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To cite this article: Ela Sjølie & Anna Lena Østern (2020): Student teachers' criticism of teacher education – through the lens of practice architectures, *Pedagogy, Culture & Society*, DOI: [10.1080/14681366.2020.1729842](https://doi.org/10.1080/14681366.2020.1729842)

To link to this article: <https://doi.org/10.1080/14681366.2020.1729842>



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Published online: 21 Feb 2020.



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Student teachers' criticism of teacher education – through the lens of practice architectures

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ABSTRACT

This paper explores student teachers' academic preparation to be teachers. Despite the fact that a persisting criticism is directed towards the 'academic' part of teacher education, we know little about student teachers' academic learning practice as learners in higher education. The paper reports on a Norwegian study of 24 student teachers and shows how the theory of practice architectures can usefully illuminate some of the difficulties students encounter in their initial teacher education. The findings are mainly elaborated in the construction of two student teachers' stories. Using the theory of practice architectures, we argue that the rationales for student teachers' criticisms of teacher education are more nuanced than they are commonly presented in the research literature. We also argue that the theory of practice architectures provides a useful tool to identify conditions that influence student teachers as learners in higher education.

KEYWORDS

Teacher education; preservice teachers; student teachers; practice architectures; learning practices; higher education

Introduction

Researcher: What do you expect from your teacher educators?

Liv: Oh, I have HUGE expectations

Layla: Me too! It's university for God's sake!

Elisa: I have gigantic expectations

[Excerpt from focus group interview with student teachers]

Student teachers stand in the middle of a complex enterprise that comprises many players, competing agendas, and also different understandings of both the purpose and content of teacher preparation (Hansen 2008). This complex enterprise creates conditions that enable or constrain student teachers in their preparation to become teachers. The purpose of this article is to make sense of how student teachers are influenced by such conditions within a particular teacher education programme. To do this, we draw on recent developments in practice theory, particularly the concept of *practice architectures* (Kemmis et al. 2014) which focuses on the ways in which practices are prefigured and shaped through arrangements within particular sites.

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Student teachers must navigate across different borders or gaps. There are curricular divides between academic disciplines, subjects and education coursework as well as between education foundations courses and methods courses. Then, there is the disconnection that has plagued preservice teacher education for years: the separation between university and school as two different learning arenas. Around the world, much work has been done over the past two decades to develop more successful programme models that can help bridge these gaps and thereby deepen the quality of teacher learning (e.g. Canrinus et al. 2017; Flores 2016; Darling-Hammond and Lieberman 2012). Despite these efforts, the criticisms laid on teacher education remain strikingly stable: graduates from teacher education, school administrators and politicians still complain about the irrelevance of teacher education that is believed to be too theoretical and distant from practice (e.g., Darling-Hammond 2010; Lid 2013). The conclusion that teacher education is too theoretical is often the taken for granted point of departure for research (Sjølie 2017).

The extensive report of the AERA Panel on Research and Teacher Education (Cochran-Smith and Zeichner 2005) noted that it is dominated by the teacher educator perspectives – a major drawback. Moreover, little attention has been given to the complexity of teacher education programmes. Research on student teachers exists almost in isolation from research on higher education (Sjølie 2017; Grossman and Morva 2008), and the main focus is predominantly directed towards students' *teaching practice* (either actual teaching or how they think about teaching). It follows from this that we know little about what is actually going on in the part of teacher education that we endeavour to develop.

This paper focuses on the student teacher perspectives to explore how the theory of practice architectures might usefully illuminate some of the difficulties that student teachers encounter in a university-based teacher education programme. Based on an analysis of in-depth interviews with 24 student teachers, we argue that the rationales for student teachers' criticisms against teacher education are more nuanced than they are commonly presented in the research literature. We also argue that the theory of practice architectures provides a useful tool to identify conditions that influence student teachers as learners in higher education.

Teacher education as a prearranged site for learning

Research on teacher learning has emphasised that student teachers enter teacher education with deep-rooted personal beliefs about learning and teaching (see e.g. Rogers 2011; Cheng et al. 2009; Wideen, Mayer-Smith, and Moon 1998). At the same time, the teacher education they are entering has deep-rooted traditions. With its particular discourses, activities, and power structures it is historically and culturally situated, and prefigured as a site for learning when the students enter the programme. To substantiate this 'situatedness', we have used the theory of practice architectures (Kemmis et al. 2014; Mahon, Francisco, and Kemmis 2017) and viewed student teachers' academic preparation for being teachers as a *learning practice* that is embedded in and made possible by the *practice architectures* of the teacher education programme. In this theory, practices are understood as 'socially established, cooperative human activity involving utterances and forms of understanding (sayings), modes of action (doings) and ways in which people relate to one another and the world (relatings) that hang together in characteristic ways in a distinctive project' (Mahon, Francisco, and Kemmis 2017, 8).

