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Master's thesis – a tool for professional development? Teachers' experiences from Finnish teacher education

Gunilla Eklund, Jessica Aspfors and Sven-Erik Hansén

ABSTRACT

This study aims to investigate teachers' experiences regarding their master's theses directly after finishing teacher education and after one year in the profession. Previous research exposes the field as problematising the relationship between teachers' independent scientific work and their professional qualification. Healey's (2005) model, characterising four distinctions between research and teaching, provides a frame for analysing the theoretical concepts used in the present study. In this empirical study, 18 teachers were interviewed twice, immediately after completion of teacher education and after one year in the profession. The qualitative content analysis results in three themes characterising the teachers' experiences with their master's theses, focusing on their learning experiences and their relation to the teaching profession. These themes are subject knowledge, research-related knowledge and self-knowledge. The results show that the master's thesis can be perceived as a tool for developing teachers' knowledge, yet there is a need to facilitate the integration of their knowledge into their daily work and its relevance for the school community.

Keywords: *teacher education, research-based teacher qualification, master's thesis, teachers' experiences*

SAMMANFATTNING

Masteravhandling – ett redskap för professionell utveckling? Lärares erfarenheter från finländsk lärarutbildning

Vår studie syftar till att undersöka lärares erfarenheter av att skriva masteravhandling. Studien undersöker erfarenheterna både i slutet av utbildningen och efter ett år i yrket. Ur tidigare forskning framgår att relationen mellan det självständiga vetenskapliga arbetet och dess

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betydelse för lärarens professionella kompetens är komplex. Healey's (2005) modell visar fyra karakteristiska drag mellan forskning och undervisning och ger en referensram för analys av de teoretiska begrepp som används i studien. I den empiriska undersökningen intervjuades 18 lärare vid två olika tidpunkter, genast efter avslagd lärarutbildning och efter ett år i yrket. Den kvalitativa innehållsanalysen resulterade i tre övergripande teman som karakteriserar erfarenheter nya lärare har av att skriva en vetenskaplig avhandling och av kunskaper och relation till läraryrket. Temana benämns; ämneskunskap, forskningsrelaterad kunskap och personlig kunskap. Resultatet visar att avhandlingen visserligen utgör ett redskap för lärares kunskapsutveckling, samtidigt som lärarna understryker behovet av en tydlig koppling till det dagliga arbetet så att dess relevans för yrkespraktiken är framträdande.

Nyckelord: *lärarutbildning, forskningsbaserad lärarutbildning, masteravhandling, lärarerfarenheter*

Introduction

In the field of education, an ongoing intensive discussion focuses on how to educate professional teachers for the 21st century (cf. British Educational Research Association, [BERA] 2014; Canrinus, Bergem, Klette, & Hammerness, 2017; Organisation for Economic Co-operation and Development [OECD], 2011, 2018). Due to both demographic changes and evolving school instructional policies, teachers constantly encounter new challenges in their profession, and their need for appropriate professional competence is even more pronounced (cf. Munthe, & Rogne, 2015). In this discussion, the contribution of teachers' education to their professional development is highly relevant. To meet society's requirements, teachers need a stable foundation for handling the continuous changes in their work and their preparedness to face uncertain work conditions (cf. Brouwer, & Korthagen, 2005; Darling-Hammond, & Bransford, 2005).

In line with changing conditions, the need for a scientifically-anchored teacher education approach has increased over the past decade. From the European perspective, this issue is especially obvious in terms of the Bologna Process and has steadily grown since 1999. Additionally, the interest has increased as a consequence of international student assessments and evaluations, such as PISA (OECD, 2018). Teacher education today is considered a fundamental factor for relating teaching to research and meeting the requirements of policies, research and teacher practice (cf. Darling-Hammond, 2017; Menter, 2015; Murray, Swenne & Kosnik, 2013). The underlying motive for the growing interest in teacher education, with emphasis on research, is that the approach seems to enhance teachers' professional development and enable them to meet future teaching requirements in an appropriate way (cf. Afdal, & Spernes, 2018; Darling-Hammond, 2017). Similarly, the research has focused on how to form teacher education in terms of the development of its content and structure (cf. Munthe, & Rogne, 2015; see also Zeichner, 2014). Despite increasing research on the different designs of teacher education, an extensive debate continues concerning the function of research in qualifying teachers.

