teaching practice is usually organized at the Teacher Training School, which is administratively a part of the university. In addition, they study their subject studies in their discipline's department. Usually during their fourth study year, PSTs study the Pedagogical Subject Studies in Education (35 ECTS) at the Department of Teacher Education, including teaching practices (15 ECTS).

In our context, secondary PSTs study education in multidisciplinary groups (including students of, e.g., mathematics, history, and English language). The aim is to prepare for multidisciplinary collaboration in their future professions and to cross disciplinary boundaries. When it comes to national educational policies, the Finnish national core curriculum for basic education (Finnish National Board of Education, 2016) promotes transversal competences and multidisciplinary learning. Competences such as multiliteracies and "thinking and learning to learn" are framed as necessary to address societal changes. It is argued that personal growth and citizenship demand competences that extend beyond disciplinary boundaries. Schools are required to organize at least one multidisciplinary school activity during the school year. The duration of the activity may vary. The core curriculum describes multidisciplinary learning as an integrative approach where real-world phenomena or issues are examined holistically, particularly across subject boundaries. Furthermore, the core curriculum explicates the need for multidisciplinary collaboration in student welfare which is organized together with educational, social, and health services as well as with the student and their families.

4.2. Data collection

Data were gathered in April 2022. From January to April, the first author also observed and video recorded the PSTs' teacher education courses. As mentioned, the second course on societal issues of education was held on Zoom due to COVID-19 restrictions. We have previously analyzed the PSTs' online collaborative learning situations to study the phases of knowledge co-construction and socioemotional processes (Lehtinen et al., 2023) and the narratives that the PSTs co-constructed about the future of education (Lehtinen et al., 2024).

The first author collected the data via semi-structured thematic interviews. Most of the interviews were held in person as the COVID restrictions had been removed, except for two interviews that took place online. The interview themes focused on PSTs' experiences during online and face-to-face teacher education, interaction processes and their well-being during the courses, their own participation in the courses and in collaborative learning, experiences from working in collaborative teams, and their views of socioemotional

Table 1
Participants.

Pseudonym	Major	Age in Jan 2022
Elias	Mathematics	20
Ella	Chemistry	not available
Emma	History	not available
Ida	English	20
Laura	Educational technology	21
Lisa	Finnish language and literature	20
Mia	Finnish language and literature	22
Nea	Finnish language and literature	20
Niko	English	not available
Oliver	History	21
Oona	Languages	19
Sara	Mathematics	20
Sofia	English	not available
Vera	Physics	20

competence, both as situated in online teaching and as future teachers. The questions were open-ended (Brinkmann & Kvale, 2009) and the PSTs were encouraged to share their experiences and ideas as freely as possible. The interviews were between 21 min and 58 min in length (mean 39 min).

4.3. Data analysis

In the analysis, we employed a reflexive thematic analysis, consisting of six phases (Braun & Clarke, 2021). We applied a primarily inductive orientation but, having done the first rounds of analysis, more theory of dialogicality and boundary crossing was read alongside the analysis. During the final rounds of analysis, we applied the concept of boundary crossing (Akkerman & Bakker, 2011). This was because the PSTs seemed to explicate clear boundaries between various disciplinary practices and in their learning, and the concept thus enriched the analysis.

The analysis started with transcribing audio data, and initial transcripts were created using the transcribe feature of Microsoft Word. The first author then carefully reviewed and edited the initial transcripts, also adding hesitations, longer pauses, and laughter. The transcripts resulted in 231 pages of text (font size 12, line spacing 1.5). The participants were given pseudonyms. The data familiarization phase continued as the first author read through all the transcripts several times on paper and wrote notes and preliminary codes while considering the RQs. Next, the first author drew initial thematic maps, and coded the data systematically. Through this process, initial themes were created, such as "being able to involve others, to observe better and more actively", "cut from different cloth, yet we found a common path" (multidisciplinary collaboration), and "dialogicality and respect for diversity." These themes belonged to three different perspectives, respectively: situated understanding during a pandemic, situated understanding within multidisciplinary teams, and imagined views (as future teachers).

In this phase, we used investigator triangulation to review the themes. All the authors read the coded data against the initial themes. The themes were reviewed through discussion, and thereafter the first author created a new thematic map that aimed to capture all the themes. This new map was again triangulated between the researchers. As a result, some themes were refined. Table 2 shows the final themes and sub-themes, and Fig. 1 presents the final thematic map. The first author translated data excerpts from Finnish into English and bolded some key phrases for readability.