The theory of practice architectures takes a site based, ontological approach to exploring practices. More specifically, the theory of practice architectures considers the arrangements within particular sites, and contends that each local site is made up of practice architectures that prefigure and shape the practices that occur at that site (Kemmis et al. 2014). These practice architectures constitute enabling and constraining preconditions for the conduct of practices, and they exist in three dimensions: cultural-discursive, material-economic and social-political arrangements (Kemmis et al. 2014). *Cultural-discursive arrangements* like the language or specialist discourse enable or constrain the *sayings* that occur in and about the site. They include the language that is used (e.g. theoretical discussions in the teacher education classroom or the less formal language around the lunch table) and also the topics that are addressed. The *material-economic arrangements*, such as financial resources, timetabling, lesson plans or physical arrangements of teaching rooms, make the activities in the practice possible, and enable or constrain the *doings* characteristic of the practice. *The social-political arrangements* – e.g. roles, power structures or organisational rules – relate to issues of power and solidarity and enable and constrain the *relatings* that take place in the practice.

In terms of the theory of practice architectures, the academic preparation to become a teacher is a social practice. From the student teacher perspective, teacher education has a specialist discourse that justifies and describes what it is and does. It also consists of various but distinctive activities like listening to lectures, participating in group discussions, self-study or teaching activities during the practicum in school. Finally, it involves various roles and relationships to others like peers, teacher educators or supervisors in school. In their learning practice, student teachers draw upon *already existing* cultural-discursive, material-economic and social-political arrangements that prefigure the practice that can take place in this particular teacher education programme. While it is possible to consider each of these arrangements in isolation, in reality they are inter-related. For instance, the relationship between a teacher and a student is not only prefigured or shaped by social-political arrangements (such as formal power distribution), but also by the layout of a classroom (material-economic arrangements) and the language that is used (cultural-discursive arrangements). Furthermore, while the practice architectures *prefigure* particular practices in a site, they do not predetermine them. The practice architectures are constantly shaped and reshaped through the dynamic relationship between the individual and the social, and between the practices and the arrangements.

With this backdrop of taking into consideration the complex reality of a teacher education programme, the following question will be explored: *How can student teachers' criticism of teacher education be understood through the lens of practice architectures?*

The study

This study is part of a larger case study with the overall aim of gaining a deeper understanding of student teachers' learning as students in higher education. In the larger study, an array of qualitative and quantitative data was collected. However, this paper only presents the data that are relevant for this particular research question.

The participants in this study were enrolled in a five-year secondary teacher education programme in Norway. In this programme, the students were provided with teacher

education combined with a master's degree in one academic subject as well as one year's study in a secondary subject. The academic subjects were studied within the ordinary Bachelor or master's programmes of each academic discipline, while two terms – the fifth and the eighth¹ – were dedicated in full to coursework in education.

The coursework in education consisted of three main parts, each associated with separate assessments: *pedagogy*, *subject didactics*² in two school subjects, and 14 weeks of *practicum* conducted in two internship periods in schools. An overall aim of the programme was to integrate these three parts into a cohesive whole. Although pedagogy and subject didactics were assessed separately, the subjects were integrated through some common lessons as well as a project in research and development. The teaching, which was compulsory, was mainly based on seminars in smaller groups with a high degree of student activity, and some joint lectures for all students together. The main assessment form was portfolio. The programme was also part of a university-school partnership model (for a detailed description, see Haugaløkken and Ramberg 2007). Both authors worked as teacher educators on the programme, but not as teachers for these particular students.

Data collection

12 semi-structured interviews were conducted with a total of 24 student teachers as they were about to finish the eighth term of their programme. Six students were interviewed individually while a further 18 students were interviewed in six focus groups. All interviews were conducted by the first author, and the mix of individual and focus group interviews was chosen to make use of the advantages with both alternatives. Benefits of individual interviews include that the researcher can ensure full participation from each participant without taking group dynamics or the challenge of 'group thinking' into consideration (Cohen, Manion, and Morrison 2007), and thus possibly go into greater depth with each question. Focus groups, on the other hand, offer the possibility of letting the views of the participants emerge through their interactions. Through sharing views and experiences and asking each other questions in the group, forgotten nuances may be activated and understandings can be re-evaluated and reconsidered (Catterall and Maclaran 1997). Focus groups also, of course, make it possible to generate a wide range of responses within a limited timeframe.

The selection process for the interviews was based on an open email invitation, and a mix of subject disciplines was ensured. The interviews, which lasted between 90 and 120 minutes, were recorded and transcribed verbatim. Open-ended questions were constructed to capture the student teachers' *sayings*, *doings*, and *relatings* in their learning practice. For example, they were asked about their experiences during the practicum and how they related their experiences from university coursework to practice. There were also questions about workload, how they approached readings and written assignments, and how they experienced the congruence between the literature and the teaching. The same question guide was used for all interviews.