Since the 1970s, Finland has chosen a master's-based model, explicitly emphasising the necessity of a research base for qualifying professional teachers (cf. Sitomaniemi-San, 2015). A central aspect of master's-based studies is that professional qualification is enhanced by writing scientific theses. Teacher education at the master's level is claimed to provide a model for educating professional teachers to attain a high level of competence (cf. Kansanen, 2014; Toom et al., 2010; Toom, & Husu, 2012). The Finnish design of teacher education has further inspired educational reforms in other countries, such as the latest (2017) Norwegian reform in teacher education, attached to a master's level (cf. Afdal, 2012; Hansén, Sjöberg, & Eilertsen, 2014). Therefore, it is of common interest to examine how teachers have experienced a particular design of teacher education, emphasising research in both explicit and implicit ways.

Studies have shown that to develop students' analytical, critical and reflective abilities, they should actively participate in research and development (cf. Griffiths, 2004; Lavonen, 2018). Students are likely to gain the most benefit from research, in terms of in-depth learning and understanding, when they are involved in research activities, such as inquiry-based learning (Healey, & Roberts, 2004). However, according to previous research, teacher education programmes are claimed to be mainly teacher led, at the cost of student-engaged activities. Although these kinds of claims are simplified, student teachers inevitably acquire a one-sided model of teacher practice (cf. Munthe, & Rogne, 2015). Developing teacher education programmes in the described direction requires more attention to student initiatives. This may challenge the university staff to critically examine their institution's teacher education programme and reconstruct its curricula (cf. Mausethagen, & Raaen, 2016).

This article is part of a project that explores teachers' experiences with research in teacher education in relation to the school work they encounter. The specific aim is to investigate teachers' experiences with their master's theses directly after they have finished teacher education and after one year in the profession. The following research questions are addressed:

1. What do teachers experience regarding what they have learnt from writing their master's theses?
2. How do teachers experience the relevance of their master's theses for the teaching profession?

Theoretical framework

In a scientific design, research is present in all components of teacher education, that is, in subject didactics, general education, practice and their interrelations (cf. Hansén, Eklund, & Sjöberg, 2015). This section focuses on research in and on teacher education and, further, on how teachers experience the relevance of a research-based approach, specifically on the master's thesis for the teaching profession. First, a short

overview of previous research is presented, followed by an analysis of a theoretical framework that exposes a matrix of different ways of understanding research in teacher education. Healey's (2005) model has been chosen as a framework for structuring the field of research endeavours in teacher education. The framework highlights various positions of what research might mean in a master's-based approach.

Previous research

Studies on a scientifically-anchored design are so far limited; to date, scarce research has been conducted on master's theses in the field of teacher education. In the Finnish context, a few studies have investigated student teachers' perceptions of research in pre-service education (cf. Kansanen, 2014). According to these results, student teachers appreciate the approach and experience it as valuable in terms of methodological studies and the master's degree-level of education. Furthermore, student teachers have a positive attitude towards inquiry and reflection in research-based teacher education and envision teacher research as a way to promote their professional development (cf. Eklund, 2014; Jyrhämä et al., 2008; Maaranen, 2010; Niemi, 2011). Based on their empirical study involving teachers in the UK, Everton, Galton and Pell (2000) conclude that research evidence in general is valued when the results deal with classroom activities and particular aspects of teaching and learning (cf. Eklund, 2018). However, recent studies have also presented a more critical approach towards Finnish teacher education and emphasise the need to explore the system to a larger extent. Student teachers are critical about research in their programmes and find a weak relation between the master's thesis and the teaching profession (cf. Eklund, 2018; Niemi, 2011). This result confirms earlier studies' claim that the value of research is judged on its capacity to be directly relevant to teacher work and classroom activities (cf. Everton et al., 2000; Zeuli, 1994). Several aspects seem to affect teachers' use of research in their daily work. For instance, Shkedi's (1998) study clearly shows that the research literature has not been used by teachers because they find it too theoretical and not directly applicable to their teaching. Instead, they prefer practical educational literature. The teachers further claim that they lack time and could not understand the academic language, and that the literature is inaccessible (cf. Hemsley-Brown, & Sharp, 2003). The cited examples from the reviewed research indicate the teachers' quite critical attitude towards research, which student teachers may be confronted with during practice periods and when entering the profession. However, individual teachers cannot be held entirely responsible for not utilising research, since the organisational culture of schools does not always encourage integration of scientific activities in practice (Hemsley-Brown, & Sharp, 2003).