5. Results and discussion

We created nine themes in total (Fig. 1) in the analysis of the situated and imagined views that PSTs held regarding socioemotional and dialogical dimensions of becoming and being a teacher. Five themes relate to RQ 1 (situated views) and four themes to RQ 2 (imagined views). By employing the concept of boundary crossing (Akkerman & Bakker, 2011), we considered what kind of learning

Table 2
Themes and sub-themes.

| Themes	Sub-themes
Situated	
Multidisciplinary collaboration: boundaries and crossing them	Identifying boundaries and the uniqueness of educational science
	Teacher educator modeling quality teaching
	Cut from different cloth, yet we found a common path
	Do I belong in the field of education?
	I learn best by myself
Meaningful experiences of social cohesion (face to face)	Getting to know one another and building trust in face-to-face teaching, icebreaker games
	Valuing off-task interaction
Threshold in online interaction	Lack of facial expressions, gestures, and essence; human vs. bot
	Threshold in talking, inviting others to participate, and asking for help
	Getting used to online interaction, increasing social anxiety
	Being excluded
	Fatigue, zero energy
The need to observe better and involve others	
Norm of being talkative, shyness and silence as negative	Everyone should just talk (tyranny of participation)
	Norm of talkative teacher students
	Shy students willing to develop their courage
Imagined	
Difficult to imagine and analyze competence, lack of experience	
Focus on how to deal with challenging situations	Emotional issues
	Group-level issues/understanding
Dialogicality and respect for diversity vs. monologicality	Taking into account and valuing diversity
	Listening to and involving everyone
	Monologic, automatic authority
Teacher competences as stable and "correct" ways of being vs. something to be learned	Continuum from a normative and correct way to a flexible and open way
	Stable personal traits vs. something to be learned
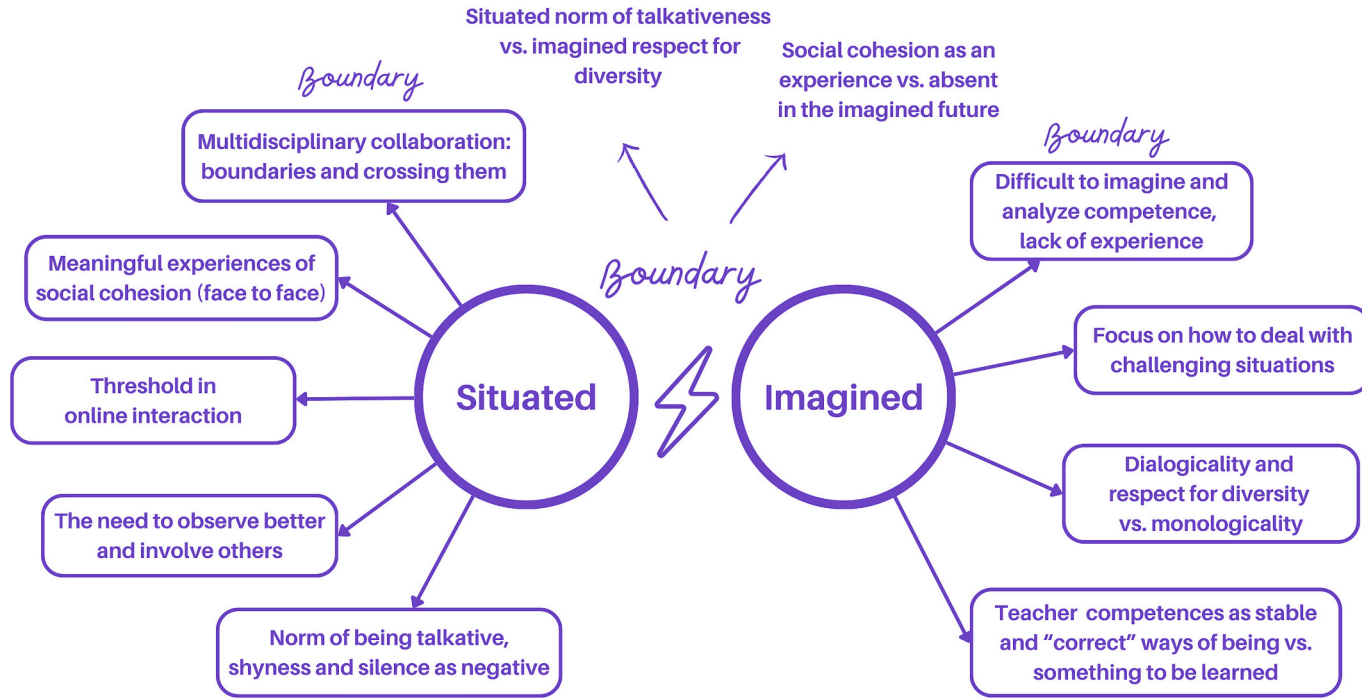
Fig. 1. Situated and imagined views of socioemotional and dialogical dimensions of becoming and being a teacher.

might be happening at the boundaries, namely disciplinary boundaries and the boundary between being a student teacher and being a future teacher. We identified some tensions, specifically between the situated (RQ1) and imagined (RQ2) views, and these are pictured in Fig. 1 as arising from the boundary. Themes are in many ways intertwined, and we report some of them together (e.g., "Threshold in online interaction – the need to observe better and involve others").

5.1. Multidisciplinary collaboration – identifying boundaries and the uniqueness of educational science

The PSTs in our study majored in various disciplinary subjects. They studied education together in multidisciplinary groups in the Department of Teacher Education. The PSTs identified boundaries between their disciplines (e.g., history or chemistry) and educational sciences. Two students described educational sciences as being "*such a different world.*" The uniqueness of education was manifested through open-ended reflection, deep discussions, social interaction, and interactive teaching. Ella compared how different the tasks are: in chemistry, tasks are straightforward and "*you are told where to put a period,*" whereas in educational sciences "*they don't really tell you what they want, they are, like, it can be anything* [laughter]." She regarded this openness as challenging since "*we are not hundred percent sure about what we are doing.*" She also thought that in chemistry there was "*no need for a kind of interaction situation*" – a conception that one would like to challenge in teacher education.