The whole year cohort of 53 student teachers also answered a questionnaire about their approaches to their academic studies. The analysis of this questionnaire has been published elsewhere (Sjølief 2014a, 2015). However, since workload came up as a theme in the interviews, questions about workload from the questionnaire are used to provide

Table 1. Distribution of gender and academic discipline for interviews and questionnaire.

	N	Female	Male	Science	Language	*Social sciences
Individual interviews	6	4	2	3	3	0
Focus groups	18	14	4	9	9	0
Questionnaire	53	38	15	19	26	8

*'Social sciences' includes both social sciences and geography as these are often combined in one school subject ('samfunnsfag') in the Norwegian school system.

additional information from the whole cohort. One of the questions in the questionnaire was what the student teachers thought about their overall workload. Another question asked the participants to estimate the time they had used on self-study, i.e. outside lectures, workshops, etc. each week. To calculate the time spent each week on studies, the estimated amount was added to numbers from the lesson plans for that year. An overview of the data collection is provided in [Table 1](#).

Data analysis

The interviews were anonymised and imported into NVivo. To stay true to the aim of understanding student teachers' perspectives, the initial analysis was conducted using a conventional qualitative content analysis (Hsieh and Shannon 2005): themes were identified directly from the text data without imposing preconceived theoretical perspectives. Descriptive coding, categorisation and abstraction (Saldaña 2009) were used in an approach that involved searching for patterns within the data. As the same interview guide was used, the individual and focus group interviews were analysed together. Guided by the desire to view student teachers' statements through the lens of practice architectures, emerging themes were then analysed in the light of the theory of practice architectures (Kemmis et al. 2014). This part of the analysis involved identifying and foregrounding cultural-discursive, material-economic and social-political factors within the site of teacher education.

The main focus of the qualitative content analysis was to search for patterns. During the analysis, it became evident that although the students seemed to be concerned with the same themes, there were substantial differences in terms of *how* they perceived or experienced them. In order to gain a deeper insight into these differences, a narrative analysis was conducted for two of the participants. A further motivation for doing this analysis was the question about whether there could be alternative narratives or counter-narratives to the ones arising from the qualitative content analysis (c.f. Riessman 2008).

As the themes had already been identified through the qualitative content analysis, the narrative analysis consisted of identifying how these topics unfolded for the two selected students. Since the focus of the content analysis had been to search for patterns (similarities), the focus of the narrative analysis was on *differences*. Two students who had very different stories in terms of background (including subject discipline), interests and motivation were chosen. We followed Polkinghorne's (1995) definition of narrative analysis and ordered the data elements into a coherent story, and the story was constructed from the perspective of the researcher. The themes that were identified in the content analysis were used as a skeleton for the stories.

The stories of two student teachers

We identified four themes that were seen to be of importance to the student teachers' learning practice within the university setting: 1) perceived workload, 2) encounter with pedagogy, 3) credibility of teacher educators, and 4) connecting university courses and field experiences. While the participants were unanimous in terms of the importance of these themes, they differed substantially in *how* they perceived different conditions. In order to capture these differences, we present the findings in two steps. First, the detailed stories of two student teachers are presented. The purpose of these stories is to provide in-depth and detailed examples of how two student teachers described the topics that were identified in the data analysis. Then, we provide a more thorough discussion of the topics based on the entire data set.

The stories are about Elisa (26), who studied Norwegian and English as her school subjects, and Oliver (25) who studied mathematics and physics. Since the focus of the content analysis was on patterns (similarities), these particular students were chosen because they were *different*; they had very different backgrounds, interests and motivation for their academic studies. Yet, their statements about the teacher education they had experienced also contained many similarities. The stories were constructed from their contributions in the focus group interview and are spun around the four themes that were identified in the data analysis.

Elisa's story – a story of frustration, change and insights

Elisa described her encounter with school as a 'practice shock'. She had her first lesson on a Friday afternoon in a year 8 class where there were ten boys who belonged to a criminal gang. Her supervising teacher seemed to have given up on this class, and Elisa was told just to let them go on. 'She didn't give me any advice at all, she just told me that I should experience the students myself or some rubbish like that', she says. Elisa felt powerless and incompetent, and many times during the practicum she just wanted to lie down and cry. Her frustration was directed against teacher education, which in her opinion draws an idyllic picture of school: 'It doesn't prepare me for the reality I'm going to meet. Pupils don't sit still with shining eyes and long for knowledge, and many of the things we learn cannot be carried out in practice. Teacher educators make everything sound so simple and idyllic, but in real life it's not'.

