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Rehearsing core practices outside the classroom

Preservice teachers' group work with socio-emotional challenges in a simulation workshop

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Abstract: In this article, we explore how groups of novice preservice teachers (PSTs) rehearse taking part in practices that are fundamental when dealing with students' socio-emotional challenges through the simulated practice design (SPD) *Breaktime*. *Breaktime* is a simulated learning resource consisting of 17 videos featuring digital bullying scenarios and socio-emotional transgressions in a ninth-grade class. Simulated learning is increasingly used in higher education (Chernikova et al. 2020). The role of the teacher requires many skills that extend beyond the classroom. By conceptualizing preservice teachers' engagement with a simulated exercise of core practices, we contribute to a growing discourse in educational research. Our analysis highlights the interaction between the preservice teachers' own experiences and the SPD's mediational tools. Through our study, we observe that preservice teachers use these media tools as focal points for a collective exercise in professional practice when they encounter authentic challenges. *Breaktime* can serve as a bridge to real-world practice early in teacher education and help form a foundation for the professional development of preservice teachers.

Keywords: professional practice, simulation-based practice design (SPD), approximation of practice, core practices, teacher education

Sammendrag: I denne artikkelen utforsker vi hvordan grupper av ferske lærerstudenter øver på å ta del i sentrale praksiser forbundet med å håndtere sosio-emosjonelle utfordringer gjennom det simulerte praksisdesignet (SPD) *Storefri*. *Storefri* er en simulert læringsressurs bestående av 17 videoer med digitale mobbingssituasjoner og sosio-emosjonelle overtredelser i en niendeklasse. Simulert læring blir i økende grad brukt i høyere utdanning (Chernikova et al., 2020). Lærerrollen krever mange ferdigheter som strekker seg utenfor klasserommet. Ved å konseptualisere lærerstudenters engasjement med en simulert øvelse av kjernepraksiser bidrar vi til en voksende diskurs innenfor utdanningsforskning. Vår analyse belyser samspillet mellom lærerstudentenes egne erfaringer og SPD-ens mediale verktøy. Gjennom vår studie ser vi at lærerstudenter bruker disse mediale verktøyene som omdreiningspunkter for en kollektiv øvelse i profesjonell praksis når lærerstudenter møter autentiske utfordringer. *Storefri* kan fungere som en bro til virkelighetsnær praksis tidlig i lærerstudiet, og være med på å danne et grunnlag for lærerstudenters profesjonelle utvikling.

Nøkkelord: profesjonell praksis, simuleringsbasert praksisdesign (SPD), virkelighetsnær/utvidet praksis, kjernepraksiser, lærerutdanning

Introduction

In contemporary teacher education, the integration of theoretical knowledge with practical skills remains a challenge (Gorzycki et al., 2020). Teachers need to provide socio-emotional support in and outside of classrooms (McDonald et al., 2013). Simulation-based practice design (SPD) allows educators to address these challenges by rehearsing such practice in teacher education.

This article examines how simulation-based learning can help preservice teachers (PSTs) rehearse core practices when asked to respond to middle school pupils' socio-emotional challenges in and outside their classroom. Our study examines how first-year preservice teachers engage with the digital multimodal SPD *Breaktime* (SPD accessible at www.ludo.usn.no/storefri?lang=en). The student groups' collective interactions with the SPD and each other create an *irreducible tension* (Wertsch, 1994) of conveying to each other their understanding of the phenomenon exposed in *Breaktime*.

The present study is an exploration of the simulation's role in what Grossman et al. (2018) call the 'approximation of practice' using qualitative analysis methods (Boos et al., 2018; Brauner et al., 2018). *Breaktime* aims to help novice PSTs rehearse core practices with middle school pupils' socio-emotional challenges to support a 'good and safe learning environment'. Recently published national reports emphasise the need for a stronger focus on teachers' socio-emotional competencies (NOKUT, 2024) and an 'expanded practice' beyond classroom contexts (KD, 2024), that is, practices that move beyond traditional on-campus teaching in teacher education.

In seeing the coping with pupils' socio-emotional challenges as a core practice for a teacher, we extend the research field's current focus of core practices 'that are essential to the work of teaching' (McDonald et al., 2013, p. 379). Thus, we pose the following research question:

How do the students make use of different mediational tools when using the simulation-based practice design Breaktime to rehearse core practices concerning socio-emotional challenges?

