An alternative collaborative supervision practice between university-based teachers and school-based teachers

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There is an increased focus in teacher education on research-based teaching as a means to develop a more research-based professional knowledge. However, research from several Western countries shows that neither school-based nor university-based teachers are familiar with how to integrate research-based knowledge in professional teacher practice. Third-space collaborative partnership models between university-based and school-based teachers, who share responsibility for student teachers' learning, have been promising. However, research shows the implications of partnerships as being unbalanced; the university retains control over the definition and delivery of knowledge, and most activities take place on campus. This action research study focuses on how adaptive joint supervision between school-based and university-based teachers is carried out with regard to student teachers' action learning projects. This process initiated mutual learning and understanding of research-based knowledge between the participants in a non-hierarchal, authentic partnership. The present study shows how this can become a supervision model for developing partnerships and mutual understanding of research-based knowledge between universities and schools, in respect of student teachers' professional development.

Introduction

For many years in teacher education, an increased focus on research-based teaching as a means to develop a more research-based professional practice, without omitting experience-based knowledge, has been highly prominent. This focus is emphasised through political reforms and legitimated by research (Ministry of Education and Research, 2009; Westbury et al., 2005; Putnam & Borko, 2000). However, neither school-based nor university-based teachers are familiar with how to integrate research-based knowledge into practice (Grossmann, Hammerness & McDonald, 2009; Zeichner, 2010). Grossmann et al. (2009) claimed that a solution for integrating research-based knowledge into practice is to shift the focus in teacher education, from a curriculum historically organised by knowledge domains, to one organised around the practices of the profession. The purpose of this study is to explore the collaborative relationship between schools and universities in teacher education. Our call for an enhanced partnership in teacher education is based on the belief that learning to teach should be a joint venture between the university campus and the schools, and that student teachers need qualified professionals to help them navigate the different settings (Mtika, Robson & Fitzpatrick, 2014; Cornelissen, Daly, Liou, van Swet, Beijaard & Bergen, 2014). The goal of this study lies in the multilateral relationship between the student teacher, school-based teacher, and university-based teacher, with regard to supervision of student teachers' Bachelor projects, conducted in school practice.

Context

In August 2010, a pilot for a new teacher education program began in Norway. The courses were changed from four-year bachelor degree programs for students becoming teachers in grades 1-10, to five-year masters degree programs for students training for grades 1-7 and 5-10 in primary and secondary schools. The new programs were developed for several reasons. Feedback from international and national surveys, starting in the early 2000s, indicated pupils' relatively low performance in central subjects; the media and the government concluded that Norwegian teachers were accountable for the results (Mausethagen, 2015; Sjøberg in Rørvik et al., 2014). In addition, The Norwegian Agency for Quality Assurance in Education, NOKUT, had completed a thorough evaluation of existing teacher education programs in Norway, concluding that, from the student teachers' perspective, there was a lack of coherence between the theoretical and practical aspects of their education. Research clearly described a pattern, in which Norwegian teacher education programs struggled to combine theoretical and practical aspects of education (Norwegian Agency for Quality Assurance in Education, 2006). Research was regarded as a solution to strengthen teacher education (Norwegian Agency for Quality Assurance in Education, 2012). NOKUT's advice was sought for the pilot, and research-based knowledge was highlighted as an important feature in increasing the length of education from four to five years (Pilot in the North, 2008). Several reforms of Norwegian teacher education to develop the teaching profession have been promoted since 2000. One focus has been on teachers' knowledge base and professional development (Mausethagen, 2015). This led, in June 2014, to the Ministry of Education and Research's permanent decision that, from 2017, all teacher education in Norway should be changed to five-year master's programs (Ministry of Education and Research, 2014).

University schools

As part of the pilot, a parallel project for securing the connection between the theoretical- and practical aspects of education was developed, named "University Schools". The University School concept builds on the idea of mutual recognition and an obligation to conduct collaborative practice between schools receiving this status and teacher education carried out at the university and in the local municipality. The teacher education program has set certain criteria for becoming a University School, and schools have received that status through an application process. The University Schools commit to becoming a practice arena for student teachers and to involving students in R&D-based knowledge, both in general and in projects initiated by the university. On the university's behalf, there is a commitment to developing expertise in University Schools by means of sharing research knowledge and to providing courses for school-based teachers to become advanced mentors, supervising student teachers' research projects (UiT-The Arctic University of Norway, 2014). The purpose of connecting research-based knowledge with teacher education is to secure up-to-date education. The aim of teacher education is for the student teacher to develop an understanding of research-based knowledge through different research approaches, and, thereby, to give them a better basis for continuing updating their professional knowledge after their education (Norwegian Association of

Higher Education Institutions (UHR), 2015). In the five-year teacher education program, student teachers will be introduced to research and become familiar with it by participating in different research projects in schools. Smaller research projects are performed in the first and second years of the five-year program; however, the first large research task is the student teachers' bachelor project.