In general, the PSTs appreciated educational sciences for the high-quality collaborative discussions and the freedom to express and reflect on oneself. Vera, majoring in physics, talked about stopping to think about oneself:

> It's always nice to come to these [educational science] classes when you know that it's **such a different world** from the other one [laughter], the other one is so theory-driven and you just work hard and keep going forward, but here you can **stop and really think** about, like, what I'm thinking and […] what kind of person I am […] you can stop and think about yourself too.

Here, Vera identified disciplinary boundaries dialogically by *othering* (Akkerman & Bakker, 2011), showing and comparing them in the light of the other practice.

The PSTs viewed the teacher educator as modeling high-quality teaching. This, too, was demarcated by a boundary – comparing teacher education practices to their discipline's teachers and teaching practices. Oliver, for example, depicted history teaching as falling easily into "*faceless lectures*" where distant lecturers read jargon from packed slides, while the teacher educator modeled higher-quality teaching. The PSTs seemed to share the view that, in their discipline, there were more monologic teaching practices, compared to educational sciences. Mia, a student of Finnish language and literature, explicated that it felt important to see the teacher educator teaching:

> I think it's quite important to have these teacher education courses in the **face-to-face** mode, so that there is also that kind of, uh, **I don't know if this sounds funny**, but you also kind of **see the teacher** [laughter] there, mmm, well **teaching** and like telling us and discussing with us.

In this way, as well as through their body language, teacher educators teach the PSTs how to engage in the social practices of teaching (Godhe & Wennås Brante, 2022). The PSTs considered that online teaching restricted this aspect (see section 5.3). However, according to Sofia, "*you can tell we've been here* [laughter] *at the Department of Teacher Education, because it's probably the highest quality online teaching I've had.*"

The PSTs also recognized boundaries between various school subjects. Vera talked about the different degrees of free debate:

> In language arts, I feel that we had much more free discussion in, for example, upper secondary, so it is perhaps more emphasized there, but then again, I feel that these subjects that I study [physics, chemistry, mathematics] […] **there's not so much room for** the kind of, like, **free thinking** [amused], so these subjects are pretty much **stuck in their routines.**

After a follow-up question, Vera explained that she liked the theorical nature of physics and being able to "*browse through a collection of formulas and find answers there* [laughter]." She continued that she liked having educational studies "*separately*"– which allowed for more openness, self-expression, and personality – and "*then the other studies* [physics] *are in the background.*" With this wording, Vera clearly demarcated the boundary. This process of identification could be called not only othering, but also *legitimating coexistence* (Akkerman & Bakker, 2011), since Vera appreciated being part of both worlds.

In the above examples, the boundary was expressed by verbal markers (Akkerman & Bakker, 2011): comparing the "*different worlds*" and clearly indicating the "*separate*" nature of the disciplines. Other words used were "*alteration/variation*" and "*counterbalance.*" Furthermore, the PSTs understood the situated nature of boundaries in spatial and temporal terms (Akkerman & Bakker, 2011; Kerosuo, 2004). Sara, majoring in mathematics, talked about developing teacher training so that classes would not be held only on Mondays. She felt that she forgot things in between and that there was a sense of temporal separation:

> The week starts so that I have educational sciences [laughter] and then I think about them that day and then I have **everything else** the whole week, so then on Sunday I'm like, well, I have educational sciences again tomorrow [laughter], then I think that I have like **two days a week when I just think about them**, so I don't know, maybe I should just **make time** for the other [subject].

In addition to temporal markers, spaces were also relevant. Ella gave voice to insecurities concerning the evolving teacher identity and tensions related to being primarily a subject matter expert (see Peterman, 2017). She highly appreciated self-reflection and the inspiring and awakening studies in teacher education, but felt that she didn't know what was expected from her, which brought forth insecurity. She sensed that she didn't "*yet belong anywhere*":

> I just have a feeling that since I'm like a chemist [laughter], **I can't go there**, I don't even, like, know what I'm studying yet and what's expected of me and whether I am a subject teacher, **can I call myself a subject teacher?** […] I would maybe need a bit like, something that would really combine the fact that subject teachers study something else [their major] and that everyone is welcome, so that even though you mainly study chemistry, but you are also a teacher, so come here, **come here, you belong here.**

Ella referred to not knowing whether she was welcome at all events targeted at PSTs, such as an employment-related event simultaneously organized at the interview premises. The premises also house the Department of Teacher Education, and Ella continued to describe how "*even coming here today was like, I can't go to* [building name], *I don't know why.*" The interviewer then reassured her that she was very welcome, to which Ella said that she would try to "*make this a kind of a second home,*" instead of only the buildings where her major's department is located. In this way, a larger boundary (belonging to educational sciences and to the group of prospective teachers) was also manifested spatially.

