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Case-based teacher education preparing for diagnostic judgement

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ABSTRACT

An integrated part of teaching is to face unexpected situations. Teachers have to make immediate decisions, and these decisions may have a great impact on many people. An important question is how teacher education can prepare students for unexpected situations. The aim of this practitioner research study is to investigate if case-based teaching can contribute to reducing the perceived gap in teacher education. A step-wise model was introduced for the students and data based on the student teachers' experiences was collected through questionnaire and focus-group conversations. The findings show three main arguments for why teacher education should be case-based. First, analysing cases helps students to understand that every situation in practice is unique. Second, cases link to practice and theory, and finally, a case opens for different perspectives depending on how the diagnosis is made.

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Introduction

An integrated part of teaching is to face unexpected situations. Teachers have to make immediate decisions, and these decisions may have a great impact on many people (Tripp 2012). The goal of teacher education is to prepare student teachers for further professional development as career-long learners (Kelchtermans and Ballet 2002). The question is how it is possible to prepare students for how to handle unexpected situations. Through teacher education, students have to change their perspective from student to teacher. For years, they have observed teachers performing the profession. They have experienced different teaching and learning methods that worked more or less well. Therefore, many student teachers enter teacher education with an expectation and a desire to pick up a 'bag of teaching tricks' that can work well. As observers, it is difficult for students to understand that a teacher continuously has to make many professional judgements unless the situations are unpacked and analysed (Loughran 2006, 45). Loughran, therefore, argues that teacher educators should «resist the temptation to give students all the answers so that they learn to think and act in the face of uncertainty» (Loughran 2014, 277).

A challenge for university-based professional studies is that it takes place in two learning arenas, the university, and the practice field, something that creates a need for

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transferring learning from one context to the other (Eraut 2004). Teacher education programmes are often criticised for not being relevant to the profession, and for a lack of coherence between practice and theory (Korthagen 2010; Kvernbekk 2012) 'theory' is here understood as the research-based knowledge communicated in the university coursework (Zeichner 2010). Student teachers are supposed to learn 'that' in the teacher education institution, and be able to bring the generalised knowledge to the practice-field and transform it into understanding 'how'. Entering practicum, where the students experience that they have to solve unexpected situations and make immediate decisions, theoretical perspectives may not seem to be relevant. Solving a problem as a teacher in a chaotic classroom means that you cannot hesitate before you react and search for theoretical justification. Immediately, you have to make the diagnosis and respond. Many student teachers claim that they learn most from practicum, and that they experience a gap between what is lectured in university and what is practiced in schools (Korthagen 2010; Bogo 2006; Helseth et al. 2019).

As teacher educators in a Norwegian teacher education institution teaching 1-year Post Graduate Certificate Education (PGCE) for secondary school, we were aware of the challenges mentioned above. In line with many other teacher education institutions, we had given lectures in general theoretical knowledge and concepts concerning pedagogy and teaching. This kind of knowledge was also what we assessed in the exams. International as well as local frameworks for teacher education are rooted in the supposition that student teachers are able to make use of the applied knowledge in practicum. In line with the Bologna process, higher education in Norway is based on a qualification framework (Gallavara et al. 2008). In the national framework for teacher education, student teachers' learning outcomes are pre-described.

However, students' evaluations nationally (Wiggen et al. 2020) as well as on our own campus told us about a perceived gap between what we lectured in university and what student teachers experienced in practice. Their reactions were in line with Korthagen (2011) who argues that before student teachers have encountered concrete problems or challenges concerning teaching, it is unlikely that they will perceive the usefulness of the theoretical knowledge. Taking the critique from the students into account, we decided to build our teacher-education on cases from practice. The previous oral exam in the students' first semester was replaced by an exam based on students' self-selected cases. In the exam, they were supposed to reflect upon their case from different theoretical perspectives. To learn from our experiences, we decided to follow the new programme with practitioner research (Borko, Liston, and Whitcomb 2007).

The study aims to investigate if case-based teaching can contribute to reducing the perceived gap in teacher education.