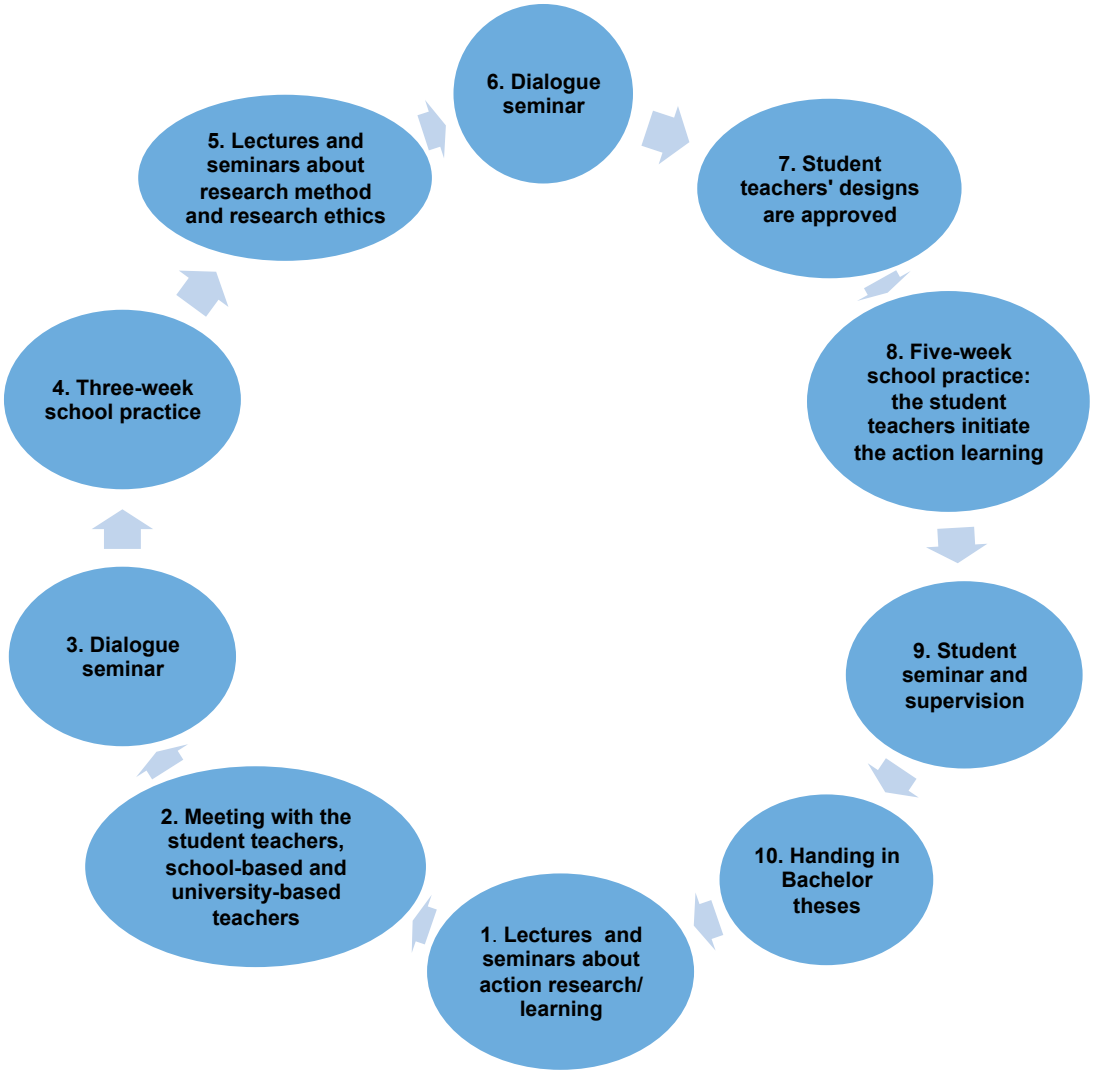
Bachelor theses and action learning

As part of the bachelor projects, student teachers were required to use an action learning approach to collect data for their theses. Pedler's (1991) definition of action learning is often referenced: "the method has three main components – people, who accept the responsibility for taking action on a particular issue; problems or the tasks that people set themselves; and a set of six or so colleagues who support and challenge each other to make progress on problems" (Pedler, 1991, p. xxii-xxiii). Action learning involves a variety of action research (Tiller, 2006) and builds on the idea of a process of student teachers systematically trying out new ideas and new knowledge in partnership with experienced school-based and university-based teachers (Tiller, 2006). The idea behind this is that, as student teachers work on their theses and collect empirical material and write, they will integrate theory and practice in a more effective way than had previous been the case (UiT-The Arctic University of Norway, 2014). Action learning can be defined as a continuing process of learning and reflection, supported by colleagues with the aim of addressing a mutual challenge between the participants (Revans, 2011; Tiller, 2006, p. 52). According to Tiller (2006), when utilising action learning in teacher education, the aim is for student teachers and school-based teachers to reflect on the process, and for school-based teachers to be open to improving their own practice (Tiller, 2006; Postholm & Moen, 2011). Action learning can be defined as teachers' knowledge of the profession: what they know and what they know works in practice, often with a scientific foundation, which moves beyond personal experience and tacit knowledge (Plauborg, Andersen & Bayer, 2007).

Organising the bachelor year

In organising the bachelor year, which runs from the end of August to May, meeting points for student teachers, school-based and university-based teachers were important for all involved, in the supervision process. These meeting-points were locally developed and named "dialogue seminars" (Rørnes, 2013). Dialogue seminars are closely connected with dialogue conferences and World Café (Thunberg, 2011), which are dialogue-based action research methods (Leirvik, 2005). For this study, dialogue seminars became important for collecting data. A model of the bachelor year, including dialogue seminars, is illustrated in Model 1.

From the end of August until December, the student teacher is introduced to different research strategies (step 1). The focus is on action research and action learning. During the first semester, and right before the first school practice, a meeting is arranged to clarify all the practical aspects concerned with accomplishing the bachelor project (2). Step 3



Model 1: Bachelor year for student teachers 1-7 and 5-10