The research emphasises a collaborative approach in teacher education (TE), exposing novice PSTs to 'core teaching practices' (McDonald et al., p. 502).

Socio-emotional scenarios involve pupils' well-being, and social inclusion. Teachers must address social exclusion, and digital bullying at school.

A challenge for TEs is to bridge the curricular divide between pedagogical knowledge and 'pedagogies of enactment' (Grossman et al., 2009). Grossman et al. (2009) propose that PSTs' practice should entail both 'the technical and the intellectual and is enacted not by single individuals but as members of a broader community of practice' (Chaiklin & Lave, 1996; Grossman et al., 2009). A professional teacher must be able to observe and respond to pupil behaviour, both in the classroom and during recess. This skill set is vital to the core practices of teaching. Despite its importance, this is underresearched in core practice studies (Grosser-Clarkson & Neel, 2020).

Theoretical background

By employing fictitious video narratives enriched by a variety of documents to simulate authentic situations, the SPD *Breaktime* is designed to facilitate approximations of teachers' practice concerning challenges in the socio-emotional learning environment of the pupils. Thus, it offers novice PSTs opportunities to rehearse and enact discrete components of complex practice in settings of reduced complexity' (Grossman et al., 2009, p. 283).

Employed as a resource in an on-campus workshop, the SPD *Breaktime* is a 'designed setting' which simulates an 'authentic setting' in a 'controlled environment' on campus (McDonald et al., 2013, p. 384). This approach prepares PSTs for the authentic setting they will encounter during observational practice later in the semester.

Core practices

Core practices refer to the essential activities and strategies that educators use to facilitate learning and improve pupils' learning outcomes (Grossman et al., 2018). The field focuses on identifying, understanding, and refining these practices to enhance teaching quality across learning environments (Grosser-Clarkson & Neel, 2020; Van Der Schaaf et al., 2019).

The notion of *core practices* can be seen as reflecting a natural evolution of the field of teacher education. Rooted in pragmatism, teacher education has developed through the 20th century's paradigmatic shifts of behaviourism and cognitivism and evolved into the contemporary understanding of learning as more of a social and constructivist endeavour (McDonald et al., 2013, p. 379). In accordance with this epistemic turn, we argue that the discourse on core practices should develop a stronger emphasis on the teachers' role in creating a good socio-emotional learning environment.

Although notions of praxis have been manifested throughout the 20th century, teacher education is still being criticised for a lack of ability to close the theory–practice gap (Aagaard, 2023; Studiebarometeret, 2023).

The study of core practices aims to establish a framework of best practices that can be taught, learned, and applied by educators to improve their instruction and support student learning (Grosser-Clarkson & Neel, 2020; Van Der Schaaf et al., 2019).

A core practice is, however, also understood as an exercise of professional judgement (Biesta, 2017) and a 'creation of meaningful intellectual and social community' that ought to be practised and theorised in teacher education programmes. The practice of teaching involves both socio-emotional and ethical aspects. Yet, the study of core practices has had a limited focus on the 'commitment to equity and social justice' (McDonald et al., 2013, p. 381).

Despite stating the expressed goal of building understanding, skill, relationship, and identity (Grossman et al., 2018), the empirical study of core practices seems to focus almost exclusively on 'the complex realities of the classroom' (Grossman et al., 2018, p. 7).

This study extends the field to the social environments of the school by describing the PSTs' activities with *Breaktime* as rehearsals of core practices. Such a move is situated well within the stated aims of previous research in the field, yet in an area where little empirical research has been conducted.

Approximation of practice

Approximation of practice can be an effective approach to develop complex skills (Chernikova, 2020, p. 502). Grossman and her colleagues draw up three elements of teaching practice, including *representation of practice*, *decomposition of practice*, and *approximation of practice* (Grossman et al., 2018).

Breaktime is a digital simulation-based practice design (SPD) and an example of ‘representation of practice’ as it includes ‘artifacts from practice’ (Grossman et al., 2018, p. 14). The ‘decomposition of practice’ is explained as breaks ‘for the purpose of teaching and learning’ (Grossman et al., 2018, p. 15). Approximations of practice ‘require students to engage in practice that is related, but not identical, to the work of practicing professionals’ (Grossman et al., 2018, p. 16). They can provide students with ‘deliberate practice’ of particularly difficult components of practice, as is the case of *Breaktime* with socio-emotional challenges (Grossman et al., 2018, p. 16). *Breaktime* constitutes a ‘representation of practice’ whilst teacher educators provide decomposition and approximations ‘to enact elements of practice with a high degree of support and under conditions of reduced complexity’ (Grossman et al., 2018, p. 16).