5.2. Crossing boundaries in multidisciplinary collaboration, afforded by meaningful experiences of social cohesion

According to Akkerman and Bakker (2011), learning – as viewed in the broad sense, including identity development and change of practice – at the boundaries can happen through various mechanisms: identification, coordination, reflection, and transformation. To really learn to dialogically collaborate across disciplines and to develop boundary-crossing competences (Fortuin et al., 2023), PSTs need to not only identify boundaries, but also to reflect on them and transform practices. This seems to have happened in our study: the PSTs described the processes of grasping the differences between practices and thus developing new understanding about their own and others' practices, in other words, learning through reflection (Akkerman & Bakker, 2011).

Some evidence of transformation was also present. Transformation leads to changes in practices, possibly even creating new, in-between practices (Akkerman & Bakker, 2011). Mia described how it was different and interesting, a kind of counterbalance, to be able to listen to students from other disciplines and their opinions, and to "*sort of unite our knowledge and skills.*" Similarly, Ella reported finding a common path:

> They were really great discussions and then the days stretched long […] if someone disagreed, it was stated immediately, and then we discussed it and found solutions […] everyone is so different, especially in our group, we were like **cut from different cloth**, **but** somehow, **we found a common path.**

It is only when sociocultural differences – here, differences between disciplinary practices – lead to some kind of disruption that negotiation of meaning and transformation become possible (Akkerman & Bakker, 2011). This kind of disruption and transformation seems to have happened, at least according to some PSTs. Moreover, in our previous study (Lehtinen et al., 2023), we used video observations and discovered that these PSTs engaged in complex processes of negotiation of meaning in their collaborative learning discussions. In their meaning-making, PSTs compared disciplinary differences, which were also encouraged in instructional design. Thus, they showed the ability to collaborate across disciplines, and learned dialogically about the unique nature of education. This, however, did not mean "a fusion of the intersecting social worlds or a dissolving of the boundary" (Akkerman & Bakker, 2011, p. 152). Instead, the uniqueness of each discipline was preserved – a dialogical respect for diversity (Akkerman & Bakker, 2011) that we hope will continue in their future professional collaborations.

Nevertheless, this positive view of dialogical boundary crossing was challenged by another voice: that of Oona, who experienced exclusion and felt that she learned best on her own. This experience was linked to other themes, namely "Threshold in online interaction" and "Norm of being talkative, shyness and silence as negative." Oona, majoring in languages, described her orientation to learning: "*the kind of individual assignments that are done and returned, they are probably the easiest and I feel like I learn more from them.*" She also talked about her experiences in collaborative learning:

> If there are four of us there, then it's **hard for everyone to be heard** […] there are three people who know each other, and then there is one who is a so-called **outsider** […] I'm probably, like, **quieter** anyway, so then I'm the one who just follows there.

This can be seen from various perspectives – on the one hand, collaborative mindsets and dispositions are quite stable and difficult to transform in teacher education (Valtonen et al., 2021), on the other, the social norm of talkativeness is problematic. We will come back to this later (section 5.4).

Overall, what afforded high quality collaborative learning and dialogical boundary crossing seemed to be the meaningful experiences of social cohesion created in face-to-face teaching prior to the COVID restrictions. The opportunity to get to know each other in face-to-face teaching was essential, in the PSTs' experience. Many students mentioned the role of icebreaker games and getting-to-know-you-games. Knowing each other made it possible, for example, to express disagreements because the atmosphere was supportive and "*you had already talked about personal things, like each other's family backgrounds.*" Since the online environment restricted social interaction, it was important to be "*as natural as possible,*" and according to Oliver, this could be manifested in "*shooting the breeze,*" and even "*letting dirty words slip.*" Valuing off-task interaction was one aspect of social cohesion, as described by Ella:

> Now that you have started to **get to know people** a bit, the conversations are really relaxed, and then you notice that sometimes you can talk about something else, a bit, like, **off-topic**, other than just the issue at hand, so there have been **really good conversations.**

Off-task discussions can be seen as essential for intersubjectivity, which builds relationships between people (e.g., Jones, Volet,

Pasternak, & Heinimäki, 2022). Experience-oriented talk can also help build engagement, motivation, and trust (Ke, Chávez, Causarano, & Causarano, 2011). However, in our previous analysis of the same PSTs' online collaborative learning (Lehtinen et al., 2023), we found that the PSTs frequently shared their personal experiences while addressing the task, whereas there was no off-task sharing of personal life. It may be that in their other collaborative learning situations, off-task interaction was more present.

5.3. Threshold in online interaction – the need to observe better and involve others

During online teaching during the COVID restrictions, there was a "*threshold"* or "*invisible wall*" that hindered collaboration because of a lack of "*genuine human connection.*" The word "threshold" (*kynnys* in Finnish) was used by eight PSTs. The experienced threshold made it difficult to talk, invite others to participate, and ask for help. Also, difficulties related to uneven participation and division of labor were reported. Having web-cameras on helped in creating a feeling of presence (see also Lehtinen et al., 2023), but what was still lacking was the other person's "*entire essence,*" "*energies,*" and body language. Similarly, Kasperski and Hemi (2022) found that PSTs perceived the complexity of online interaction as coming from the decrease of nonverbal expressions. In our study, general "*essence*" was highlighted. Sara talked about how overlapping talk led to shared laughter, creating a funny moment that resembled a face-to-face situation and brought about "*genuine human connection*" and the joy of chatting with people, not bots. Overall, it was challenging for PSTs to describe the issues related to physical proximity – they mostly reported a sense of difficulty, stating that it was difficult to analyze.