She regarded her studies generally as very demanding. Practicum exhausted her both physically and mentally. Also, on campus, she was under constant time pressure: 'I want to sit down and read, but there is always something else I must attend to [...] There's so much compulsory ... There are so incredibly many things to keep in mind at a time that I'm unable to concentrate.' Towards the end of the semester, she adjusted herself to what she called survival mode. She only wanted to get it over with, and she had no ambition whatsoever of getting the highest grades. Elisa generally had a positive attitude towards academic themes, and she claimed to have encountered very interesting ideas in teacher education. However, she was annoyed and provoked by peer students who did not take teacher education seriously and who did not consider pedagogy to be important for teachers. She especially mentioned students from the science programme.

Elisa found it difficult to see connections between much of the coursework on campus and her field experiences. The supervision during her practicum was non-existent, and she suggested having seminars during the practicum in order to discuss experiences with teacher educators from campus. The planning documents³ she prepared weekly during practicum were, however, of great help in order to make her knowledge about teaching explicit. This was an insight Elisa reached during the focus group interview. While on the practicum, she joined in with her peers' criticisms; these documents were just another unnecessary requirement that was forced upon them – a waste of time on very busy and challenging days in school.

Also, on campus, she called for more support in seeing the connections to practice. First, she criticised the teacher educators, in particular those responsible for the joint lectures on campus. She pointed out how some of them did not follow even the most basic principles of communication. 'I also notice a big difference between the teacher educators who have been working in school recently, and those who stay on campus and just enjoy themselves with their research' she said. She called for more concreteness, where teachers share personal stories or examples. She also complained about the content. In particular the more general topics in pedagogy seemed irrelevant and also quite boring. She was aware that there are no key answers, but she still wanted to know *how* to deal with unfamiliar situations. However, through the discussion with her peers in the focus group interview, she reached the conclusion that a teacher needs to know more about education than how to teach. Particularly interesting and thought-provoking was when they learned about *Bildung* and the broader responsibility of the teacher in a democratic society.

Until the day of the interview, Elisa had not thought that she had learned much from the university courses, but then she realised that she had changed quite a lot as a person. She said that she felt more secure and self-confident, yet she also felt that she had learned most from practice, and that she now had a more realistic image of what it takes to work as a teacher. 'I still want to become a teacher, but I thought it would be easier', she said.

Oliver's story – a pragmatic view on a teacher education of little importance

Oliver described his ideal school as fun, exciting and varied, where the teacher meets the individual needs of each student. He thinks it is important that students not only learn *how* to solve mathematical problems but that they also need to understand the underlying ideas behind them. Therefore, he was disappointed when, during the entire practicum, he observed nothing but traditional 'chalk and talk'. He had become inspired by the notion of inquiry-based teaching on his university course in mathematics didactics, but when he attempted to try this out during his practicum he met resistance from his supervisor. His supervisor said that these innovative methods took far too much time. Because of his practice supervisor's negative attitude, Oliver became hesitant to try out alternative lesson plans; he felt there was a considerable risk of failure.

Oliver did not find teacher education particularly demanding. He was rather pragmatic; it was not worth the effort to work harder than he did. This is different in e.g. mathematics, he said, because in contrast to pedagogy he can use that knowledge later. Going from a C to an A in mathematics actually makes a difference. He was generally not a great fan of pedagogical literature. He found it dull and difficult to read. 'It's a waste of time to spend

so much time on reading', he said. He admitted that he had encountered some interesting ideas now and then, but these ideas were of the kind he could just as well have written himself. Nevertheless, over the course of the interview, Oliver said that he would have liked to be more challenged by his teacher educators. He felt that there had been no room for questioning the prevailing views in teacher education. Behaviourism was mostly talked about in negative terms, but Oliver said: 'Behaviourism is something we see a lot in school, but it's not talked about, because it's associated with something negative. But frankly, it works, and you use it all the time ... In school, there's room for many different views, but at university, the professors have their personal view of what is right and wrong.' As long as such prevailing views are only presented and not discussed, Oliver maintained, new knowledge is not absorbed. As a consequence, the student teachers will probably just keep doing what *they* think is smart to do.

Oliver was harsh in his critique of many of the teacher educators. 'They ought to be role models, but they're not', he said. He called for concreteness: 'For example, if the lecturer is negative towards behaviourism, what are the consequences for structuring teaching?' He gave much better credit to the seminar teachers and the teachers in subject didactics. He also complained that much of the content in teacher education was irrelevant to him as a future teacher. The sense of relevance was, however, also about workload. In the days preceding a deadline for an assignment, most teaching appeared irrelevant to him as his mind was focused on the upcoming assignment.

Generally, Oliver did not think much of writing academic texts. He agreed with his supervisors, who claimed that writing is something he will never have to do as a teacher. He wanted to be judged on his teaching skills rather than his ability to write.⁴ Towards the end of the focus group interview, Oliver hesitantly admitted that he had learned quite a lot from writing assignments, and that writing about a particular topic also made reading more engaging. He particularly mentioned a pedagogy assignment about the multi-cultural school and a didactics assignment about dialogue-based learning. However, he emphasised that this learning was entirely due to his own effort.