Moreover, ‘approximations of practice can supplement existing pedagogical approaches in teacher education’ (Grossman et al., 2009, p. 284). The day spent on *Breaktime* is an integral part of other pedagogical practices of a teacher, such as lectures, tutoring, micro-teaching, and forthcoming observational practice.

Mediational tools

According to McDonald et al., ‘a cycle for learning to enact core practices’ is firmly grounded in a situated perspective of learning (McDonald et al., 2013, p. 381). Seen through the lens of socio-cultural theory, the designed setting of the workshop created what can be described as an ‘irreducible tension’ between the mediational tools of the SPD, the PSTs’ own experiences and reflections, and the contextualised mediation of these tools within the collective (Wertsch, 1994, p. 205). The ‘irreducible tension’ implies that the agents and the mediational means cannot be fully separated or reduced to independent components when analysing human action. They are inherently interconnected and mutually influential.

The ‘irreducible tension’ occurs in a teacher’s everyday practice and must be navigated in collaboration with colleagues. The SPD *Breaktime* consists of material resources that can become tools for the students’ meaning making. As students try to share their understanding with each other, this creates

an ‘irreducible tension’ (Wertsch, 1994, p. 205) that forms the fundamental dynamic driving their interaction and collaboration.

Consequently, the PSTs will summon symbolic tools such as their own reasoning, memories from their own schooling experience, and insights from prior lectures in their problem solving.

In our analysis, we find instances of how ‘irreducible tension’ generate this dynamic. The main ambition of *Breaktime* is to immerse students in a realistic school context. For them to tackle the critical thinking, problem-solving, and sense-making of dilemmas and tasks of the SPD, they must analyse, decode, negotiate, and convey their individual understanding of these tools to their group, to seek a mutual comprehension through dialogues to reach a practical decision ‘valid within the limits of a given collectivity’ (Wertsch, 1994, p. 206).

Collectively, the students must seek viable solutions to practical problems. The ‘irreducible tension’ generated by the SPD and the students’ cooperative and ‘active role in the skill development process’ (Chernikova, 2020, p. 503) is to be understood as our unit of analysis.

Methods

Context

Norwegian K-13 teacher education requires 5 years of study. This article focuses on 18 first-year preservice teachers (PSTs) preparing to teach levels 5–10. After a month of seminars, they had upcoming observational in-school practice.

The full-day workshop followed a lecture on the schools’ ‘obligation to act to ensure pupils a good socio-emotional school environment’ (Education Act, 1998), which was the foundation for an instructional activity (IA) during the simulation (Lampert et al., 2013). The day began with an introduction by the TEs, followed by an expository short video (Figure 18.1).

Simulation-based practice design (SPD): *Breaktime*

Simulation-based learning is increasingly used in higher education (Chernikova et al., 2020). The main aim of the SPD is to prepare PSTs for teaching roles by having them practise collaborative judgement, seek information together, and discuss their observations.

The task document requires PSTs to investigate recess incidents and create an action plan to resolve problems. The SPD invites PSTs to watch short video clips containing storylines from recess in class 9C, unfolding at the fictitious Stavnaker Middle School. This simulation involves socio-emotional problems and digital transgressions such as ghosting, power play, sharing of nudes, and digital bullying (Aagaard, 2023, p. 171).

The videos

Breaktime includes 17 videos, each over a minute long, about fictitious pupils' interactions during recess. The density of information is enhanced through documents that offer background and context to the narrative. Additional documents provide context, written collectively by teachers, researchers, and teen actors. Authenticity is of high importance to SPDs (Chernikova, 2020).