The research question is: *What can we as teacher educators learn from student teachers' experiences with case-based teacher education?*

Theoretical background

Teachers' professional knowledge One reason for the so-called 'gap' between theory and practice is that every situation in practice is unique and there is no recipe for how a teacher should react. Putnam and Borko (2000) argue for the situated perspective on

learning as a fruitful lens for analysing activities in education. The perspective is based on the assumption that learning is situated, social and distributed (Greeno 1997). Practices are property of the social site, influenced by social, historical, material and political knowledge, and built up over time, place and context (Lloyd 2010). A situated perspective presupposes that activities take place as an integral part of the learning context. The dimension of socially distributed cognition indicates that learning is a matter of enculturation into a community, but also the other way round; that the social changes through the ideas of new members (Resnic 1987). Finally, regarding cognition as distributed means that cognition is divided across people and artefacts (Lave 1996). From a situated perspective, social and physical aspects of the context are intertwined and impossible to separate. An obvious argument would be to claim novice teachers should learn how to teach in practice, with no need for theoretical input.

However, Tripp (2012) argues that in one way or other teachers' decisions are always rooted on theory. They build their judgements on views and beliefs that go beyond the observational. Kvernbekk (2012) also claims that practice is theory-laden, and makes a distinction between weak and strong theory. 'Weak' theory is rooted in preconceptions, beliefs and prejudices that are guiding practice. This is a personal practice theory. 'Strong' theory, on the other hand, is built on scientific knowledge and is not sensitive to the complexity of practice in the same way as 'weak' theories are. The concept of 'strong' theories refers to the research-based knowledge we presented in our university coursework. Theory in the strong sense can provide other ways of understanding practice, alternative explanations, and critical views. Thus, teachers' practical knowledge is built on 'weak' as well as 'strong' theories combined with experiences from the past and is found in teachers' practice as defined here:

Personal practical knowledge is in the teacher's past experience, in the teacher's present mind and body, and in the future plans and actions. Personal practical knowledge is found in the teacher's practice. It is, for any one teacher, a particular way of reconstructing the past and the intentions of the future to deal with the exigencies of a present situation (Connelly and Clandinin 1988, 25).

For student teachers to start the process of understanding the complexity of teachers' professional knowledge and to become aware of their own personal theory of practice, it is necessary to build conceptual knowledge from the 'inside out' (Strangeways and Papatraianou 2016). Student teachers should start with the lived and observed experiences of the professional context to 'diagnose' what Argyris and Schön (1974) call 'theory-in-use' and articulate the specific real and context-based puzzles of practice for student teachers (p. 37).

Another reason for the conceptual theory-practice gap is that teacher education theory is generated from other disciplines, like for instance motivation theory from psychology. However, teachers relate to groups of students, while psychologists often have the individual focus. This means that we actually deal with a theory-theory gap. Referring to Dewey (1904) and Shulman (1998), Korthagen (2010) explains that during the late 19th and early 20th centuries the scientific psychologic and pedagogic knowledge extended, in line with the idea that it was possible for student teachers to implement these theoretical ideas in schools. The transition from being taught to teach others is often characterised as a practice shock. The concept is known from the research literature and refers to

a discrepancy between the ideal perception of teaching and the reality new teachers may experience (Dicke et al. 2015). The reason why the idea of applied theoretical knowledge does not work and the main reason for the perceived gap between theory and practice in teaching, according to Hoban (2005, 8) is that the nature of teaching is so complex that it needs a holistic judgement.