At the end of his teacher education studies, Oliver claimed that he hoped to have become more reflected, but he said: 'I'm afraid that I would have been as good a teacher without teacher education, and that my teaching is still based on the common sense I had when I started'. The credit he gave teacher education was that he had developed a larger toolbox, especially connected to inquiry-based teaching. He looked forward to getting his own class and to making plans for them with all the exciting things he imagined he would do. Yet he was afraid that he will be socialised into mainstream teaching right from the beginning, as he did not feel competent enough to oppose to what he calls traditional 'chalk and talk'.

The influence of practice architectures on student teachers' learning practice

With Elisa and Oliver's stories as a backdrop, we now turn to a deeper discussion of the themes that formed the skeleton of the two stories. In this discussion we also include some examples from the other participants.

Workload – ‘we do have a life, you know!’

Elisa’s story is characteristic of the majority of the participants in this study. In the questionnaire, 44 of 54 students answered that the workload was too high. In the interviews, participants described how they were overwhelmed by the total workload, for example: ‘I wasn’t able to breathe until Christmas.’

While such statements could indicate that the students worked long hours with their university courses, their own estimates of study effort from the questionnaire showed another picture. The answers varied from 20 to 41 hours a week with an average of 28.4 hours. This value lies far below the expected 40 hours a week,⁵ and also below the average of the university as a whole of 32 hours a week.⁶ When interpreting the student teachers’ statements about workload it is important to bear in mind that their learning practice is also conditioned by the students’ total life situation including e.g. family, leisure activities, and whether or not they have part-time jobs in addition to their studies. Interestingly, these factors were not mentioned by any of the participants.

The factors influencing the students’ perceived workloads seemed not to be primarily about the *amount* of work, but rather about *structure* and *compulsory activities*. Focusing on many different tasks simultaneously was exhausting in itself. As Elisa said, it affected the way they worked with and felt about their studies:

There was a lecture where I felt a bit sorry for the guy standing there talking. Because we were only there because we had to be, but everyone was working with subject didactics [assignment] [...] You feel so bad for him, but you simply don’t have the luxury to find another time to do it (Nora, language student)

Nora’s comment also points to the interrelationship between material conditions in the form of timetables, lesson plans and curriculum, and the social-political factors in the form of mandatory activities. Some of the student teachers said that the lack of free choice and degree of control made them feel that they were treated as pupils rather than adults. They felt a lack of trust as they were *forced* to be present for activities they would attend anyhow because they are enthusiastic about becoming teachers. This is something that seemed to have caused significant frustration and internal resistance among many of the participants. Below is just one example:

There are so many great, enthusiastic student teachers with a passion for the profession they are about to enter. I think it’s a shame that compulsory teaching should kill this enthusiasm (Vera, language and mathematics student)

Encountering pedagogy as an academic discipline

In an article on the same student teachers’ understanding of the nature and purpose of theory in teacher education⁷ (Sjølie 2014b), one of the most prevalent findings was that the encounter with pedagogy as an academic discipline creates considerable obstacles that then have to be overcome. Historically embedded discourses, for example the epistemology that underpins the discipline, the language used in pedagogical texts (Sjølie 2015), and how pedagogy and subject didactics are defined, were unfamiliar to many of the student teachers.

Furthermore, writing academic texts was described as difficult, in particular for the science students. Their statements reflected cultural, unspoken expectations in terms of *how to write*:

Thomas: I'm kind of a standard science student who is not very fond of writing school essays. [...] I kind of struggle before I even sit down.

Emilie: Yes, to learn to write assignments is very tiresome. If you have been studying languages, you probably know what to do. But I sat there and ... Where on earth do I start? What are references? I didn't know how to do that. I mean, it's very useful, but insanely difficult. I don't think that workload is counted in.

Eve: It's expected that we know how to do it. [...] We're used to writing briefly and concisely, and now we're expected to drag it out ... (all science students)

Among the participants, the encounter with pedagogy was particularly challenging for the science students. Through the lens of practice architectures, the cultural-discursive arrangements of the practices within the science disciplines and within education were very different, and it seemed to be taken for granted that the students could handle these differences by themselves. The difficulties that many student teachers had with pedagogy as a discipline appeared to produce frustration and negativity within the student community. This negativity affected the student teachers' *relatings*, in turn shaping social-political structures of the student community. Oliver is clearly the kind of student that Elisa was annoyed with when she complained about peers who did not take teacher education seriously. Oliver had, to a large degree, disregarded pedagogy in terms of it being of any use to him as a teacher. There were also many other statements where student teachers complained about negative peers, for example:

Liv: I don't like that kind of attitude. If you want to become a teacher, then darn it, you must work for it! And then you have to read the syllabus, that's how you develop.

Layla: I think there are too many people who take it way too easy on becoming a teacher, and I find that incredibly annoying. Ahhh ..., I feel that I'm burning inside!