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illustrates the first dialogue seminar, which thematically focuses on action learning and research partnerships. Step 4 points to the student teachers' first school practice, where they should find possible options for their projects. When the student teachers return to campus, lectures and seminars on research and research ethics are held (5). The second dialogue seminar (6) is arranged just before the second school practice; this takes place in the second semester, which runs from January to mid-June. In this dialogue seminar (6), the supervisory teachers, both university- and school-based, are teamed with student teachers. The student-teachers' project is approved by both supervisors (7) before the

second school practice, in which the action learning is to be carried out (8). When student teachers return to campus, supervision of their thesis by university-based teachers continues (9).

Collaboration in teacher education

Although most teacher education programs now organise the curriculum around multiple practical experiences in some type of school-university partnership, Zeichner (2010) emphasised that there is a great disconnect between what student teachers are taught in campus courses and the opportunities for enacting this in school practice (Zeichner, 2010, p.91). However, research into collaborative partnership models between university-based and school-based teachers, who share responsibility for the student teachers' learning, has been promising (Allen, Howells & Radford, 2013; Darling-Hammond, 2006; Bier et al., 2012). Collaboration between university-based and school-based teachers can trigger enthusiasm, involvement and participation, which, in turn, can benefit the true value, neutrality and, to some extent, the applicability of the research (Bronkhorst, Meijer, Koster, Akkermann & Vermunt, 2013). Research into networking and partnerships often concentrates on the collaboration between university-based and school-based teachers for the purpose of strengthening the professional learning of student teachers (Allen et al., 2013; Darling-Hammond, 2006; Bier et al., 2012), or between school leaders and the university (Hakkarainen, Palonen, Paavola & Lehtinen, 2004).

However, Mtika et al.'s (2014) critical review of various partnership models in higher education showed the implications of unbalanced partnerships: the university retains control over the definition and delivery of knowledge, and most activities take place on campus. They emphasised that effective collaborative partnership approaches value the joint sharing of understanding between university-based and school-based teachers; and they suggested that bringing school- and university-based teachers more closely together in non-hierarchical authentic partnerships has the potential to narrow the perceived disconnect between school and university, whilst directly supporting student teaching (Mtika et al., 2014, p. 67). Similarly, Hesjedal, Hetland and Iversen's (2015) research, which addressed facilitators for successful inter-professional collaboration between social workers and teachers, found that good communication, based on mutual language and common understanding, respect for each other's knowledge, and agreement on the mutual work process are important factors for success (Hesjedal et al,. 2015). Others have focused on collaborations where student teachers are involved in partnerships with teacher educators (Smith & Sela, 2005; Mtika et al., 2014) and, even more specifically, 'third-space' collaborative processes (Zeichner, 2010; Arhar et al., 2013; Taylor, Klein & Abrams, 2014).