Development of informed professional judgement

In line with the situated perspective on learning, Hoban (2005) claims that teaching cannot be prescribed. Teaching is depending on a repertoire of strategies influenced by curriculum, context and response from students. Teachers have to rely on informed judgement, which means to 'have a theoretical basis for making the decision as well as an awareness of the unpredictable, personalized nature of teaching' (p. 8). Tripp (2012) claims that professional judgement is a matter of "expert guesses and has more to do with reflection, interpretation, opinion and wisdom, than mere acquisition of facts and prescribed 'right answers' (p. 125). Tripp mentions four kinds of judgements for the development of professional judgement: practical-, diagnostic-, reflective- and critical judgement. He underlines that these dimensions are intertwined. Practical judgement is the basis of every immediate action. The situation occurs and the teacher responds. Reflective and critical judgement involve moral and personal reflections and refer to the process the teacher often goes through after the situation is finished. Diagnostic judgement involves theoretical, profession-specific knowledge and academic expertise to recognise, describe, understand, explain and interpret the practical judgements. This is the same kind of judgement as doctors do when they make a diagnosis. Unlike teachers, doctors have some set answers based on the theory that often is missing in education. Kelchtermans (2009) argues that teachers never have a firm ground to base their decisions on. There is no absolute answer to how a reaction should be. Even when the justification for a decision can be stated, with reference to a certain idea or argument of good education in general and for this pupil here and now, that judgement and decision can always be challenged or questioned (p. 266). The fact that teachers have to respond immediately, and make decisions that have immediate consequences for many people, means that diagnostic judgement in education is more complicated than in many other professions. One way of 'unpacking' pedagogical situations and creating possibilities for the development of diagnostic judgement might be through analysing cases. Korthagen (2011) suggests that student teachers may more readily accept the value of theory-based knowledge if they are *first* confronted with the dilemmas of practice as represented in cases, and *then* engage with the theoretical ideas. Strong theory can provide other ways of understanding practice, as well as alternative and critical views (Kvernbekk 2012).

Cases

In the current study, the case is understood as a realistic narrative from classrooms and schools. The research literature provides several positive outcomes for case-based teaching (Ulvik et al. 2020). In the last decades, educationists have argued for case-based teacher education mainly due to the fact that facing dilemmas from practice can prepare the students for how to diagnose, make decisions and how to act (Heitzmann 2008; Merseth 1996; Sato and Rogers 2010; Shulman 2004). Heitzmann (2008) argues that case

study instruction should be a central component to teacher preparation programs. Case-based teaching offers many opportunities and strategies for pre-service teachers to gain insight into events that occur within schools and classrooms. This paper describes the significance and research findings that support case study methodology and its advantages for future educators. However, positive experiences with case-based teaching are also reported from other professions. Referring to business education, Puri (2020) claims that analysing cases is an interactive and participative way of learning to give students access to alternative points of view.

According to Merseth (1996), there are three main reasons for using cases in teacher education. First, to investigate complex and complicated challenges. Second, to exemplify real situations and third, for stimulation of reflection. Concerning learning outcome, Gravett, de Beer, Odendaal-Kroohn, and Merseth (2017) first mention that students turn to the perspective of a teacher. They have observed their teachers in what Lortie (1975) calls 'the apprenticeship of observation'. As observers, students often tend to oversimplify what teaching is like. Case-based teaching can provide insights into student teachers' preconceptions of teaching (Gravett et al. 2017; North and Brookes 2017) – and thereby make teacher educators able to address these preconceptions. Further, student teachers may learn to identify a problem and become aware of different perspectives that are crucial for teachers' critical thinking (Harrington 1995). According to Fougler, Ewbank, Kay, Popp and Carter (2009, p. 6), case-based approaches can be effective for constructing knowledge, developing critical knowledge skills, and recognising multiple perspectives. Case-based teaching can help student teachers to link theoretical and practical knowledge (Gravett et al. 2017). Furthermore, cases may prepare for uncertain practice and for situations that students are unlikely to meet in teacher education (North and Brookes 2017). Through analysing cases, student teachers learn to identify problems that are crucial for teachers' critical thinking. In case-based teacher education, students may also elaborate the cases themselves. Combining reading theory with writing their own cases and sharing them with their peers can help student teachers to connect research and practice (Hammerness, Darling-Hammond, and Shulman 2002). Writing about their own critical incidents may help students to learn from their experiences (Ulvik et al. 2020). Findings from Levin's study (2002) of students who wrote their cases based on critical incidents show that writing about their own dilemmas allowed students to resolve their problems, which again influenced the perception of their roles and relationships in the classroom in a positive way. The process of writing also helped the students to work through their feelings and to understand the value of reflection.

Context

The study is carried out in a course within the current teacher education program. The semester starts with a 5 weeks' theory period, then 7-weeks practicum before the students come back to the institution for a 2 weeks' preparation for their examination. The theory periods consist of, plenary lectures and work in seminar groups of approximately 20 students. The groups are mixed when it comes to disciplines. The curriculum for the first semester includes topics like class management, learning and motivation, and inclusive and intercultural education. At the end of the semester, there is a 30 minutes' oral exam based on a self-selected case.