Furthermore, there is confusion about the different concepts concerning the entire meaning and role of research in teacher education (cf. Kansanen, 2014; Krokfors et al., 2011; Toom et al., 2010). Recent Finnish studies further highlight the

dilemma regarding the absence of a real debate on the meaning of labelling teacher education as research based, despite being integrated into the university system several decades ago (cf. Puustinen, Sääntti, Koski, & Tammi, 2018; Sääntti, Puustinen, & Salminen, 2018).

The same kind of confusion concerning terms applies more widely. Different concepts are used more or less interchangeably, and distinctions between them are not always clear (cf. Burn, & Mutton, 2015; Cochran-Smith, & Fries, 2008; Munthe, & Rogne, 2015). In attempts to characterise scientific endeavours in teacher education programmes, the distinction between *inquiry* and *research* is unclear. The terms are often referred to in a similar way, although some researchers claim that there is a difference in meaning between the concepts (cf. BERA, 2014). *Inquiry* can be systematic and may involve investigation of the literature on a research topic, although it does not aim to produce results for the larger research community. In this sense, inquiry can be described as evidence-based or evidence-informed practice. In contrast, *research* uses appropriate research methods and methodologies, building on research literature, and is accessible and open to other researchers and research contexts. Therefore, inquiry means having an investigative stance, whereas research includes the subsequent publication of results applicable to a broader context (Munthe, & Rogne, 2015). In relation to teacher-education programmes, an inquiry-based approach seems to fit the bachelor's level, whereas a more research-based approach suits the master's level (Rogne, & Munthe, 2017).

Different ways of understanding research in teacher education

In an attempt to specify the meaning of research related to teacher-education programmes, Griffiths (2004) suggests four distinctions between research and teaching: research-led, research-based, research-informed and research-oriented concepts. These concepts are repeatedly referred to although often without a clear operationalisation of their meaning. Healey (2005) utilises Griffiths' distinctions while developing the latter's research-informed concept into a research-tutored one. Figure 1 illustrates the relations between these concepts.

Regarding the *research-led* concept, student teachers learn about the findings from research projects, mostly carried out by the teacher educators themselves. The curriculum content is dominated by the teacher educators' research interests, and information transmission is the way of teaching. The emphasis is thus on understanding research findings rather than research processes (Griffiths, 2004). As for the *research-oriented* concept, student teachers not only learn about scientific knowledge but also understand the processes by which knowledge is produced. The curriculum thus emphasises both aspects – knowledge and research processes. The teaching focuses on developing student teachers' inquiry skills, and teacher educators try to

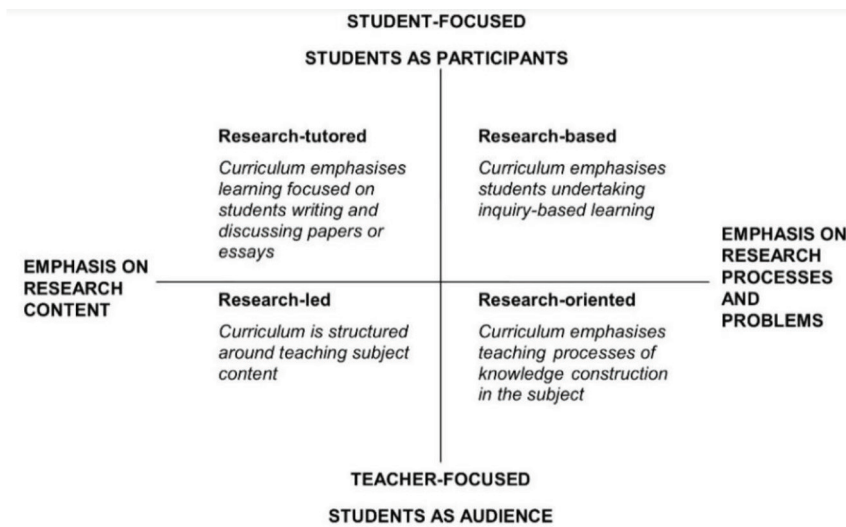


Figure 1: Research in teacher education (Healey, 2005, 13).

engender a research ethos. The teacher educators' own research experiences are not necessarily emphasised in an obvious way although the teaching is teacher focused. With the *research-based* concept, student teachers learn inquiry-based activities rather than focusing on the acquisition of subject content. The teacher educators' own research experiences are appreciated and integrated into the student teachers' learning activities. The curriculum is largely designed around inquiry-based activities, and the division of roles between teacher and student is minimised. Concerning the *research-tutored* (research-informed, according to Griffiths, 2004) concept, student teachers engage in discussions on research, for example, with their tutors and peers. The emphasis is on research content, and the teaching is student focused (Healey, 2005).