Andrea: ... and in our infamous seminar, there are quite a few who sit there and say: 'ugh ... why do we have to read?' or 'ugh ... why do we have to write a ped-assignment?' (language students)

Credibility – 'walk your talk!'

The trustworthiness of knowledge was also important in terms of how student teachers looked upon their teacher educators. As illustrated by the excerpt in the beginning of this article, the student teachers had very high expectations of their teacher educators. They expected teacher educators to be excellent teachers, or in other words, they expected them to demonstrate the practical skills of teaching. The participants emphasised the dual role of a teacher educator (cf. Loughran 2006; Russell 1997; Swennen, Lunenberg, and Korthagen 2008), referring to the fact that *how* they teach is part of the message. Although the students were highly satisfied with many of their teacher educators and there seemed to be many examples of good role models, they also talked about the negative examples. A general complaint was that many of the teacher educators had not

been good enough role models and that they thereby communicated the motto ‘do as I say, not as I do’.

The credibility of teacher educators, which in turn shapes the social relations between student teachers and teacher educators and also the social-political relations within the whole programme, was particularly linked to the amount of previous or current school experience. In the student teachers’ language, ergo their *sayings*, university was largely referred to as an *artificial world* as opposed to the *real world* of the school. Teacher educators were referred to as ‘the guys up on the hill’.⁸ Words such as ‘academics’ and ‘research’ often had a negative sound to them when used to describe people, while ‘those out there’ or ‘those connected to real life’ had positive connotations. Elisa referred to teacher educators who ‘just enjoy themselves with research’, while another student referred to himself and his peers as ‘just ordinary people’ (as opposed to ‘non-ordinary’ people working at the university). Other expressions were about lecturers who ‘live in an academic bubble’, or about schoolteachers as the *real ones*: ‘... when you are out on practicum and observe *real people* at work, you feel that perhaps ... that this kind of thinking is not very normal’.

The importance of having recent school experience was also reinforced through comments made by teacher educators:

It was [my subject didactics teacher⁹] who told me that there are many lecturers who have never even taught in school. Then I felt kind of provoked, to come here and tell me how to do it when they haven’t tried it themselves! (Layla, language student)

Whether or not a teacher educator is found trustworthy seemed to have an influence on what or whom student teachers chose to believe. However, some of the teachers who were mentioned explicitly as good teachers by the students did not necessarily have the most recent experience of school – if any at all. These student teachers conclusions seemed to have made based more on teaching style and communication.

The importance of teacher educators’ credibility is an example of how teacher educators’ teaching practice – including *sayings*, *doings*, *relatings* and their *dispositions* – shapes the practice architectures of the student teachers’ learning practice.

(Dis)connection between university courses and experiences from the practicum

The disconnection between university courses and field experiences was, unsurprisingly, one of the themes that emerged from the student teachers’ stories. As one of the central problems in teacher education, this topic alone could be the focus for several articles and in-depth studies. Here, we will highlight two issues of particular importance from the student teachers’ points of view.

The first issue is about written assignments. Through written tasks, in which the students get personal feedback from their teachers, the students are expected to discuss questions related to their field experiences or education issues in general in light of theory. While these tasks from the teacher educators’ point of view are used as a means to link university courses with experiences from practicum, the participants largely described them as contributing to an extreme workload or as a way of being assessed. Both can be seen in Elisa and Oliver’s stories. The students were primarily concerned with the fact that they were being assessed on their ability to write academic texts. They

claimed that their writing skills do not necessarily reflect their teaching skills, which is ultimately what was felt to be most important. Some of the participants, including Oliver, drew support from their supervisors in this matter, which points to the influence of social-political relations in teacher education as well.

The second issue is related to conditions during practicum. First of all, the student teachers described highly divergent mentoring practices, in turn providing very different conditions for the students. Some, like Elisa, had to cope alone. Then there were supervisors, as in Oliver's case, who gave some support, but also offered resistance. Participants talked about how they were not given the leeway to try out different teaching methods from the university courses, for reasons such as time limitations or the need to keep to already scheduled lesson plans, or due to supervisors who undermined ideas from teacher education. Gine provided an example of the latter after she had finished a lesson using inquiry-based teaching in mathematics:

[my subject didactics teacher] thought it was a good lesson, but [my supervisor] thought it was shit. He didn't say anything during the whole conversation with [the subject didactics teacher], but afterwards he said that it was really bad. [...] We hadn't been going through enough subject matter, so he'd have to redo everything, he said. (Gine, science student)

Finally, there were supervisors who according to the students had been excellent role models and who had supported them in their personal development. However, common for all the participants in the interviews, was that the *discursive resources* drawn upon by the supervisors were very different from the ones on campus. The supervisors had been first and foremost concerned with practicalities related to the delivery of the lessons, and had not been able to help student teachers see the connections to the university courses. Again, the students had to navigate between different cultural-discursive arrangements without much support in doing so. This resonates with literature on internships that demonstrates that the conversations between supervisors and student teachers are first and foremost about the delivery of the lessons, methods that work and that they are rarely theoretically informed (see e.g. Edwards and Protheroe 2003; Edwards and Protheroe 2004; Hestbek and Østern 2011; Jahreie and Ottesen 2010; Ottesen 2006).