Third space collaborative practices

Zeichner (2010) suggested the use of third space theory to link school-based and university-based teachers for the development of relationships which valued both school and university knowledge in a more synergetic way. 'Third space' is a metaphor for

meeting places or border-crossing activities where practice and academic knowledge meet (Lillejord & Børte, 2014). The 'third space' concept comes from Bhabha's (1990) hybridity theory, in which he argued that individuals draw on multiple discourses when they clarify the world for themselves and, further, construct knowledge. Bhabha emphasised that cultural differences mark the establishment of new forms of meaning and strategies of identification, through processes of negation, where no discursive authority can be established without revealing the difference of itself (Bhabha, 1990, p. 313). According to Bhabha (1990), differences in cultures cannot be accommodated within a universalistic framework. The differences in and between cultures are very often understood amongst the individuals themselves as incommensurable, impossible to measure or compare. For Bhabha, the importance of hybridity is not to be able to trace two original moments from which the third emerges. Rather, to him, hybridity is the 'third space', which enables other positions to emerge: "This third space displaces the histories that constitute it, and sets up new structures of authority, new political initiatives, which are inadequately understood through received wisdom" (Bhabha, 1990, p. 211). A third space is not a static place or a complete project; it is a continual construction and a utopian prospect that is never fully achieved. According to Klein, Taylor, Onore, Strom, and Abrams (2013), those who engage in a third space must come to an awareness of current realities and future possibilities, simultaneously.

However, Korthagen, Loughran and Russell (2006) pointed to the complexity and relational nature of collaboration in the third space, by suggesting that teacher educators working in this space must face simultaneous perspectives: "The perspective of the individual learning to teach, the perspective of the teacher in a school, and the perspective of the teacher educator in the university setting" (Korthagen et al., 2006 p. 1034). Taylor et al. (2014) explored the role of supervisors in a third space context to better understand how the universities could support teacher educators in these contexts. It is not enough to turn to the school-based teachers and announce that they are now teacher educators and are to act as supervisors. Many are frustrated by the lack of instruction from the faculty, wanting clearer roles, more defined and discrete tasks, and top-down professional development (Taylor et al., 2014, p. 6).

The idea of a 'third space' in this study refers to a process based on closer collaboration between school-based- university-based- and student teachers in a research partnership, with regard to supervising the student teachers' integration of research-based knowledge into their school practice. However, in any supervision practice there is a fine line between giving room for the student teachers' idea and not intervening too much. Early clarification of the student teachers being in charge of leading the research, and adaptivity in supervision towards their project, became important for student teachers' research autonomy.

Adaptive supervision practices

Teacher adaptivity has long been recognised as a component for effective teaching, empowering teachers to modify information for students. Vaughn (2015) claimed that

adaptive teachers are considered visionary and effective in their teaching and apply a flexible approach to instruction as they build upon students' interests and inquiries (Vaughn, 2015). In an adaptive supervision process, supervisors aim to adjust their approach to the needs of individual students (Anderson, Day & McLaughlin, 2006) and in order that the student teachers reach their goal (de Kleijn, Meijer, Berkelmans & Pilot, 2015). Recently, de Kleijn et al. (2015) explored how supervisors adapt their research supervision practices to the specific needs of students by diagnosing student characteristics and providing adaptive support. They suggested that adaptivity is a way of increasing the goal-relatedness and therefore the effectiveness of supervision.

In the present study, an adaptive supervision model was developed to follow up the student teachers' process of archiving their bachelor theses. The process also gave an opportunity for student teachers to develop research-based knowledge. Adaptive supervision involves supervisors not always being prepared with the correct 'answers' for the student teachers in the moment of supervision, since, as adaptive supervisors, they act together with the student teachers in the situation. This, unarguably, gives student teachers an authentic picture of what fieldwork is all about in research. As researchers, we do not necessarily have all the answers right there and then in the situation.

Based on the discussion of partnerships in third space collaboration practices and of supervision processes, the goal for this study is to explore collaborative relationships between schools and universities. The three research questions are:

1. How can adaptive joint supervision be organised between university-based and school-based teachers on student teachers' bachelor projects, in non-hierarchical authentic partnerships?
2. How can adaptive joint supervision practice contribute to creating an environment for understanding research-based knowledge in teacher education programs?
3. How can adaptive joint supervision practice take into account student teachers' research autonomy?