The case-based program

Having decided to work systematically with cases throughout the semester we, as teacher educators, agreed to divide the period from the students entered teacher education until the exam into three parts:

Step 1

At the beginning of the semester, the students were introduced to cases that were thematically connected to the topics that were lectured. The cases were realistic situations often experienced by the teacher educators themselves. Here is one example:

In my class, I have pupils from many different nations; among them Natasja, and an elder brother, Gregor from Chechenia. When I was supposed to teach about love, sexuality and cohabitation the brother claimed that his sister should not participate. Of course, I could not accept it, and talked to both of them separately. Natasja told me that it was nothing she could do with this situation. Neither she nor her parents wanted Gregor to intervene, but he looked upon it as his duty to protect his sister. What should I do as a teacher in that situation?

The cases were discussed and analysed in the seminar groups with no demands for theoretical justification.

Step 2

Second, in groups of five and over a period of three seminars, the students were supposed to analyse cases, highlighted by theory. Each group got one case and received guidelines for how to work systematically. These cases were more complex and rich than the ones introduced in the beginning of the semester. First, the students were asked to analyse the problem, to single out the main challenges for the teachers, and to find alternatives. The second stage was to search for a theory that could help them to understand the problem better, and discuss the cases from different perspectives. After sharing knowledge, the group met for a new discussion before they presented their solutions for the rest of the seminar group.

Step 3

Finally, towards the end of the semester, the students individually selected a case from practicum for their oral examination. They were free to choose whatever case they wanted. Preparing for the exam, they had to write and hand in a small text singling out challenges and different perspectives and search for literature and documents that could support their arguments. Before the exam, they presented their case in the seminar group and got feedback from their seminar leader and peer students. In the following example, the student teacher has observed that some boys in her class had developed a habit of throwing out provocative answers as a response to the teacher's questions. Instead of making a confrontation, the teacher who was her mentor chose to ignore these answers. Here is an excerpt from her case presented on the exam:

The first question from the mentor to the class: 'What is a national minority and why do we call them that?' Answer from one of the boys: 'Because 6 million were killed during the war and we have to pity them'. Second question: 'How would you explain the concept *indigenous*

population? Answer: 'We are more developed than they are. They are lagging behind us. They have no medicines. We are smarter'.

After presenting the case, the student discussed and argued for alternative ways of reacting as a teacher. Based on theoretical aspects from fields like class management, democratic education and intercultural pedagogy, she argued critically for *why* and *how* she would have responded differently if she was the teacher.

Methods

Methodology

Practitioner research examines practice from inside the teacher education context and its primary intention is to understand and improve practice within a local context (Borko, Liston, and Whitcomb 2007). One of the defining features of practitioner research is the teacher educator's dual role as a practitioner and a researcher. Further, practitioner research is intentional and systematic, which means that the research should be deliberate and the information gathered systematically. One way to ensure quality is to make the work available to others for critique and response (p. 6). For us as teacher educators, it was important for the further development of our teacher education program to listen to the student teachers' voices and to learn from their experiences.

The sample

The following semester the students started a new course. Data concerning experiences with case-based teacher education the previous semester was collected in two steps during January 2020. First, a questionnaire was handed out after a plenary lecture. The total number of students in PGCE this semester was 55. The questionnaires were handed out after a lecture in pedagogy. The students were informed that it was voluntary to participate in the study and that they could put the questionnaire on a desk when they left the room – with or without an answer. Altogether 42 students chose to answer the questionnaires. Before the questionnaires were handed out, the students were asked to participate in focus-group interviews. 15 students volunteered and were contacted on email.

Step 2 was a follow-up conversation with focus-groups. The 15 informants were divided into three groups of five students. One student had to change group, so the final numbers became four, six and five students in each group; 10 women and five men. The students represented different subjects, all with a master degree.

Methods

To 'map the terrain,' we asked the students to answer the open-ended questionnaire. The only question was: 'Why or why not should teacher education be case-based?' The questionnaires were anonymous. The students were encouraged to write as many arguments as possible.