The first video shows teacher Ingunn returning from lunch and noticing that two students are missing. She turns to the camera, breaks the fourth wall, and asks:

Figure 18.1

Screenshot: The teacher asks: Could you check what happened during recess? So I can teach



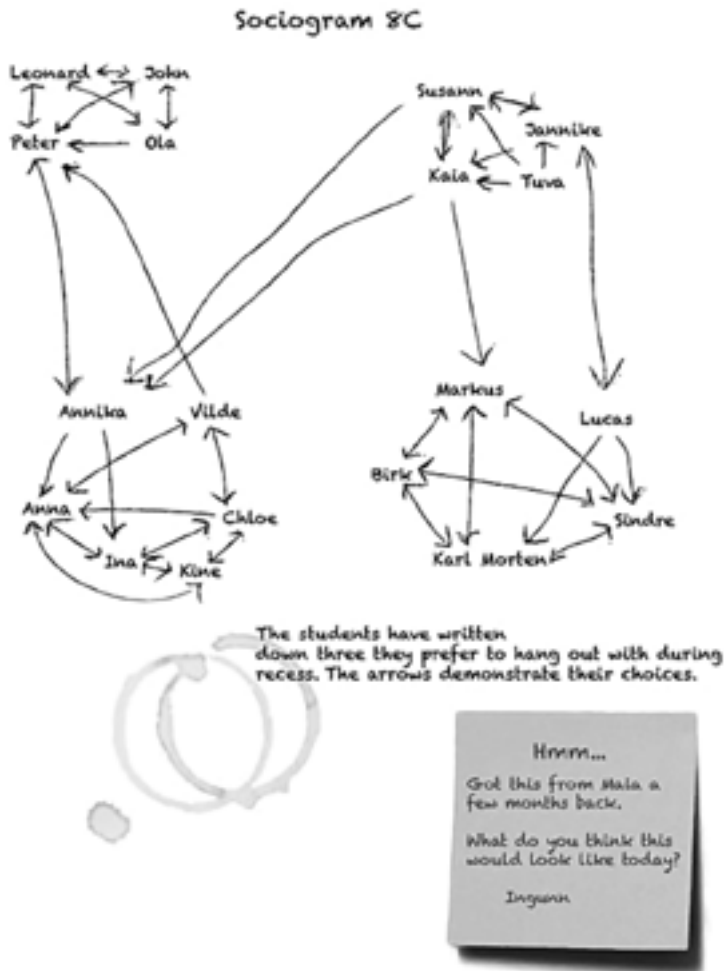
The 16 subsequent videos tell three main stories. The first story shows boys playing a game on their school laptops in the classroom while excluding a classmate. The second story features girls gossiping while video-filming other students. Thirdly, there is a story revealing that a girl in class has shared a nude and talk of an upcoming party. In the latter, a group of boys huddle together as one of the boys, John, shows the nude to his friends. A boy in the group inquires who sent it, and John answers: 'It is Susann.' And they follow up by asking: 'Susann? Her? Susann? Her over there?' The three main narratives intersect and relate to one another. Reflecting the unpredictability of recess, the SPD unfolds as a non-linear collection of stories, inviting PSTs to explore and investigate.

The sociogram

As the PSTs progress, they access a range of dated and recent resources, including a class list, a sociogram, surveys, social media posts, and emails. These documents support PSTs in addressing socio-emotional challenges. While applicability varies, all documents provide insights into the social life of 9C, both in and out of school. A central document in the analysis is a hand-drawn, year-old sociogram.

Figure 18.2

Sociogram: The sociogram illustrates the social groupings of 8C. Note that the students wrote down three classmates who they would prefer to hang out with during recess, and that this document has been given to Ingunn from Maia 'a few months back'



The sociogram illustrates the relationships between teens based on their responses to 'Who would you like to socialise with in class?' Compiled by a teacher, the sociogram is only accessible to teachers. It was created when the class was in 8th grade. Figure 18.2 shows that Ingunn received the sociogram from another teacher a few months ago.

Group research has focused on how groups establish and maintain high performance for decades (Boos & Kolbe, 2018, p. 68). The sociogram highlights the complexity of group interactions and performance, showing that understanding every interaction is nearly impossible. However, past relationship data in the form of available documents in *Breaktime*, including email correspondence with parents, meeting minutes, and other information, can be key to understanding current social dynamics.

Data collection

Our data consist of video and audio recordings, and a survey (Table 18.1). Video data were collected using several stationary cameras recording in three student groups working with *Breaktime*. Audio data were collected using the Nettskjema mobile app, to supplement the video and ensure audio quality.