Methodology

Method and participants

Over two years of participation in the bachelor process, the empirical material was collected from dialogue seminars, joint supervision meetings, and student teachers' bachelor theses; in addition, a research log was kept for the study. Seminars and meetings were voice-recorded, and the recording was transcribed at full length in the original language. Overall, three groups of student teachers, in total eight student teachers, three school-based teachers, and two university-based teachers were involved in the joint supervision project in the first year. In the second year of the model's development, three student teachers and one school-based teacher were involved.

Research ethics and the role of the researcher

The data for the project was collected according to the rules drawn up by the NSD-Norwegian Centre for Research Data. The participants had the right to withdraw their participation from the project, and permission was sought for publication of all included quotations.

In the dialogue seminars and supervision meetings, I had a dual role as a researcher and university-based teacher representing pedagogy. This involved supervising student teachers in their bachelor projects. At the beginning of the group sessions, I presented the research idea and explained the purpose of participating in the group. The double role as researcher and university-based teacher was important for gaining entry into the field.

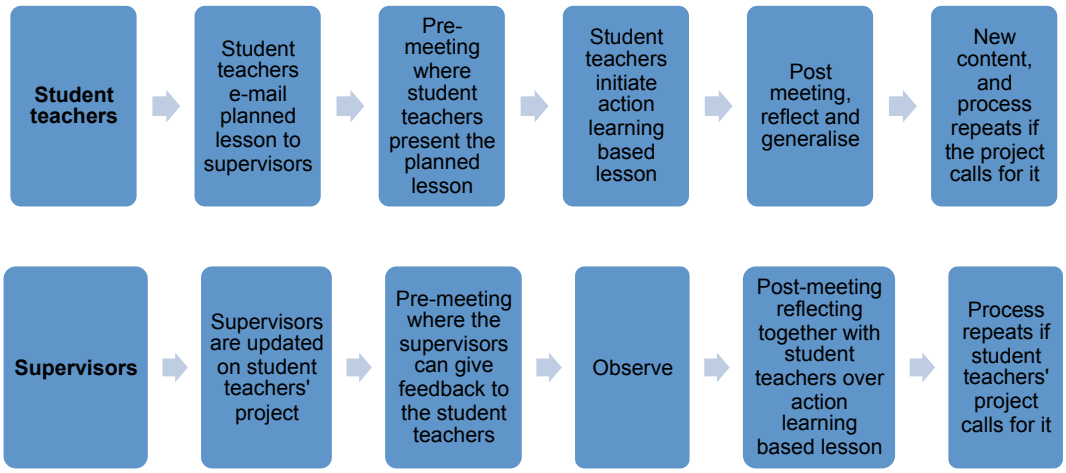
The joint supervision project

The joint supervision project was in the second year planned with the idea that participating should not be more time-consuming than the already planned economic resources for supervision of the student teachers' bachelor projects. For the university-based teachers, eight hours were allocated for supervision, with a minimum of 16 hours available for joint supervision projects. Each dialogue seminar had a time span of from four to six hours. Each group session was set to last approximately 90 minutes, and, for joint supervision meetings located in schools, approximately eight hours, divided on two meetings, were spent on each group. Altogether, approximately 14 out of 16 hours recommended were spent on the groups of three student teachers.

Procedure

By design, the first meeting occurred at the first dialogue seminar (Model 1). I ensured that groups of student teachers and school-based teachers spent time getting to know each other in smaller group sessions. Afterwards, in student teachers' first school practice, school-based teachers had the main responsibility for supervision. In this school practice, student teachers developed their research ideas concerning the framework for their projects, which they had already presented to us in the first meeting.

In the second dialogue seminar (Model 1), after the student teachers had elaborated on the project and developed a new project design, we isolated strategic meeting points for supervision for the student teachers' project. In this study, a variant of lesson study, which is a form of teacher-led professional development (Danielsen, 2013; Puchner & Taylor, 2006), starting to become well-known in teacher education, was carried out within schools and in the classroom linked to the joint supervision. A model of how the supervision meetings were conducted can be illustrated thus:



Model 2: Joint supervision of Bachelor thesis meetings inspired by lesson study
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Inspired by how lesson study is organised (Munthe, Helgevold & Bjuland, 2015), there was a pre-meeting (see Model 2) ahead of the planned action, in which student teachers explained to the supervisors their step-by-step plans for the lesson. It is important to mention that, ahead of this pre-meeting, student teachers had already emailed the planned lesson in the supervision document, which will be described in more detail in the section entitled "The supervision document". In the next step (Model 2), the university-based and school-based teachers observed the action learning based lesson; the lesson was then carefully discussed, and, based on reflections from the pre- and post-meetings, student teachers planned the next action learning lesson. After the lesson, a meeting was held (Model 2) to plan the next step in the project, in order to repeat the process. As previously mentioned, an important feature in the project was what we chose to name the 'supervision document'.