The focus group conversations were conducted by two of the three researchers in the locations of teacher education and lasted for approximately 1 h. In line with Kitzinger and Barbour (2001), the method is especially suited to examine experiences, attitudes and

beliefs. In focus group conversations (Parker and Tritter 2006; Liamputtong 2011), it is recommended to bring together people with shared experiences who can exchange ideas in naturally-occurring groups (Kitzinger and Barbour 2001).

Consequently, the conversations started with the moderator/researcher prompting the students to talk about their experiences from the case-based education the previous semester. We told about the main arguments from the questionnaire and asked the students to elaborate on these answers in the conversation. Specifically, we drew their attention to the arguments that cases contributed to link theory and practice, and to the stepwise way of organising our teacher education and asked them to go more thoroughly into these topics. The moderators followed up the responses with sub-questions to clarify, further pursue, and understand the utterances. All the student teachers were actively engaged in the conversations, asking each other questions and following up on each other's utterances. Thus, the conversations resembled what Brinkman (2007) calls epistemic interviewing, which means that the participants are dialectically engaged in examining a topic. The aim is to gain knowledge in a normative–epistemic sense. As teacher educators, we knew the context and were genuinely interested in learning from the student teachers' experiences; a fact that made it easier for us to ask follow-up questions.

Analysis

The idea of the questionnaire was to give an overview of what reasons the students would give *for* or *against* case-based education. Further, we wanted to use the answers as a foundation for the focus-group conversations. The answers were analysed by two of the researchers. None of the respondents argued against case-based teacher education. Three main themes approached from the students' arguments for why teacher education should be case-based (Table 1):

Table 1. Main categories.

Categories	Answers
Cases show that every situation is unique	35
Cases link theory and practice	29
Cases can be interpreted in different ways	19

Concerning the focus-group conversations, a matrix based on a thematic data-driven analysis of the interviews was made (Braun and Clarke 2006). This part of the analysis was descriptive to give an overview of the data. Further, in line with Hatch (2002), data were analysed using an interpretative approach. We read and reread the data to get a sense of the whole, wrote memos, and coded places where our interpretations were either supported or challenged. For each step, we first conducted the analysis separately, then together. We did not use a predetermined system of codes and categories for the analysis but conducted an inductive and data-driven thematic analysis (Braun and Clarke 2006). The three authors first interpreted the qualitative statements individually. Each author selected crucial themes. The themes were compared and discussed in a moderation process. There was a high level of reciprocal understanding for using the same three categories as we developed from the questionnaire. Finally, we selected quotes that

illustrated our common analysis. A hermeneutic understanding, which is a matter of trying to understand the whole while at the same time reconsidering that whole, inspired the process (Gadamer 2004/1975).

Ethical considerations

The study was approved in line with guidelines from the Norwegian Centre for Research Data. The self-selected informants received information about the project and gave their oral informed consent to participate. They were informed that their responses would be handled confidentially and that they could withdraw from the project at any time. As moderators of the conversation, the students knew us as teacher educators; a fact that may be a force as well as a weakness with the study. We are the teacher educators and they may want to please us. As Kvale (2005, 2006) reminds us, it is easy for the teacher in ordinary education, as well as for researchers in the interview situation, to forget the difference in power, a fact that is often experienced quite differently by interviewer and interviewees. In our case, the conversations were in groups which means that the process was more open for assessment than in an individual interview. Additionally, being aware of Kvale's arguments we were two researchers present during the conversations and also in the process of analysis. The fact that the students may want to please us is present. However, the first author of this article was in a sabbatical when data were collected and no longer the students' teacher. Besides, the students knew that case-based teacher education was a new experience for the institution and that we wanted honest feedback from students to learn from it.

Findings

In our research question, we asked what we as teacher educators could learn from the student teachers' experiences. In the following, we will present their arguments for why teacher education should be case-based.

Every situation is unique

The students agree that during the first period when they discussed cases they realised that every situation is unique in education. This knowledge made them more prepared for the classroom. Particularly, those students who had not practiced as teachers. They realised that it is impossible to be prepared for all kinds of situations. As a student teacher without experience from the classroom, you may imagine that if you are well prepared, you have only yourself to blame if your plans fail. One student says that he realised that he had a naïve and unrealistic expectation to practicum. He thought that the point was to make a good plan and to be well prepared. Analysing different cases gave the students a more realistic attitude:

I think you have an unrealistic attitude to teaching as a student. Discussing cases before practicum, made us realize that all kinds of situations can occur. Earlier I thought I should make plans, try them out and see what worked. Now I really understand the influence of the context.