Regardless of the perceived quality of the supervision they received in the practicum, the student teachers consistently laid the blame for the lack of support on the teacher educators or on the teacher education programme as such. In the examples above, both Elisa and Gine were highly dissatisfied with their supervisors and had experienced considerable difficulties in the practicum. In spite of this, they valued the practical parts of their education and strongly criticised the theoretical parts.

Discussion

These student teachers' reflections provide an insight into how they perceived and responded to different conditions on the teacher education programme. While the student teachers in this study were genuinely interested in becoming teachers, they were also frustrated and critical of the teacher education they had experienced. Parts of their criticism resonated with descriptions of teacher education internationally, e.g. the perceived disconnection between what happens in higher education and the student teachers' field experiences (Zeichner 2010), that much of what is taught in teacher

education was found to be irrelevant (Darling-Hammond 2010), that student teachers prefer information for immediate use (see e.g. Reid and O'Donoghue 2004; Lid 2013), and also that they value practical experience over the more theoretical aspects of teacher education (see e.g. Smith and Lev-Ari 2005; Allen 2009; Roness 2011). However, the theory of practice architectures provides us with a way to look beneath and beyond these immediate criticisms.

Constraining arrangements

Kemmis and Grootenboer (2008) note how practice architectures might paradoxically constrain practices in ways that even suffocate the practices they aim to nurture. The findings in this study direct attention to such constraining conditions. *Material-economic* conditions could be identified as influencing the perceived workload. While the student teachers were overwhelmed by the amount of work and claimed not to have a life outside their studies, the number of hours they reported working with their studies contradicted these statements (assuming that they had not substantially underestimated when filling out the questionnaire). One possible explanation could be found in how different components of the programme were structured, resulting in a perceived curriculum overload, or a hidden curriculum that emphasised quantity over quality (cf. Niemi 2002). The many different requirements and organisation of teaching activities seem to have stimulated superficiality. Furthermore, while written assignments were constructed with the intention to link university courses with experiences from the practicum, many students were concerned with how the tasks contributed to their work overload and that they were assessed on skills that they felt were irrelevant in terms of learning to teach. In other words, teachers and students did not seem to share the same understanding of the *intention* behind written assignments as part of their teacher training.

Social-political factors associated with compulsory teaching also influenced the perceived workload. The sensation of being forced and the feeling of being treated as a pupil rather than an adult caused significant resistance and appear to have killed some student teachers' motivation. As students enrolled in a master's programme at university, these students were used to and expected a high degree of freedom. Considering that a majority of the teacher educators had previously worked in school (where compulsory teaching is standard), they might have brought this tradition of practice into university, which in turn has become part of the practice architectures (cf. Kemmis et al. 2014). School supervisors who undermined ideas from teacher education or teacher educators who talked negatively about other teacher educators in terms of having little school experience are further examples of social relations that seemed to influence (and possibly constrain) the student teachers' learning practices.

The influence (and shaping) of *cultural-discursive* arrangements was perhaps the most interesting finding in this study. It is reasonable to claim that student teachers drew upon at least four different kinds of *discursive resources* associated with the different 'communities' the students had to relate to: academic discipline studies (such as foreign language, history or sciences), educational studies (pedagogy and subject didactics), school and the student community. First, the student teachers' experienced difficulties in their encounter with pedagogy as an academic discipline. The cultural-discursive arrangements within the practice of educational studies were different from the academic discipline of the

students; this was particularly true for the science students. The findings indicate that unfamiliar language and an epistemology that remained implicit might lead to student teachers disregarding pedagogy altogether (Sjølief 2014b). Oliver seemed to be an example of such a student. Graff (2002) has also drawn attention to implicit expectations in academia. He argues that habits of thinking and writing in academia are so familiar to academics that they hardly recognise that they often seem counter-intuitive to students.

Second, school supervisors drew upon other and very different discursive resources than the university teachers, and their *sayings* became cultural-discursive arrangements that enabled or constrained the students' learning practices in school. Through the lens of practice architectures, these different sets of *discursive resources* can be understood in terms of distinct sets of practices in which the students participated, two enmeshed with the practice architectures of the university and one enmeshed with the practice architectures of the schools (composed, in each case, by the cultural-discursive, material-economic, and social-political arrangements found in the different sites). The students experienced these kinds of practices as disconnected, although they expected that they should be connected, and they were left to themselves in navigating between them.