The supervision document

Student teachers emailed supervisors a document, in which the lesson's framework, plan, and purpose were carefully detailed. Student and school-based teachers were already familiar with the format of this document from year one, since it is the formal document used by student teachers to plan classroom lessons and obtain feedback from school-based teachers in all their practical placement terms throughout the five-year program (Model 3).

The document is structured in three categories, primarily for the student teacher to plan a classroom activity, but it also includes sections for reflection after the planned activity and for feedback from the school-based teacher on the content. In this study, two of the same documents were held; only one, which is of importance for this study, focused on the

Planned lesson	Reflection	Feedback
A description of the lesson linked to the national curriculum, assessment goals, and general goals for the lesson.	Student teachers' reflection on the particular lesson.	Supervisors' feedback on how the lesson went.

Model 3: Model of the supervision document
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Bachelor project. This document was presented and discussed at the pre-meeting before the lesson (Model 2). Student teachers did not need to update supervisors or reiterate the research idea, since supervisors had already received a copy of the document in an email, ahead of the meeting. While supervisors were observing the planned actions in the classroom, they were participating as researchers for the student teachers' project. In the post-supervision meeting, we all shared observation notes and reflected together on the next step in the student teachers' project.

Analysing the data

The empirical material was systematically organised and analysed according to methods more commonly used in analysing qualitative material from focus groups (Halkier, 2010). This involves grouping text excerpts into categories that are thematically connected. Important categories for the study became *adaptive collaboration*, *student teachers in charge of research* and *school-based teacher participation*. Then, the analysing processes were continued by further coding the material. In analysing material from focus groups, the coding eventually conceptualises the material, often by theorising it (Halkier, 2010, p. 88). Later, when the joint supervision project was developed, each variable was conceptualised into *student teachers' conception of research*, *student teachers' autonomy* and *school-based teachers' perception of joint supervision*.

Findings

This study's aim was to examine how adaptive joint supervision between university-based and school-based teachers on student teachers' bachelor projects can be organised in non-hierarchical authentic partnerships; how adaptive joint supervision practice can contribute to creating an environment for understanding research-based knowledge; and how adaptive supervision can take into account student teachers' autonomy. The findings answer the research questions, and the presentation of the findings is organised in two parts: firstly, the experience concerning joint supervision from the perspective of supervisors and student teachers, and secondly, student teachers' conception of research when attending an adaptive joint supervision practice.

University-based teachers' perspective

Organising, together with school-based teachers, the supervision of students' bachelor projects afforded me a unique opportunity to collaborate with school-based colleagues.

From previous experience, much supervisory time was spent on student teachers' clarification of what had actually happened with regard to their action learning project, as, unsurprisingly, their projects had changed since our conversation about the project outline in the first dialogue seminar. The joint supervision document, participation through joint observation with school-based teachers, planned lessons, and supervision meetings gave a good insight into student teachers' projects.

A risk of being this closely involved arises if supervisors are not aware of the power structure (Mtika et al., 2014); supervisors might interfere too much and take over the student teachers' project. As mentioned in the introduction, the idea of adaptive supervision is to adjust the approach to the needs of individual students (Anderson et al., 2006). However, there is a fine line in any supervision practice between not intervening too much and giving advice from your own preference, rather than following the student's ideas. To avoid this, the school-based teacher and I discussed the matter thoroughly in smaller group sessions at the first dialogue seminar and agreed that student teachers were responsible for leading the project. Our role as supervisors would be to be part of the research team, when it came to observation in the classroom actions, and to join in the reflection, but student teachers had to be the ones advancing the action learning project. As student teachers were also developing their projects in the supervision documents, it was reassuring for us that they took the responsibility, since they made their own conclusions about the project as it was developing. It is important to add that, as supervisors, we only had partial access to the main document, since we concentrated the supervision on the lessons the student teachers had planned ahead and sent to us; this was also intentional, in order that the student teachers should have the main responsibility for the project.

School-based teachers' perspective

Similarly to the experience of Taylor et al. (2014), in the first dialogue seminar some school-based teachers expressed frustration and a desire for clarity regarding their roles as supervisors for the student teachers. One school-based teacher stated:

> You cannot expect the school-based teachers to know what a bachelor project is. The bachelor projects are larger [have more credits] than the teacher exams that these teachers took 20 years ago, if they actually had a teacher exam then, and most school-based teachers are used to focusing on the practical aspects when the students are there. Now more is expected from them: you [the university] are expecting a higher reflection level.