Table 18.1

An overview of data collected

Video data	Auditory data
5.5 Hours	5.5 Hours

As researchers, we have recorded three large groups of novice PSTs using a combination of stationary video cameras fixed on the groups and audio-recording. A meticulous coding process is part of ‘investing time and resources in coding of actual group interaction [which] allows for obtaining insights into group dynamics that would otherwise remain hidden’ (Boos & Kolbe, 2018, p. 74).

Analytic procedures

We used qualitative thematic analysis (Brauner et al., 2018). This involved a familiarisation session for all authors, followed by documenting notable student interactions (events). Researchers shared and compared observations to categorise the interactions. The analysis focused on PSTs' use of mediational tools, and how these tools facilitated collaborative sensemaking and problem-solving.

Central to this process is Wertsch's concept of 'irreducible tension' (1994, 205), which serves as a critical unit of analysis. This tension is generated as PSTs attempt to convey their understanding to each other, becoming the underpinning dynamic that drives their interaction and collaboration.

When probing into specific events, we follow a two-step process, inspired by Linell (2009) and Silseth and Arnseth (2021), where we first give a description of the unfolding of the event, and then analyse it applying analytical concepts outlined in the theory section. This process provides a fine-grained analysis of the groups' meaning making, and simultaneously ensures transparency concerning our interpretation.

Unit of analysis

In our study, the unit of analysis is Wertsch's concept of *irreducible tension* of meaning making and problem-solving amongst the PSTs.

Breaktime consists of documents and correspondence that may enlighten the PSTs in their work. A teacher's professional life increasingly involves documentation regimes (Wertsch, 1994, p. 206). Grossman et al. (2018) make a point that novice teachers must learn 'to be sensitive to issues of status and equity' to 'negotiate patterns of inclusion and exclusion, and to be sensitive and knowledgeable about group dynamics' (Grossman et al., 2018, p. 279). Thus, one of the core practices of many teachers is creating and using these documents for assessing, communicating, and acting on situations. Navigating these complexities inevitably produces misconceptions and disagreements within a group.

Ethical considerations and the role of participants

The subjects of our study are first-year PSTs. All PSTs signed a consent form, in accordance with SIKT's guidelines (SIKT, 2024), for both video and audio recordings, with the option to withdraw consent at any time. The audio-recording app Nettskjema, authorised for text and audio data collection, securely saves video data.

The two teacher educators (TEs) responsible for the workshop are co-researchers, along with the main researchers and co-authors, who served as observers.

Analysis and findings

Three specific events in our data illustrate how PSTs begin to rehearse core practices concerning socio-emotional challenges in school when using *Break-time*. All three display instances of tension in the group of PSTs, where they try to convey their understanding of the mediational tool to each other.

The first event revolves around how one element of the SPD, specifically the *sociogram*, becomes a mediational tool for the group's meaning making. The second recounts how PSTs reference what their own teachers did in similar situations, and in the third, they refer to recent lectures at university. In the second and third events, the PSTs' prior experiences are summoned as resources for analysing and making decisions on how to respond to the perceived problems in the pupils' socio-emotional learning environment. All three excerpts derive from one group of six PSTs.

Event 1: Sociogram

The first excerpt concerns the PSTs' interaction with the sociogram (Figure 18.2). After having spent about ten minutes clarifying and discussing the relations between the pupils in the SPD, the PSTs seem a bit doubtful about whether their own speculations form a good enough basis for creating an action plan, which is the task they have been given.

Then they discover the sociogram, which does not seem to match what they have seen in the films. The PSTs discuss for a few minutes, concluding that the milieu, especially regarding some of the girls, is 'toxic'. Then they suddenly realise that the sociogram is dated and therefore does not necessarily reflect the current social relations in the narratives. This inclusion of a dimension of time and change is caught in the excerpt below:

1. Bård: ((Reading)) *'Got this from Maja a few months back. What do you think this would look like today?' Well, it could be that (0.2) Vilde and Chloe have been very good friends before. [But then they]*

2. Bianca: *[But not anymore because] Vilde got together with Peter.*

3. [...]

4. Bianca: ((Points at the title of the sociogram)) *It says 8C, so it's probably a year ago.*

5. Bård: *Yes, it says ((pointing at the Post-it note on the sociogram)) 'Received this from Maia a few months back.' Right (.) So a lot could have happened during those months.*

In this excerpt, Bård reads from the Post-it note which appears to have been attached to the sociogram and suggests that a change in the friendship relations may have happened. Bianca expands on this new theory. Other PSTs in the group take part in deducing a possible course of action based on the new information (which has been omitted in the excerpt above). Bianca then shares the observation that it says '8C' and deduces that this must be information from yesteryear. Bård re-reads aloud the first part of the Post-it note and concludes that a lot could have happened in the milieu since this sociogram was created.