The students agree that analysing cases helped them to understand that in practicum almost everything can happen. Teachers can control their plans, but they have to be open-minded to what happens when the lesson occurs.

Link theory and practice

The students give many different reasons for why theory becomes relevant when it works as a tool for analysis of cases. Reading about behaviourism and cognitive theory was meaningful when the students could relate to different cases. They also claim that theoretical perspectives provide them with a language, making it possible for them to discuss their experiences with others:

I am glad that I have gained a language. Now I am able to speak about different problems in a discussion.

Another student says that when she asked her mentors in practicum why they acted as they did, it was a support for her that she knew the pedagogical concepts they used. Theory supported the students with a meta-language and made it possible to speak the same language as the mentor. A student of natural science argues:

In pedagogy it may be difficult to understand what is theory and what is common sense. It is different from my subject where I can read the theory and know what I am going to understand. When you use theory in cases, then you realize how to use it. It becomes relevant.

Another argument for why cases contribute to linking theory and practice, but also why it is challenging, is that the students had to search for theoretical perspectives that were relevant for understanding what was going on. The theories described in books and articles do not necessarily suit the situation the student experience in the case. One student says:

One thing that was difficult was to “limit” the theories. I wondered how I could use motivation theory, and theories related to class-management, and I found it challenging.

The students also argue that different ways of understanding the case lead to different theoretical perspectives. Theoretical perspectives gave them a language for understanding what happened. When they discussed a case with their peer-students and realised that they had different ways of understanding the situations, they also had to search for theoretical arguments:

We identified the challenges differently, and I found it useful to see different perspectives. And gradually, we learned how to give theoretical reasons for our arguments and choices. I found that useful.

Finally, theoretical perspectives help the students to gain a deeper understanding of why things happen. Working systematically with analysing cases highlighted by theory has contributed to a deeper understanding of reasons:

Theory gives you a deeper understanding of what you do and why you do it and that there are other ways of doing it and think how you may obtain it. Cognitively, I think it is very important to have theoretical perspectives as a support. Why you choose to do it the way you do.

The students claim that the systematic way of analysing a case highlighted by theory is a tool they can bring with them into new situations. One student says that when he tried to use a music video in one class, and it did not work, he thought that it was not necessarily his fault. It did not work in this class. However, it may work in another situation

depending on the conditions and the context. When things do not work, you know how to search for literature about it and understand what actually happened, according to this student.

Cases can be interpreted in different ways

All the students agree that one of the most important benefits from case-based teacher education is that there are various ways of interpreting a case. The three steps in which the case-based education was organised, helped them to realise how different the interpretation can be, and consequently how different the actions and the solutions become.

In step 1, when the students first were asked to analyse the case individually and then in groups with no demands for theoretical justification, they realised that there were many ways of understanding the same situation:

I thought it was interesting, because I realized in how many different ways we identified the main issues. The same case that you normally have to handle immediately, and then we had identified different ways of understanding the main points. We saw it differently, and I thought it was useful to see different perspectives.

The students also realised that when a case can be interpreted differently, the response will differ. Discussing more or less on the common sense level, the cases illustrated the multitude of situations that can occur. One student says:

I remember when we started with the cases. We were supposed to discuss cases in groups with different students. I thought it was interesting, because then I realized how different situations possibly can occur.

The students also realised that there is seldom *one* correct answer to how to respond. Discussing the cases with their peer-students made them aware that it was possible to interpret every situation differently. If the situation was interpreted differently, the diagnosis and the response would differ as well:

It is a good introduction to the study. You become aware of how many possible solutions there are. You can discuss with others, listen to them and suggest your own solutions.

Students claim that when they came from theory-based master-studies and directly to teacher education with no experience from practice, the different perspectives helped to prepare them for different situations that might possibly occur.

Concerning the group-work in step 2 one student says:

It was a fantastic way to combine different ways of understanding theoretical perspectives, combine it with your own interpretation and compare We were five or six in the groups and you realize how little you are able to see yourself, or you see something. But it was so useful to have the others there.