One facet of the threshold was getting routinized into being in remote mode, which resulted in growing social anxiety. Various PSTs described how it became difficult to be *"among people,"* "*surrounded by people,*" or "*in front of people.*" Niko, majoring in languages, said:

> You may have forgotten some things about what it's like to have a face-to-face conversation [...] in my case, I've never really been the type of person who would be, like, nervous about **talking in front of people** [....] but when we had the presentation, I was nervous about it [...] it feels a bit strange even to myself that I've **never had any problems before and then all of a sudden now** when I come back I feel a bit different.

He also stated that, as a prospective teacher, this was an important aspect since one must be able to "*teach or present or lecture and such*" and be comfortable in front of people. He thought that getting used to online settings could cause problems for future teachers. Kasperski and Hemi (2022) also found that PSTs felt psychologically safer in online settings, afforded by the distance and protective screen. Teacher educators have described how, when teaching online, they no longer recognize their own teacher bodies and find it difficult to adequately convey what it is like to be a teacher (Godhe & Wennås Brante, 2022). This aspect could be viewed as one boundary, namely between online and face-to-face practices.

On only some occasions did the experienced threshold make PSTs emphasize the ability to involve others (e.g., remembering to ask others) – an important teacher capacity. This aligns with our previous results about their collaborative learning (Lehtinen et al., 2023), as they hardly ever encouraged each other's participation explicitly (e.g., by saying "how about the rest of you?"). They did, however, mention that one needs to be able to "*observe better*" and "*read between the lines*" in online settings and to "*infer from people's behavior*" whether someone is, for example, shy. Some talked about how easy it was to forget someone or how someone may be sidelined. More courage to involve others could have changed Oona's feelings of exclusion or the experiences of unequal division of labor.

Many PSTs noted that it was difficult to specify or analyze the features of socioemotional competence in online settings, or that it was inseparable from other contexts – as always present in interaction. As Nea stated:

> That's a bit of a tricky question because, in a way, social and emotional skills are a **terribly, sort of, ordinary thing** on some level, so that if you don't pay attention to them, **you almost don't notice them**, but on the other hand, if they were missing, it would be terrible, but, well, would I be able to sort of name something, some individual thing.

Thus, it seems that it was difficult to analyze socioemotional competence as situated practice, similar to the findings of Aspelin and Jonsson (2019).

Related to the theme "Threshold in online interaction" and social anxiety, several students talked about fatigue, exhaustion, or "*having zero energy.*" This was partly because they were first year students and there were initially many social events (before the COVID restrictions), and the "*social battery went to zero.*" Sofia also mentioned "*COVID exhaustion*" and "*holistic stress related to COVID*" since one couldn't go anywhere and there was a fear of getting infected. However, she described how, after returning to face-to-face teaching, it felt exhausting to go to the university without the routine.

5.4. Imagined future – tensions at the boundary between being a student and being a teacher

In this section, we draw together the complexity of imagining the future profession (theme "Difficult to imagine and analyze competence, lack of experience"), marking the boundary between being a student and being a teacher through challenges (theme "Focus on how to deal with challenging situations"), as well as tensions arising from the boundary ("Social cohesion as an experience vs. absent in the imagined future" and "Situated norm of talkativeness vs. imagined respect for diversity").

While it was somewhat difficult to analyze competence as situated practice, many PSTs also found it difficult to envision socioemotional competence in their future work and to indicate how they would like to develop their competences during teacher education. Some PSTs explained that this was due to their lack of experience as teachers. Similarly, Laletas and Reupert (2016) found that secondary PSTs perceived inexperience and inadequate training as limiting their ability to provide care during practicums.

The boundary between being a novice and being an expert – between peripheral and full participation (Lave & Wenger, 1991) in the

community of teachers – was often demarcated by imagining challenging situations. Ida, a prospective English teacher, talked about problem situations including intense emotions:

> **I can't quite think of it** [laughter], because I have **no experience** of that, so I can't say terribly well, but maybe, in a way, some kind of irritation or something like that, things related to that, because for me, it might be a bit scary, or I find it threatening […] maybe, like, to imagine a situation where a **child starts to rage** and gets angry […] I'm not quite sure how I might act in that situation, so at least I would sort of, or precisely, need to go through those kinds of things […] those kinds of **problem situations.**

Many students emphasized such situations of conflict or unexpected events. Laura, majoring in educational technology, said that teachers face a lot of situations that one doesn't usually encounter in everyday life, and "*normal people don't, like, get involved in an argument, but a teacher has to.*" Oliver said that he would like to have a "*difficult situations course.*" The imagined examples often involved strong or negative emotions, and one student mentioned emotion regulation as an important part of teacher competences due to situations involving such emotions. The imagined situations involved not only pupils, but also – to a small extent – parents. Situations with colleagues were not brought up.