The horizontal axis of Figure 1 flows from an emphasis on research content to an emphasis on research processes and problems, while the vertical axis flows from teacher-focused activities, with student teachers as the audience, to student-focused activities, with student teachers as the participants (Griffiths, 2004; Healey, 2005). According to Healey (2005), the model does not posit that one kind of activity is better than another. All four dimensions should be present and viewed as valuable although teacher education designs place the emphasis differently. Few curricula fit entirely into one quadrant, and the context in terms of different disciplines plays an important role. The nature of the discipline – meaning the environment associated with the different disciplinary cultures where research and teaching occur – thus characterises the relation and which one dominates the curriculum context. Most traditional university teaching emphasises the research-led realm (bottom-left quadrant). However, previous studies indicate that student teachers gain the most benefit from research, in terms of in-depth learning and understanding, when they are involved in research, such as inquiry-based learning (cf. Healey, & Roberts, 2004). Student teachers involved in research-based inquiries seem to reach sophisticated

levels of intellectual development. This finding is confirmed in Papisotiriou and Hannan's (2006) study, which shows that only reading research is not experienced as sufficient in terms of incorporating research findings in daily work. Instead, a more action-oriented approach seems to benefit from the impact of research on teaching. According to Healey (2005), emphasis should thus be placed on student teachers' active engagement in research, falling into the top-right quadrant.

Method and analysis

Data collection and informants

The data for this study were collected from two individual, semi-structured interviews with teachers educated in the teacher education department of a university in Finland. Altogether, approximately 50 teachers who graduated in 2015–2016 were invited to participate in the study, 18 (16 females and 2 males) of whom agreed to take part in the first interview; 16 (14 females and 2 males) of the 18 interviewees consented to participate in the second interview. The teachers were all educated as primary school teachers, with education as their main subject. The first interview ($n = 18$) was conducted directly after the teachers had finished their master's degrees and before most of them had begun working as teachers. The interview guide was comprised of five main themes, concerning the teachers' background characteristics, experiences with research-based teacher education in general and research methods and thesis work in particular, as well as their visions of their professional future. For the purpose of this study, the focus was on the teachers' experiences with their master's thesis work. The questions included the following: *What did you write about in your master's thesis, and why did you choose that theme? How was your experience in writing your master's thesis? What has your work on your master's thesis provided you with in relation to your knowledge and individual development? What has your work on your master's thesis provided you with in relation to your professional development?* The second interview ($n = 16$) was held a year later with the same teachers, after they had been working for about one year. The second interview guide was also comprised of five main themes and, for this study, the focus was on the teachers' experiences with their research-based competence in relation to their master's thesis work. The following questions were included: *How do you experience your master's thesis in relation to the teaching profession? How has your master's thesis been received by professionals in the field?* In both interviews, follow-up questions were asked when appropriate (cf. Brinkmann, & Kvale, 2018). Two researchers, as well as three research assistants, conducted the interviews, either online or face-to-face at the university. The interviews lasted about 60 minutes each, and all interviews were audio recorded and transcribed verbatim. The study followed the general ethical standards approved by the Finnish Advisory Board on Research Integrity (2017).

Data analysis

The interview data were analysed in an inductive manner by means of conventional qualitative content analysis (Atkins, & Wallace, 2012; Boeije, 2010; Hsieh, & Shannon, 2018; Schreier, 2012). In the first phase, the researchers read the entire set of interview transcripts and focused on the parts describing the teachers' experiences with their master's theses. From the aggregate of the interview transcripts, new transcripts were created, containing only those excerpts focusing on this study's aim, thus shorter but more concentrated and condensed. In the second phase, the researchers started from the revised transcripts and conducted an open-coding procedure, resulting in many different codes. In the third phase, the researchers discussed the preliminary codes and started a more systematic analysing process in which the codes were compared for similarities and differences and grouped into higher-order themes.