The PSTs' discovery of the dated sociogram seems to lead to a realisation of how the situation may be more complex than it first seemed. Bård verbalises his thoughts to the group. Some PSTs engage in the conversation about the

sociogram, considering what they have observed in the videos, while other group members sit in silence.

The revelation of the document charged the group's understanding and discussion with new questions about the extent of changes that can occur in a youth group over such a period. It also re-opened questions that seemed resolved before they discovered the sociogram. At first glance, it may have looked like there was a clear, definitive answer to the nature of the social relationships of a middle school class, and that it did not portray some of the students as very honourable. After this event, the PSTs have realised how relations can be very dynamic and changeable.

Event 2: Schooling experience

The novice PSTs draw upon their own schooling experience in event 2. The task document has become a structuring resource. PSTs must find practical solutions to the problems they find that they need to address.

In the excerpt, the group agrees that the most severe issue is pupils filming each other during recess and sharing the clips with their phones. The PSTs recall that at least half the group had 'cellphone hotels' (i.e. handing in their cellphone to the teacher) in middle school. This is a measure that they now want to include in their action plan. When Bea says 'he' in the following excerpt, she refers to her own middle school teacher.

1. *Bjørn: Are you writing that down? (.) Cellphone hotel?*
2. *Bård: Yes ((writing. Meanwhile the other PSTs peak in a lowered voice))*
3. *Bea: We (0.5) had a cellphone hotel. I remember that some people took pictures in middle school. (0.5) ((The group nods)) I don't know if it was a girl or someone. (1.0) So the teachers had to check one and one of us, the phone.*
4. *Bianca: Seriously? ((Bjørn and Bianca laughs))*

5. *Bea: Yes (h). But it's like (0.5) you could delete it before he checked it, right?*

6. *Bianca: Yes, I know.*

7. *Bjørn: But to check for such a picture?*

8. *Bea: They just (1.0) He said that we had to go into Photos, and then we had to show it to him. ((Shows with her hands how the teacher would swipe on the pupils' phones))*

9. *Bjørn: Okay. ((Bjørn and Bianca laughs))*

10. *Bård: ((Reads what he has written)) 'We see that much of the problems that arise... ((continues))'*

Bjørn asks Bård to write down 'cellphone hotel' as a measure, and while Bård writes, the conversation snaps out of the 'formal' discussion mode and into a more informal track. This is marked by how the three PSTs all lower their voices as if not to disturb Bård, who is writing. Bea recounts one situation from school. She talks about how some students took pictures of others without permission and how the teacher demanded to check each cell phone. Bianca and Bjørn both laugh, and Bianca says, 'Seriously?' Bea reaffirms and continues by pointing to how the teacher's action was not efficient, as the pupils could just delete the photo. When Bjørn seems to ponder the teacher's decision to check the pupils' phones, Bea responds by elaborating in words and gestures on how the teacher did it.

We find it interesting to see how the PSTs draw upon their own schooling experience when creating an action plan, but also how Bjørn and Bianca question the decision of Bea's former teacher. We see the beginning of a formation of professional reasoning in the critical, though hesitant, reflection upon the situation when the teacher forces the pupils to show their phones.

It seems clear from the discussion preceding the extract that they agree that the teacher is obliged to do something but find it difficult to accept that it is necessary to breach the pupils' privacy the way he does. The excerpt is one of several situations which demonstrate how previous school experience

can become a resource in rehearsing core practices for novice PSTs, and how an emerging sense of critical thinking can be observed.

We also find it interesting that this story, and the following reflection upon a teacher's actions, are told in a low voice as if not to disturb the more formal solving of the task. Effectively, the PSTs present content that we, as teacher educators, find most relevant to the task. However, they convey it in a way that suggests they see it as less relevant.

Event 3: Prior lectures

The last event of this analysis demonstrates how the PSTs refer to content from previous lectures and apply this knowledge to the situations observed. In the following excerpt, they refer to 'a 9A-case'. In a Norwegian school context, this is a well-known reference to a specific paragraph in the Education Act that states that 'all pupils are entitled to a good and safe learning environment', and that schools must act if this is not the case.