Tensions and conflicts, even imagined, may mark the boundary (Akkerman & Bakker, 2011) – in this case the boundary between what is part of me and what is not (yet) part of me. According to Aspelin and Jonsson (2019), one of the significant purposes of teacher education is to prepare PSTs for challenging and unpredictable relationships and situations.

Apart from the tensions and challenges described by the PSTs, we recognized a tension in that PSTs emphasized the role of social cohesion in the situated context but did not imagine it as part of their future role. Some PSTs talked about "*listening equally to everyone*" and "*involving everyone*" (see also section 5.5), but group-level cohesion and related issues were almost absent. Emma, a prospective history teacher, stated that she would like to learn to understand group dynamics better and to thus be able to act "*somehow in a good way.*" Sara brought up the ability to "*read bullying situations*" and to interpret them correctly and to avoid misunderstandings. However, ways to create safe spaces were not mentioned.

The PSTs held a normative conception of prospective teachers being talkative and viewed shyness and being silent as something to do away with. Student teachers were seen as "*probably the chatty types by default.*" Sofia differentiated between her discipline's (English) students and student teachers:

> In the major studies, there are **those who don't dare to speak**, but when everyone is a student teacher, then they **speak more easily** there and participate.

In addition to this, collaborative learning, particularly in the online setting, was framed by the idea that "*everyone should just talk.*" Lisa talked about a good and successful small group and contrasted it with other groups: "*sometimes there is such a group where others are quieter and maybe not so much necessarily involved in the discussion.*" Similarly, other students spoke negatively about silence. Various students described themselves as shy or introverted. For instance, Mia said that she would need to develop courage or initiative because she is shy and likes to be "*a bystander.*" Ida, although describing herself as shy, said that "*maybe our group worked precisely because, I think, no one there was very shy.*"

On the one hand, it is good that introverted future teachers develop their "*courage and initiative.*" On the other, a normative idea of participation through talkativeness is problematic. This "tyranny of participation" (Gourlay, 2015) can mean a lack of understanding of people's diversity, even to the extent that non-privileged and less powerful participants can be silenced and intimidated by learners who are more confident and have a higher status (Lambert, 2019). It may reflect a "particular Western, post-enlightenment fantasy of the 'ideal' student" (Gourlay, 2015, p. 405). Complete disengagement from collaboration and educational activities is obviously problematic (see Gourlay, 2015) for several reasons, such as not being able to hear different voices and opinions or from the perspective of belonging and social cohesion. However, the norm of talkativeness may lead to undervaluing quiet practices, such as silent reflection and the collaborative activity of listening (Gourlay, 2015; see also McNaughton, Hamlin, McCarthy, Head-Reeves, & Schreiner, 2008; Remedios, Clarke, & Hawthorne, 2012). We found that there was an imbalance, with students emphasizing that everyone should speak up, rather than noting that one needs to be able to ask questions and involve others.

Moreover, there was a contrast between this situated norm of "everyone should just talk" and the imagined respect for diversity. Many students talked about considering that every pupil is different and treating and respecting everyone equally (see section 5.5). This, however, conflicts with the normative views that they set for themselves and their peers. In line with this, Moate (2023) found that, in their situated reflection, PSTs demonstrated a nuanced understanding of the themes (insideness and outsideness), but when imagining their future as teachers, their reflections lacked the previous multidimensionality. Thus, PSTs tend to hold idealistic notions of dialogically involving others (Moate, 2023), and this also applies to caring (Laletas & Reupert, 2016).

5.5. Imagined future – dialogical vs. monological voices

In this section, we consider various dialogical and monological voices that PSTs expressed regarding their future under the themes of "Dialogicality and respect for diversity vs. monologicality" and "Teacher competences as stable and 'correct' ways of being vs. something to be learned." The PSTs used the words "dialogue" and "monologue" in various associations during the interviews, for example, when talking about how the teaching practices in their major appeared more monologic than in educational sciences (see section 5.1). They did not, however, mention these words while imagining their futures.

While imagining, many PSTs foregrounded the need to consider diversity and individual differences. Sofia talked about being open and not labeling:

> Maybe we need the kind of **openness to accept that everyone is different**, every kid, and they have different experiences, at home, in their free time, just about anything can happen that we don't know about, maybe kind of, **not to label**, **to let them themselves**, hmm […] not to assume anything, and then maybe, as an adult or a teacher, to be someone who they can come talk to, and to **take everyone into account**.

This reflects beautifully a dialogical orientation to differences (Arvaja & Hämäläinen, 2021). In a similar vein, PSTs perceived listening to and involving everyone as essential when it comes to socioemotional competences. This included "*participatory interaction,*" treating and respecting everyone equally, giving everyone the opportunity to be heard, and "*continuous activation,*" metaphorically "*scooping them* [pupils] *along all the time*" even though "*you are in the teaching mode.*" However, this ideal view of differences and of involving everyone contradicts the situated norm of talkativeness, as we have proposed in the previous section.