Finally, the participants seemed to be strongly influenced by the *sayings* within the student community. They pictured a student discourse that appeared to be characterised by criticism and frustration, at least from what they talked about in the interviews. They referred to a negativity among many of the student teachers that reflected on the general student culture (cf. Niemi 2002) – a negativity that they took part in, but at the same time found constraining and difficult to oppose. An example of this is Elisa, who complained about having to write weekly lesson plan documents but during the interview admitted that she had learned a lot from writing them. Like a collective memory sedimented into the cultural-discursive arrangements, a student discourse was manifested in how student teachers talk about theory (boring and irrelevant, artificial and idyllic), practice (exciting, the real life), or teacher educators as a homogeneous group (boring academics living in a bubble). Among these participants, theory was envisioned and talked about as something that belongs to university – 'the house of theory' (Sjølief 2014b). Therefore, when the theory 'did not work' or explicit connections were not made in the practicum, the blame was put where it belonged – on the university.

Conclusion and implications for teacher education

In this paper we have applied the theory of practice architecture to a group of student teachers' perceptions of teacher education, with a particular focus on criticism. Focusing solely on the student teacher perspective implies a certain blindness. Teacher educators and supervisors have not been heard, and many conditions that can be assumed to influence the student teachers' learning practice have not been discussed as they were not raised by the participants. Nevertheless, we argue that the study has both theoretical and practical implications.

Theoretically, 'practice architectures' has proved useful for capturing the complexity of the student teachers' experiences. We have seen how *cultural-discursive, material-economic and social-political* arrangements work together in a complex interplay that influences the student teachers' learning practices. The notion of practice architectures draws our attention to how the specific site acts as a set of conditions that makes the

student teachers' learning practice possible. This implies that the *site* of teacher education must be taken seriously. Learning and teaching take place in a particular context, and this study illustrates the complex, dynamic interrelationship between student teachers' learning and conditions within this context.

Practically, this study is important because it has allowed us to look beneath and beyond the spontaneous and critical answers of the student teachers. In a time of constant efforts to change and revise teacher education, there is a compelling case for understanding more about the ruling criticism that research studies use as their basic assumption. In the research literature, the blame for student teachers' dissatisfaction with teacher education is often put on traditional teaching methods and a prevailing theory-into-practice view of teacher educators (e.g., Korthagen, Loughran, and Russell 2006). The argument in this paper is that this is a far too simplified and generalised description of teacher education programmes. The application of practice architectures has allowed us to identify constraining arrangements influencing on the students' learning practice, but also to point out alternative causes for the student teachers' frustrations that were expressed in the research interviews. For example, while students might be directed towards developing skills and competences and see writing essays as unnecessary in this regard, teacher educators might aim to foster critical reflection. Rather than being a 'gap' between theory and practice, it can be understood as lack of shared understanding between students and teachers. Another example is the finding of different, but mostly implicit, practice architectures of the practices the students participated in. In the research literature, teacher education is mostly referred to as *one* site or programme and one common aim is that this programme is coherent (e.g. Hammerness and Darling-Hammond 2005; Canrinus et al. 2017). However, coherence does not necessarily mean that everything fits seamlessly together. Learning to teach is filled with contradictory realities, and different practices and traditions will always be part of teacher education. Perhaps the focus of our efforts for revising teacher education should not only be to try to 'close the gap' between university and school but also to support students in navigating how different practices hang together, not expecting coherence or harmony, but learning the skills to anticipate and respond productively to differences and tensions.

Kemmis et al. (2014) argue that one cannot transform a practice without also transforming the existing arrangements that support the practice. The findings in this study demonstrate in particular the importance of cultural-discursive arrangements. If we want to understand and possibly change how student teachers talk about central topics in teacher education, these arrangements must be taken into consideration in designing and conducting research on teacher education.

Notes

1. Each year has two terms. Hence, it is the first part of the third year, and second part of the fourth year.
2. The concepts of *pedagogy* and *didactic* are not understood in the same way in an Anglo-Saxon tradition and a Continental tradition (see, e.g., Ax and Ponte 2010; Gundem and Hopmann 1998). For the purpose of this article, *pedagogy* can be compared with foundations in education, while *subject didactics* can be compared with *curriculum* courses.

3. This is a document the student teachers had to write weekly during the practicum, containing learning goals, students' pre-qualifications, external conditions, methods and organisation, and evaluation.
4. The students are also assessed on their teaching skills in practicum, but in terms of 'pass' or 'fail' rather than the usual marks A-F.
5. At this university, all courses are planned based on a working week of 40 hours. This should include self-studies and campus activities.
6. Data from the teaching quality survey at NTNU from 2012, downloaded from <http://www.ntnu.no/adm/utvalg/uu/lmund12>.
7. The analysis in the referred article is part of the same study as described in this article.
8. The teacher education at this university is geographically located on a little hill just above the main campus.
9. This particular subject didactics teacher had very recently held a position as a schoolteacher.

Disclosure statement

No potential conflict of interest was reported by the authors.

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