The topic of the prior lecture referred to below was § 9A and how to follow up on instances where the learning environment felt unsafe for pupils. PSTs have also been given relevant resources, such as an action plan template and three examples of real action plans. Prior to this event, they have studied these and connected them to a recent relevant lecture, before using these tools to produce arguments about what to do.

1. Bård ((reading)): *'If you have seen something that you believe may be a 9A case, it is necessary to fill out a notification form.'*
Action plan, yes.

2. Bianca ((pointing at something in the papers, looking at Bård)): *There Bård: Yes, that was what we talked about yesterday, that (0.5) everyone should have the right to a safe (.) and good (.) environment that promotes (.)*

3. Bjørn [health]

4. Bård: [health] well-being and [learning].

5. Bianca: *[learning]*, yes.

6. Bård: *If there is anyone who doesn't have that, then we need to create a notification form. But most people here don't exactly (0.5)*

7. Bjørn: *I don't think everyone is equally happy.*

8. Bård: *No, but there is no one who has [come forward and said]*

9. Berit: *[From what we saw]*

10. Bård: *Or, there is such a thing (0.5) If someone is being bullied (.)*

11. Bianca: *There are many who don't function together.*

The event opens with Bård reading from the instructions for the group work. They are supposed to consider whether the situation can be a '9a-case' and, if so, to fill out a notification form and make an action plan. Bjørn and Bianca take part with Bård in a jumbled, collective recitation of the paragraph, piecing it together.

Then Bård states that such cases necessitate the creation of a notification form but seems to question whether the situation is so serious that it calls for such a response. Bjørn laments how not 'everyone is equally happy', and Berit seems to support Bjørn in stating that we may not have the full picture. Bianca adds that there 'are many who don't function together'.

This excerpt showcases a complex exchange of PSTs' callbacks to prior lectures about whether events observed necessitate 'a notification form' and 'an action plan' according to the judicial procedures of a 9A case. The PSTs use the available documents, and what they have learned previously, to evaluate the situation.

Discussion

Our research investigates how groups of preservice teachers utilise different mediational tools while engaging with the simulation-based practice design *Breaktime* to rehearse core practices related to social-emotional challenges.

Our analysis focuses on three key events, highlighting the early stages of PSTs' meaning-making processes using both material tools (e.g. videos and documents) and immaterial tools (e.g. personal schooling experiences, and prior lectures). Our PSTs are novices, and our findings reflect the initial steps towards professional practice.

Breaktime offers PSTs opportunities to rehearse and enact components of complex practice in simplified settings (Grossman et al., 2009). The activity unfolds in a controlled environment, designed to mimic authentic situations. Middle school pupils, acting out realistic socio-emotional scenarios, and the PSTs' reminiscences of their own schooling experiences contribute to this authenticity (McDonald et al., 2013). Consequently, our findings emphasise three critical points for the reader.

Breaktime serves as an arena where PSTs navigate, observe, and align their understanding of mediational tools, collectively stepping towards professional judgement (Biesta, 2017). This early engagement sets the foundation for long-term educational goals.

Data show that PSTs frequently draw upon their own experiences as students and learners of pedagogy. Although they are only weeks into their training, they use available mediational tools, such as personal schooling experiences, prior lectures, to approach *Breaktime* tasks. These experiences represent an approximation of practice (Grossman et al., 2018), giving PSTs early exposure to the complexities of socio-emotional challenges faced by middle school students.

Event 1 highlights a specific mediational tool, the sociogram, which challenges PSTs' initial observations of pupil interactions. This tool helps PSTs realise the dynamic nature of pupil relationships, marking a critical step towards understanding complex practices (Grossman et al., 2009).

In Event 2, the PSTs draw on their schooling experiences to offer solutions, despite appearing off-task. This practice is significant, as it represents the beginning of a meaningful intellectual and social community (McDonald et al., 2013).

Finally, Event 3 demonstrates how PSTs integrate prior lectures into their analysis. This unguided decomposition of practice shows how approximations of practice can enhance teacher education (Grossman et al., 2009).

The task of finding two missing pupils becomes complex, as the PSTs must coordinate their observations and plan actions. This requires effective synchronisation of behaviours (Boos & Kolbe, 2018), establishing a common understanding crucial for professional practice.