Another school-based teacher explicitly asked in the first dialogue seminar (Model 1): "What is going to be my role as a supervisor when the students are doing research?" This could reflect a feeling of insecurity about her role as a supervisor of the student teachers' research projects, as she did not identify her role as a supervisor with regard to research.

Later, after participating in the joint supervision project, the same school-based teacher, who stated she was unsure of her role as a supervisor, expressed in a conversation:

> For me, this project became reinforced supervision. The student teachers experienced the two arenas [university/school] seeing the same thing and [school-based teacher and university-based teacher/author] giving supervision in the same language.

This could be interpreted as meaning that, before, when supervising, she experienced conflicting messages from university-based teachers and in respect of what her interpretation of the student teachers' supervision should be, and now, in the joint supervision project, we experienced the same thing and thereby could give student teachers clearer and united feedback. However, the statement can also be viewed as an expression of her confidence in her role as supervisor, since she claimed the supervision was reinforced. Further, she expressed her curiosity about what became of students' projects: "Before, I always wondered what became of the supervision I had given them when they were in my classroom." Similarly to Mtika's et al, (2014) study, this could be taken to mean that the joint supervision practice gave the school-based teacher an opportunity to feel that the partnership was more balanced and less something initiated by the university, and in which the university retained control over the definition and delivery of knowledge (Mtika et al., 2014).

The last joint supervision meeting was arranged at the campus, where the school-based teacher also gave feedback on the students' theses. She stressed this to be a good thing and, in a conversation after the meeting, stated:

> [when supervising on the students' project draft] Now I could talk to them [student teachers] from my experience as a teacher, and you [the university-based teacher/author] could talk to them from your experience on how to structure a thesis and about theory. We complemented each other and could ask them different questions. They also got to see that practice reflects theory.

This can be interpreted to mean that the supervision practice gave an opportunity for the school-based teacher to act in a non-hieratical relationship (Mtika et al., 2014), since both perspectives were presented to the student teachers in the final stage of the bachelor process. The school-based teacher acted as supervisor, not partly but throughout the process, although the university-based teacher and an external censor performed the final assessment.

Student teachers' perspective

The supervision document seemed to become important for the student teachers' autonomy and later an excellent resource when it was time to document the research process in their theses. In one post-meeting, a student teacher described the process:

> Compared to the others [student teachers] in our class, we are ahead [in the bachelor project], since we are writing the documents to you [supervisors]. It is hard to write the document as we have to describe and explain absolutely everything, but it will become easier when we start the writing process because we have the supervision documents.

This could mean that, instead of traditionally waiting until they return to campus, student teachers actually started gradually composing and revising their theses from day one in the first dialogue seminar (Model 1). The document was simultaneously supervised, which I interpret as making the process more effective for both supervisors and student teachers (de Kleijn et al., 2015).

Student teachers' conception of research and development

The bachelor projects are the student teachers' first larger research projects, which they are supposed to develop on their own. When asked in the first dialogue seminar whether the bachelor project was a hard task, one student teacher explained:

> For my part, it is - we have had to write several papers but never a paper where we have actually been doing research. To know how to do it when so much is coming from your own reflection and you do not have sources other than yourself, how are you going to do it?

This can be interpreted as frustration and a feeling of lacking competence in how to perform research. Student teachers are not thoroughly introduced to a subject-enhanced method course before the fourth year of the program, which could explain the frustration.

Later, in one supervision meeting, the question arose as to whether student teachers thought joint supervision differed from their previous supervising experience; the topic of research came up again - "Now the focus is more on doing research than writing a good thesis," was how one student teacher expressed it. She further explained, "We cannot hide when you [university-based teacher/author] are here [participating]." She clarified this by explaining that she had worried at the beginning that, if their plans for the project did not go as expected:

> You [university-based teacher/author] would know. I was worried that, since you knew what went wrong in the project, it would be reflected in my grade. Now I understand that having a research approach to the project also means writing and focusing on what did not go as planned [in the project].

As a supervisor participating in the student teachers' projects, I knew their projects 'inside out', not only the polished version; this gave me an opportunity to act as a supervisor there and then, when obstacles occurred, and to clarify, as in the project the student teacher referred to, that sometimes things going 'wrong' is not necessarily bad in connection with research.

In one joint supervision meeting, the question arose as to how participating in the joint supervision project differed from 'normal' supervising. One student teacher stated:

> [when participating in the supervision project] You definitely have to think more about what you have done and then you also have to show more than before how it is connected to the curriculum at the university, this simultaneously while you are in your school practice.