The possibilities to work together in groups following a procedure for how to collaborate and add theoretical perspectives to the cases seem to be important for an increased understanding of how different one case may be interpreted. Apparently, the time-aspect was important:

We had the possibility to discuss the case in the canteen with our peers. Later, when we were at home we could work on the ideas. Then afterwards we got more time for collaborative reflection.

Collaboration, feedback from peers and theoretical perspectives has contributed to the students' self-confidence in the sense that they have learned that even if situations are difficult to handle, they can always seek to understand what happened, why it happened and have the possibility to discuss the incident with others. However, they are aware of the fact that the peer-support they have experienced as students is not necessarily the reality they meet outside campus. Some students were lucky and met mentors in schools who were interested in discussing cases, others not.

Selecting a case for their exam was step 3 for the students. Based on step 1 and 2, they had some experiences and were supposed to know what a case actually was. However, some of the students claim that it was difficult. The main reason is that in their imagination a case had to be dramatic:

I thought nothing special happened to me that was worth discussing in a case. No pupils broke the windows or were drunk . . . all the classes I had were nice and quiet, so I chose the case where I discussed how to get the pupils more active.

The students disagree on this point and another student says that for her it was never a problem to understand that a case could be a normal situation in the classroom. What they agree upon, on the other hand, is that it was motivating to work on the self-selected case for their exam:

I think it is motivating to select a case on your own. You see something and you get an ownership to it. It becomes pleasurable . . . and it is useful to search for theory, but it is demanding.

The main reason is that they got an ownership to the case and got the possibility to dig deeper into different perspectives. Before the exam, they got feedback from their peers and new perspectives appeared. Finally, the students claim that selecting and analysing cases has taught them to be open-minded for reflection on who they are as teachers:

What is exciting with cases is that you learn to be open for reflection. It is not about *them*, it is about *me* and how I meet the different situations. I have learned to be open-minded. Working with the case has made me think: "Who are you actually as a teacher?"

The students claim that when a problematic situation occurs, the procedure for analysing cases has taught them to look at the situation and systematically analyse it, instead of necessarily blaming themselves: Through analysing cases, the students have learned to single out what the problem is, and how to seek information and see the situation from different perspectives. Based on theoretical argumentation it is possible to discuss why it worked or why not.

Concerning organisation through three steps, the students claim that it was important to start on a common-sense level in the first step before they were supposed to work more systematically in step two and three.

Discussion

Using a practitioner research informed study design (Borko, Liston, and Whitcomb 2007), we wanted to investigate what we as teacher educators could learn from student teachers' experiences with case-based teacher education. Consequently, we started with an open question to the students asking why or why not teacher education should be case-based. Contrary to the feedback we were used to when the students told us about the gap between theory and practice, these answers ensured us that cases could contribute to understanding that every situation is unique that cases contribute to link theory and practice and finally that cases can be interpreted from different perspectives.

A case is in this study defined as a realistic narrative from classrooms and schools. The narrative describes the context. In line with the situated perspective on learning, the activities that take place are integral parts of the learning context (Greeno 1997). Consequently, every situation is unique and has to be handled differently based on professional judgement; reflection, interpretation, opinion and wisdom (Tripp 2012).

The students claim that theory becomes relevant when it highlights and adds new perspectives to what happens in the case. Theoretical aspects are useful as a tool for analysis and understanding of the situation. However, the students have to search for parts of the theory that is meaningful for understanding the entirety. The students argue that theoretical perspectives are relevant and necessary, but the theories described in books and articles did not necessarily suit the situation in the case (Kvernbekk 2012). According to the students, they had to 'limit' and adjust the theoretical aspects to their specific case. One reason may be the 'theory-theory gap' based on the fact that theory in teacher education is generated from other scientific disciplines making it impossible to apply directly to a situation in practice (Korthagen 2010; Tripp 2012). Another reason may be that abstract and decontextualised theory have to be re-contextualised, and this transformation process is difficult and complex (Hermansen and Mausethagen 2016). Another finding from this study is that admission to theoretical perspectives and concepts give the students a language that makes it possible for them to discuss different perspectives with peer-students and mentors and to understand *why*.