The content analysis was thus realised through individual readings of the documents, followed by comparisons, until intersubjective agreement was reached. This process resulted in three overall characterising themes, labelled subject knowledge, research-related knowledge and self-knowledge. Each document was further read through once again with these themes in focus, trying to capture every aspect of the themes. The number of utterances was also counted and clarified in relation to each theme.

Results

The results are organised according to the themes identified in relation to the first research question. To provide a coherent view of the results, the second research question is presented structurally with the first one. The three identified themes (subject knowledge, research-related knowledge and self-knowledge) are described and illustrated with original excerpts from the interviews. The informants are identified by gender (F/M) and number (e.g., F-4). The responses are translated into English by the authors.

Subject knowledge

In the interviews, the teachers strongly emphasise the subject knowledge attained from the master's thesis process. The subject knowledge refers to the topics chosen by the teachers for their master's theses. They have often chosen topics that they have found very interesting, and after finishing their master's theses, they particularly state that they have learnt a lot about the topics. Two-thirds of the informants stress that they have gained deep insights into the specific topic, what it means and how they can use it, as well as insights into a theoretical framework and previous research. For example, one teacher expresses her insight as follows: 'I gained a much deeper insight into the research on conflicts, both national and international research' (F-6).

After one year in the profession, the teachers also refer to subject knowledge but in three different ways. Several teachers (n = 6) find that they have limited explicit use of their chosen subject in the teaching profession. Their thesis topic has turned out to be so specific in nature that as teachers, they have been unable to utilise it. For example, one teacher chose a topic in mathematics with its focus on secondary school, while he himself works in primary school. For another teacher, her first year in the profession has been so intensive that she has lacked the time to try out her topic in practice: 'I wrote about homework in physical education...but there has been so much to do with all the other subjects, I haven't had time to test homework in physical education yet.' (F-2). In contrast to the previous group, some teachers (n = 5) have explicitly made use of their specific thesis topic. 'I wrote about children with migrant backgrounds and how teachers experience and should teach them. Then I actually had a pupil who could hardly speak Swedish, and I felt that I was much more prepared for that task...' (F-1). These teachers are thus able to utilise the deep subject knowledge from their theses in their work. Finally, the theses of another group of teachers (n = 7) are about topics that they have been able to use more generally in their teaching. For example, one teacher has gained deeper insights into the teacher-pupil relation and the importance of a caring approach to enhancing pupils' learning. The teachers are further able to recognise the relevance of their topics in the teaching context, not necessarily as a concrete method but more as general knowledge about teaching and teacher's work. 'Well, it's present all the time. Right now, I have very active boys in my class, and I have noticed that issues concerning motivation are present there all the time' (F-3).

Research-related knowledge

Research-related knowledge, as identified in the data, refers to both research methodology and academic language. The interview results reveal that the teachers refer to research-related knowledge in terms of carrying out and structuring a scientific thesis, collecting and analysing the data, and handling the literature in an objective and critical way (n = 6). One interviewee burst out and listed some problems: 'Well, the format of the thesis...the mechanical parts, to carry out the research project from the beginning to the end' (F-6). One teacher (M-4) expresses a more critical view of the thesis format and its relation to the teaching profession. According to him, the thesis work is too extensive, and he would have preferred a more practice-related approach with a focus on empirical data instead of theory.

Some of the teachers (n = 6) further point out the importance of learning academic language in terms of both text construction and written language. This view is partly illustrated in the following excerpt: 'Well, to write [in] scientific language... I think that one really improves one's own language by writing the thesis.' (F-12). In the interviews with the teachers after one year in the profession, only one teacher

explicitly notes that she has made use of the language skill developed during the thesis process in her teaching practice.

As indicated in the interviews, the school community has not shown much interest in the teachers' theses. In one case, only the teacher's parents have read the thesis, while in another case, a few pupils have browsed through a couple of pages, mostly for fun, since the content is, of course, beyond their level of comprehension. Furthermore, one thesis has been read by the participants of the teacher's research project, and another one has been of interest to his/her colleague in the same school. Regarding the data material as a whole, altogether 12 teachers claim that no one has read their theses. One of the teachers notes sadly: 'Well, it feels like you did a lot of work just for a title... In that way, it's a pity that you do not use it more...when thinking about how much work you have done' (F-6).