The PSTs' reflections on their schooling experiences, realising that their own social relations might have been mapped by past teachers, highlight the powerful nature of rehearsing professional practice. This shift marks a critical aspect of their development.

Navigating socio-emotional challenges is a core practice PSTs rehearse in *Breaktime*, using prior lectures and literature to verbalise professional language and obligations, such as the Education Act's paragraph 9A. Our analysis shows that the PSTs use mediational tools like the sociogram to understand class dynamics and rehearse 'professional judgement' (Biesta, 2017). Combined expertise, and individual experiences, enrich group discussions, fostering critical thinking and professional enactment (Boos & Kolbe, 2018). These early approximations of practice are essential for developing the skills needed to address realistic socio-emotional challenges in educational settings.

Grossman et al. outline three elements of teaching practice: representation of practice, decomposition of practice, and approximation of practice (Grossman et al., 2018). *Breaktime* serves as an example of 'representation of practice' by incorporating 'artifacts from practice' (Grossman et al., 2018). The sociogram is an example of a representation of the core practice of understanding what goes on among the pupils to cultivate the socio-emotional environment. In the simulation it is conveyed as a teacher-produced document, and relating to it in the group is thus also an approximation of practice for the PSTs.

The 'decomposition of practice' occurs when tasks are broken down 'for the purpose of teaching and learning' (Grossman et al., 2018). Approximations of practice require PSTs to engage in practice that is related but not identical to the work of practising professionals, offering deliberate practice of particularly challenging components, such as socio-emotional challenges in *Breaktime* (Grossman et al., 2018). These approximations provide essential rehearsal opportunities under conditions of reduced complexity, supplementing existing pedagogical approaches in teacher education (Grossman

et al., 2009). Preservice teachers will have ample opportunities to rehearse socio-emotional scenarios using *Breaktime* and will be given time to discuss various approaches to solve issues theoretically, which may become relevant in school contexts.

Understanding the concept of tension in mediated action is crucial for grasping the dynamics between theoretical principles and practical application. Wertsch (1994) suggests that mediated action inherently involves a kind of tension between the general concept of mediation and the specific contextualised use of these mediational means in executing concrete actions. This *irreducible tension* is evident in *Breaktime*, designed to help PSTs practise problem-solving tasks relevant to their professional careers. These tasks involve identifying problems, analysing contexts, and applying professional and experiential knowledge to make practical decisions (Chernikova et al., 2020).

The simulation's various narratives and problems create complex contexts that require critical and collaborative forms of engagement among the PSTs. The problem-solving process generates an 'irreducible tension' within the groups, becoming a focal point of analysis. This tension not only promotes critical thinking and problem-solving but also helps novice teachers develop the skills necessary for professional practice (Wertsch, 1994; Chernikova et al., 2020).

Our study demonstrates that approximations of practice, and the inherent tensions within mediated actions, can play an important part in PSTs' development. *Breaktime* provides a platform for PSTs to engage with complex socio-emotional challenges, using their prior experiences and acquired knowledge to navigate and resolve issues. This process of rehearsing professional practice in a controlled yet authentic environment can function as a preparation for the realities of the PSTs' future teaching careers. In NOKUT's final assessment report of teacher education in Norway (NOKUT, 2024), the need for rehearsing professional practice is explicitly highlighted.

Conclusion

In conclusion, our study demonstrates that approximations of practice, and the inherent tensions within mediated actions, can play an important part in PSTs' development. As highlighted in NOKUT's final assessment report of teacher education in Norway (NOKUT, 2024), there is a need to create spaces where PSTs, as future teachers, can rehearse professional practice in different ways.

Our study has shown that *Breaktime* is a platform that provides PSTs with opportunities to engage with complex socio-emotional challenges, using their prior experiences and acquired knowledge to navigate and resolve issues. Rehearsing professional practice in a controlled, yet authentic, environment can represent a particularly useful and powerful preparation tool for PSTs. In other words, rehearsing will make PSTs better prepared to cope with the realities of their future teaching careers.

Appendix 1: Transcription key

Adapted from Jefferson (2004)

- (.) Full stop inside brackets: Micropause of no significant length
- (0.2) Number inside brackets: Timed pause
- [] Square brackets: Overlapping speech
- ((interaction/analyst comments)): Description of non-verbal activity

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