While the PSTs' conceptions, perhaps idealized, reflected mostly a vision of a dialogical teacher, there were few more monological voices. Oliver described how he thought that teachers' authority is automatic:

> Oliver: […] A certain kind of **leadership, authority is automatic**, I do not, I do not doubt it at all, but then how you, sort of, **create** it and how you **maintain** it so that you are listened to, and they want to be in contact with you, so that must be a kind of **conscious, active, continuous activity.**

> Researcher: […] Do you have an idea where that authority or that desire to be with you or with the teacher comes from?

> Oliver: […] Take the **stereotypical difficult teenager** who can't be told what to do, but even they have it, we people have it, when someone is **older and wiser**, so you anyway somehow see it, like, well okay, he's now **the one in charge** […] like, okay, that's the teacher, I'm a student, even if it annoys me, that's still the teacher, not an uncle, that's the teacher, and then how you, kind of, **prove that you are the teacher** […].

Here, the authoritative teacher position was somewhat taken for granted. Of course, Oliver simultaneously expressed the idea of creating and maintaining a relationship with the pupils. Nevertheless, the idea of an automatic authority comes close to the monological stance of reducing the other to the status of an object (Rule, 2011). It has been shown that a healthy classroom climate, characterized by fewer conflicts and disruptive behavior, has to do with the teacher's social and emotional competences (Jennings & Greenberg, 2009), not authoritative leadership as such. A monological orientation may lead to aggressive responses or relying extensively on punishments when addressing pupils' behavioral issues, which is not only ineffective (see Greene, 2018; Jennings & Greenberg, 2009) but often also unethical. Going beyond this is not the responsibility of individual student teachers, but of teacher education programs, which may still lack sufficient explicit training in socioemotional competences (Jennings & Greenberg, 2009).

Related to developing competences, we found that students' perceptions of teacher competences moved along a continuum from normative and "right" to a more flexible conception. Many of them talked about learning how one "*should*" act in difficult situations and what would be the "*correct*" or "*right*" ways of interpreting or reacting to challenges. Sara wanted to "*find the **right** way to approach the pupils' despair*" in mathematics. At the other end of the spectrum was knowing how to act "*professionally*" or "*on the basis of training, of all the knowledge and skills that you have accumulated.*" Ella voiced both ends of the continuum:

> I don't know […] **how a teacher should be there**, and to have the social and emotional competence and so on […] I don't know at all what I would need or **how I should be** and then I, uh, would **need to learn how to, like, be for them** […] I feel like I just know the ways of the two good teachers and they're pretty much the same […] but then again, I don't even remember what kind of ways other teachers have had, so then it would be nice to **see the other approach** to it, **how you can be when it comes to skills**.

There seemed to be normative, authoritative voices regarding "how to be" as a teacher. Simultaneously, there was the idea of competences as something to be learned, to learn to be "for them" in a notably open way: seeing and learning other ways and approaches. A similar idea of learning "to be," to engage in the social practice of teaching, was emphasized by Godhe and Wennås Brante (2022).

Furthermore, some descriptions reflected dominantly stable teacher characteristics. Ella talked about her "*teacher idols*" being "*wonderful, natural, the kind of sunny people,*" whereas she felt she was sometimes "*a cursing sailor.*" Oliver mentioned the influence of "*personal characteristics,*" such as being "*overly self-important*" or "*too strict*" and "*overly lax*" or "*too quiet,*" which he considered as being the "*bad extremities.*" However, both Ella and Oliver also talked about competences as something to be learned, highlighting "*what I want to grow up to be*" (Ella). While most teachers believe social and emotional competences to be teachable (Schonert-Reichl, Hanson-Peterson, & Hymel, 2015), there is still a risk of static categorizations and social representations of the teacher (Arvaja et al., 2022). To avoid static and authoritative framings, PSTs need critical dialogue and reflection (Arvaja et al., 2022), as well as the overt teaching of competences. In this process, the dialogical idea of constant becoming and the unfinalizability of being a teacher (see Rule, 2011) can be centered.

6. Conclusions and implications

In this study, we examined PSTs' situated and imagined views of socioemotional and dialogical dimensions of becoming and being a teacher. In the situated context, we highlighted the role of the multidisciplinary collaboration in teacher education, the later stages of the COVID pandemic, and online teaching. Through reflexive thematic analysis, we found that in their **situated views** PSTs (1)

identified disciplinary boundaries and the uniqueness of educational sciences in multidisciplinary collaboration, (2) crossed disciplinary boundaries with the help of meaningful experiences of social cohesion, (3) perceived a threshold in interaction while studying and working collaboratively online, meaning that it was difficult to participate and to invite others to participate and it became difficult to "*be in front of people,*" and (4) held a normative conception of being talkative and perceived being shy or silent as negative. On only some occasions did the experienced threshold cause PSTs to emphasize the need to involve others. Several PSTs noted that it was difficult to specify or analyze facets of socioemotional competence in online settings. It seemed that it was somewhat challenging to analyze socioemotional competence as situated practice (see Aspelin & Jonsson, 2019). The students were in their first academic year; thus, it is the task of further education to provide students with appropriate professional language (Aspelin & Jonsson, 2019) to analyze competence in different professional situations.