Self-knowledge

Self-knowledge relates to teachers' knowledge and understanding of their personal qualities, for instance, their own capabilities, character and motivation. As shown in the data, only one teacher has experienced having developed self-knowledge during the thesis process. She specifically points out having developed her patience and ability to keep time limits. Most of the other teachers ($n = 10$) find that self-knowledge concerns planning and managing time and being able to focus on a specific project for a longer period of time, which demands patience, self-discipline and decision-making ability. One teacher explains, 'Well, it had a lot to do with working on a large task over a long time and how I chose to focus my time...generally, it has changed my way of working with tasks in a personal way. I get on with things directly and do not postpone them.' (F-5). The self-knowledge expressed by the teachers directly after finishing their teacher education is thus strongly connected to the capabilities needed to carry out the thesis project. Furthermore, three teachers identify self-discipline, self-confidence and self-security as knowledge developed during the thesis process that is also relevant for the teaching profession. However, in the interviews held after one year in the profession, none of the teachers explicitly expresses the importance of self-knowledge developed during the thesis process for the everyday work of teaching.

Discussion

The discussion starts by analysing the teachers' encounters with research in teacher education, condensed in their master's theses. With the answers to the research questions about the teachers' learning and perception of research in teacher education, the three identified themes (subject knowledge, research-related knowledge and self-knowledge) structure the discussion. Finally, this section explains how the

teachers' encounter with research can be positioned according to Healey's (2005) theoretical framework.

Most of the teachers have experienced developing deep subject knowledge through the thesis process, although its direct use varies later in their daily work as teachers. The acquired subject knowledge turns out to be quite episode focused. Some teachers find that they have confronted the same issue in their professional work and could directly relate it to their thesis topic, while others have not encountered episodes related to their thesis topic and have difficulty in recognising the relation between the two. As Everton and colleagues (2000) conclude in their study, teachers value research evidence when the results are closely related to classroom activities, that is, aspects of teaching and learning. Likewise, Shkedi (1998) finds that teachers prefer the literature dealing with practical matters rather than research. This result is also supported by subsequent Finnish studies, where student teachers find a weak relation between the master's thesis and the teaching profession (cf. Eklund, 2018; Niemi, 2011). In contrast to the episode-focused and subject-specific themes, some teachers' theses tackle more general topics. The benefit is that the topics enable them to utilise the results and gain a broader view of their work as teachers. Regardless of a narrow or a broad research focus, the value of the research subject is related to its perceived relevance for the profession.

Research-related knowledge is perceived as important after the teachers have completed their theses. The specific value is related to the attained knowledge and ability to structure and carry out scientific work, as well as develop academic language. However, after one year in the profession, hardly anyone emphasises the use of academic language, although the teachers highlight the importance of good language skills in the profession. As Hemsley-Brown and Sharp (2003) find in their study, the reasons for not stressing the significance of mastering academic language can be connected to the teachers' experienced lack of time, their difficulties in understanding academic language or inaccessible research literature. Besides the research-based approach, an inquiry orientation is visible. A teacher undertaking an action research project has developed an inquiry approach, that is, an investigating stance that she could immediately utilise in her work as a teacher (Munthe, & Rogne, 2015; Rogne, & Munthe, 2017).

In relation to previous research (cf. Jakhelln, Bjørndal, & Stølen, 2016), it is remarkable that the teachers hardly receive any interest from the school community in their master's theses. It is possible to read the theses online, and among student teachers, it is usually quite popular to browse through different theses to learn how to structure and write a scientific thesis. However, the relation between research-based activities carried out in teacher education and the teaching profession seems to be quite weak, and there appears to be little interest in the knowledge developed through the theses in the broader professional teaching context. Similar to Hemsley-Brown and Sharp's (2003) finding, this present study notes the teachers' quite critical attitude towards research, particularly when entering the profession. However,

the cited authors blame the organisational culture for not encouraging the integration of scientific activities in practice.

Most of the teachers emphasise having developed self-knowledge during the thesis process, which is strongly related to the abilities (including personal characteristics, such as patience, self-discipline and decision-making skills) needed to carry out and master a large independent project (e.g., the thesis). One aspiration of teacher education is to qualify teachers to develop critical thinking and provide reasons for their actions (cf. Kansanen et al., 2000). From most of the teachers' perspectives, these kinds of abilities are considered positive experiences when writing the master's thesis. Despite these positive experiences, the connection to the teacher's profession is vaguely expressed. For most teachers, it is difficult to link the importance of these personal capacities to the teacher's work in a concrete way.