The step-wise way of introducing the student teachers to case-based teaching seems to make them more prepared for the complexity of teaching. First, by changing the perspective from student to teacher and in the following step to spend time on analysing the complex situations highlighted by theory. As students they had spent years as apprentices of observation (Lortie 1975), but not from the perspective as teachers (Gravett et al. 2017). In step 1, different examples from episodes that could take place in teaching made them aware of the fact that every situation is unique. Approaching practicum with that kind of knowledge as luggage means that it is less relevant to ask for 'bags of teaching tricks'. On the other hand, the students seem to have learned that when every situation is unique, you should not necessarily blame yourself as a teacher if things go wrong, but rather analyse the situation and look for alternatives. Step 2 is the period when the students learn how to make a diagnosis. The concept 'making a diagnosis' is more familiar in the field of medicine. Doctors meet their patients, listen to the problems they describe and search for previous experiences and theoretical explanations to make a diagnosis. The professional judgement they finally make is rooted on reflection, interpretation, opinion and wisdom according to Tripp (2012). However, Tripp claims that what

teachers do, is exactly the same, but what makes teaching so complex while it looks easy for others, is that the situations are complex, the diagnosis has to be set immediately, and the response from the teacher has consequences for many people. Teacher education is probably the only period in the student teachers' professional career when it is possible to spend a lot of time on analysing cases and making the diagnosis. Supported by theoretical perspectives and feedback from peer-students and teacher educators, the student teachers in this study get the possibility to make diagnostic judgements. The moral and reflective judgement that teachers go through after a situation has occurred is often an individual process. Kelchtermans (2009) is concerned with newly qualified teachers' vulnerability and uncertainty. One of the reasons for the vulnerability mentioned by Kelchtermans is the lack of a ground to base their decisions on. Having spent time on diagnostic judgement may prepare the students for the situations they will meet where there are no fixed answers. Teachers are alone and have little or no time for moral reflections with peers. The students in this study are concerned with the fact that the possibilities to discuss with peers are not necessarily the normal situation in schools. Finally, in step 3 the students selected their own case based on experiences from practicum. Instead of responding to the teacher educators' pre-selected questions, the students could build conceptual knowledge from the 'inside out' (Strangeways and Papatraianou 2016) rooted in lived and observed experiences of the professional context.

Conclusion/Implication

The study aimed to investigate if case-based teaching can contribute to reducing the perceived gap in teacher education. This study shows that it seems to have a great potential. The step-wise way of introducing the student teachers to case-based work seems to make them more prepared for the complexity of teaching. First, by changing the perspective from student to teacher and in the following step to spend time on analysing the complex situations highlighted by theory, and finally to prepare a case for presentation in the exam. In line with many other teacher education programs, ours was built on the premise that student teachers should learn *'that'* in the university and be able to bring the knowledge to the practice-field and transform it into knowing *'how'*. However, continuing, critique from our students told us that it did not work due to the complexity of the practicum. Due to the complexity, there is no one correct theory that can be applied. If learning and knowing is an individual property, it should be possible to give student teacher recipes for how to handle new situations. If, on the other hand, learning is situated, the complexity of teaching and learning is taken into account. A situated perspective on learning is based on the assumption that learning is an integral part of the context, and consequently, de-contextualised knowledge is problematic. Every situation that occurs in a classroom is unique, and the development of diagnostic and critical judgement has to be based on the analysis of authentic situations from practicum.

In teacher education, it is possible to spend time on the diagnostic judgement. Analysing cases gives student teachers a possibility to reflect upon authentic situations and discuss different ways of making the diagnosis. They are able to spend time searching for literature and make the diagnosis in cases they have not experienced themselves. As

teacher educators, we have learned that it is crucial for student teachers to spend time on diagnostic and reflective judgement as student teachers.

A challenge and a critique against case-based education may be that it collides with the qualification framework and its pre-described learning outcomes (Gallavara et al. 2008). Additionally, a critique may be raised against us as teacher educators that we lose control with the students' learning outcome when they select and analyse cases. Our answer is that the idea of pre-described learning outcome for student teachers is based on a cognitive perspective on learning, while in this article we have argued for the situated perspective due to the complexity of teaching.

Further research is necessary to see if case-based teacher education works as a foundation for further development of professional judgement in the transition from student to teacher.

Disclosure statement

No potential conflict of interest was reported by the authors.

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