This could be understood to mean that, when involved in the joint supervision project, the relation between theory and practice was more visual and maybe easier to discover than in other supervision experiences. As a university-based teacher, my contribution in the supervision was often to question whether they could see a parallel with or contrast to the curriculum. The ongoing work with the supervision document forced students simultaneously to reflect on both perspectives, curriculum or theory, and what they experienced in practice. Another student teacher added "You learn new things about what you did - things that you did not know while you were going!" This could be viewed as the student teacher's explanation of the idea of theorising practical experience.

Discussion

Bhabha (1990) emphasised that a third space cannot be directed by old principles; otherwise, you are not a complete participant (Bhabha, 1990, p. 216). The adaptive joint supervision practice gave an opportunity for both school-based and university-based teachers to let go of old principles of how supervision should be conducted. Since it was adapted to the needs of student teachers, the supervision had to participate fully, productively and creatively. In sum, the adaptive joint supervision practice model brought school-based and university-based teachers closer together to value the sharing of understanding; at the same time this supported the student teachers (Mtika et al., 2014; Hesjedal et al., 2015). With reference to the first research question, the school-based teacher welcomed the opportunity provided by the joint supervision model to give supervision in the "same language" and to supervise from one's own experience and stated that the school-based teacher and university-based teacher complemented each other, which could indicate a non-hierarchical partnership.

In the introductory section, adaptive teacher competence was mentioned as a way to adjust supervision so that each individual student teacher has favourable conditions for learning and understanding (Wang, 1992; de Kleijn et al., 2015). In the joint supervision project, the adaption was accomplished for student teachers, with the use of the supervision document. As previously mentioned, the student teachers were responsible for advancing the research project by framing the plan for each lesson with regard to the action learning project and emailing this ahead of the lesson to the supervisors. In connection with the third research question, this meant that student teachers maintained their autonomy. This also made the supervision more effective and, at the same time, made the accomplishment of the bachelor project more effective for student teachers (Zeichner, 2010).

Regarding the second research question, the solution and different perspectives for analysing the action were introduced collaboratively in the joint supervision meeting after the lesson. The flexible approach to supervision could explain why student teachers now expressed a deeper understanding of the research process. An explanation could be that student teachers discovered that supervisors' approach to research gave an exploratory character to a problem in the adaptive joint supervision practice (Bronkhorst et al., 2013).

Joint supervision practices with a focus on research can provide the possibility for both theory and practice to be exemplified simultaneously for the student teacher. Since the action learning projects were all strongly connected to the classroom, school-based teachers' knowledge about the pupils, the framework in that particular school, as well as theoretical- and experience-based knowledge, became important for a deeper understanding of the action learning project, as well as for understanding research. Traditionally, this process of conceptualising happens after the student teachers' school practice, maybe in a writing process linked to an examination, reflecting on what happened in the practical placement term (Grossmann et al., 2009). In joint supervision, with supervisors as fellow researchers, the process might happen simultaneously.

Limitations of the study

This study has some limitations. Knowledge processes in the adaptive joint supervision practice are complex; individual interaction between supervisors and student teachers relates to the context of events and strongly relates to student teacher's individual needs. The study also focuses on a small number of participants; therefore, results cannot be generalised statistically. Nevertheless, the study gives some indications of how to organise models for adaptive joint supervision practices that, in further extended studies, could give us more insight into these processes.

Conclusion

Joint supervision seems to be a good model for implementing research in teacher education programs. Establishing partnerships and relationships between schools and universities is more easily planned for than implemented, even in environments where partner schools are already established. It is argued that it often involves paradigm shifts for teacher educators, with all stakeholders genuinely believing it is worthwhile and meaningful (Zeichner, 2010). Implementing this model permanently would depend on involving administering authorities to decide how this could be done effectively. Considering the strong impact research has in teacher education, there is a need for mutual understanding of it in teacher education programs and specific understanding of it linked into the teacher profession; this model for organising supervision could be a solution to how this can be implemented in student teachers' professional practice. It gives an opportunity to connect the two different but symbiotic parts of the teacher profession; it can also provide an opportunity for student teachers to recognise the connection by reflecting together with the school-based teacher and the university-based teacher, simultaneously.

Researcher's reflection

Having the dual role as researcher and supervisor was important for gaining entry into the field, since an external researcher observing the seminars and joint supervision meetings could risk indirectly influencing the openness of the participants. However, in any project, being this closely involved as a researcher is challenging when it comes to keeping analytical distance. Keeping a research log after each meeting helped in this process.

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