What might be discovered when scrutinising the results of teachers' experiences with the master's thesis in Finnish teacher education in the light of Healey's (2005) model? The three identified themes reveal that by undertaking their own research projects in terms of a bachelor's or a master's thesis, teachers develop knowledge that characterises all four dimensions of the research–teaching nexus (Healey, 2005).

Traces of a *research-led* orientation are visible in the sense that the Finnish teacher education programme is based on current research, and the teacher educators are research qualified. The foundation for teaching comprises research conducted in relevant areas and interdisciplinary research on subject-content knowledge, as well as pedagogical-content knowledge (cf. Hökkä, & Eteläpelto, 2014; Krokfors et al., 2011; Shulman, 2004).

The signs of a *research-oriented* dimension refer to developing student teachers' understanding of the processes by which knowledge is produced through courses in research methodology. This point is also highlighted in the initial aim of Finnish teacher education, which is to qualify professional and reflective teachers who can base their teaching on research principles and successfully use these principles to address practical challenges in the profession (cf. Jakku-Sihvonen, & Niemi, 2006; Kansanen, 2014).

Research-tutored characteristics permeate the entire teacher education by providing student teachers with opportunities to practise argumentation, decision making and justification of their decisions (cf. Kansanen et al., 2000). They are encouraged to participate in discussions on research, as well as deliver presentations and act as discussants at bachelor's and master's thesis seminars (cf. Colleagues, & Eklund 2015; Krokfors et al., 2011).

Above all, Finnish teacher education emphasises *research-based* activities, mainly located in the upper-right quadrant of Healey's (2005) model, with a student focus and oriented towards the student teachers' own research problems and processes. The thesis is perceived as a landmark for the research-based approach and a reason why this concept is generally used for teacher education. By practising the use of scientific methods, data gathering, systematic analytical thinking, and interpretation and

evaluation, student teachers develop their ability to argue for and justify their educational decisions (cf. Kansanen et al., 2000; Maaranen, 2010). Several studies have further confirmed the importance of student teachers' own engagement in research activities for developing deep learning and understanding that can be applied in teachers' daily work (cf. Griffiths, 2004; Healey, 2005; Healey, & Roberts, 2004).

Although student teachers learn inquiry-based activities in terms of an investigative stance close to the research-oriented dimension, the focus closely matches the research-based dimension. This observation corresponds to Rogne and Munthe's (2017) statement that an inquiry-based approach seems to be more fitted to the bachelor's level, whereas a research-based approach is suited to the master's level.

To summarise, Finnish teacher education contains elements from all four quadrants along the two axes. The vertical axis emphasises teacher-focused versus student-focused activities. The horizontal axis highlights research content or research processes and problems (cf. Afdal & Spernes, 2018; Krokfors et al., 2011; Lillejord & Børte, 2017).

Limitations

Conducted in one teacher education department, this study is bound to a specific context, which of course limits the conclusions to be drawn. However, the study's goal is not to provide generalisable answers but results that can influence a mindset and serve as developmental tools, useful for the readers' understanding and own practice (cf. Stake, & Trumbull, 1982). The interview guide comprises five main themes and is quite broad in scope. Consequently, the theme analysed for this study is only one part of the interview and is limited in the number of interview questions and the possibility to ask an adequate number of follow-up questions. This is obvious in the second interview, where the teachers were asked to only reflect on the importance of their master's theses more generally. In the interviews, the explicit aspects of teacher education are expressed by the teachers more prominently than the implicit aspects. Nonetheless, the teachers have obviously developed the implicit aspects in terms of their analytical and critical abilities to handle central issues in the teaching profession although these are much more difficult to express (cf. Aspfors & Eklund, 2017).

Conclusion

The discussion has touched on the meaning of the role of the master's thesis in teacher education and resembles the debate in Finland some 40 years ago, when teacher education was integrated into a university-based programme at the master's level. Finnish teacher education is considered research based, with an emphasis on undertaking both bachelor's and master's theses. The research-based approach has gained much attention and appreciation over the years, but in recent years, it has also been criticised for being quite conventional and of little interest to teachers' work. The results

clearly expose opposing experiences among the teachers. Those who report positive experiences appreciate the approach and find it valuable as a way of promoting teachers' work and professional development. For those who express more criticism, their experience is that the thesis does not support them in their daily work. In developing the research-based approach to teacher education, the form and the content of the master's thesis need to be carefully considered to support teachers in their profession.

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