Regarding the **imagined future**, we found that PSTs (1) found it difficult to imagine and analyze competence, often due to lack of experience, (2) marked the boundary between being a student and being a teacher through situations of challenging interaction, (3) expressed both dialogical and monological voices regarding a teacher's profession and authority, (4) held perceptions of teacher competences that moved along a continuum from normative and "right" to a more flexible conception. We recognized three kinds of **boundaries** (Akkerman & Bakker, 2011): boundaries between (1) disciplines, (2) online and face-to-face practices, and (3) being a student and being a teacher, between what is part of me and what is not (yet) part of me (Akkerman & Bakker, 2011). At the boundary between situated and imagined views (see Fig. 1), there were **tensions** in that PSTs held a situated norm of talkativeness, while largely emphasizing respect for diversity in their imagined profession, and in that PSTs valued social cohesion as a situated experience in teacher education, but group-level cohesion or related issues were peripheral in the imagined future. Perhaps guided reflection between the situated and imagined views could further bridge these contrasting views (see also Moate, 2023).

In terms of **crossing disciplinary boundaries**, we believe that the learning mechanisms that PSTs engaged in were identifying boundaries, reflecting on them, and possibly even transforming practices (Akkerman & Bakker, 2011). However, as Akkerman and Bakker (2011) put it, "it is one thing to create something hybrid at the boundary but quite another to embed it in practice so that it has real consequences" (p. 148). This remains to be seen further in PSTs' studies and in their working life. All in all, it seemed that boundary crossing enabled reflective identity work (Akkerman & Bakker, 2011; Williams et al., 2007).

Our findings offer various implications for teacher education and for professional development more generally:

- making explicit the disciplinary boundaries and boundaries between being a student and being an expert, and collaboratively reflecting on them,
- using situated analyses of professional competences (e.g., socioemotional competence) together with imagined accounts of them – thus engaging in critical dialogue and reflection of possible differences and tensions between the situated and the imagined,
- ensuring enough cohesive, safe spaces and time for meaningful, collaborative boundary crossing and identity work,
- emphasizing that professional competences, although built on one's personality and personal strengths, are something to be learned, rather than seeing them as unilateral "right ways" of being – hence, highlighting the constant becoming as professionals,
- tapping into social norms and beliefs, such as the norm of talkativeness, through written or collaborative reflection,
- teaching various ways of active listening and engaging others (e.g., synthetizing previous discussion, asking for clarifications, or inviting quiet participants to participate).

Although we looked at PSTs' learning from a situated learning perspective and considered the boundary between being a novice and being an expert, we also want to draw attention to the unique perspectives and subjectivity that "newcomers" can bring to professional communities. Situated learning theory has been criticized for the idea of socializing novice members into existing practices and thus reproducing social and pedagogical practices (Cherrington, 2017). Biesta (2013) argued, on the basis of Dewey's ideas, that there is a difference between educative and noneducative participation: "participation in which only one party learns (by adapting to the other party), and participation that transforms the outlook of all who take part in it and that brings about a shared outlook" (p. 33). According to Biesta, this is the difference between Dewey's ideas of participation and those of situated learning theory. Similarly, we believe that new teachers bring important perspectives and practices to teacher communities (see also Darling-Hammond & Hyler, 2020), which can change the outlook for all. Among such may be the personally lived "threshold" in interaction during the pandemic, from the perspective of a student.

This study is not without limitations. First, the participants were a relatively small group of PSTs. However, our aim was not to generalize our results but to provide an in-depth account of the phenomena. Second, our experiences as teacher educators in the studied Department of Teacher Education affect our interpretations. However, none of us taught the participants and we used investigator triangulation. Third, although we identified some tensions or potentially problematic parts of PSTs' beliefs that require critical reflection, we do not wish to criticize PSTs' belief systems as such. Their belief systems are evolving, which means that our analysis focused on emerging thinking rather than well-grounded and tested ideas (McGraw et al., 2023). Also, PSTs' abilities to articulate their beliefs, or our capacities to interpret them, may be limited (McGraw et al., 2023). Fourth, we only collected self-report data at one moment, so we were not able to detect possible changes in PSTs' perceptions other than those they described themselves at that moment.

Future studies could explicitly target the social norms of talkativeness among PSTs and address various facets of respecting diversity, both in the situated context and in the imagined future. Longitudinal study designs could be used to explore how secondary PSTs cross disciplinary boundaries and how they perceive the boundary between being a student and being an expert in various phases of their studies. Moreover, the boundary between online and face-to-face practices could be further analyzed from the perspective of socioemotional competence in becoming a teacher. To conclude, we believe that our findings can contribute to addressing

socioemotional competence and dialogicality in teacher education amid crises and to further theorizing the boundary between the situated and the imagined.

CRediT authorship contribution statement

Auli Lehtinen: Writing – original draft, Visualization, Validation, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Emma Kostiainen:** Writing – review & editing, Validation, Supervision. **Piia Näykki:** Writing – review & editing, Validation, Supervision.

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Data availability

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