

Student teachers' experiences of research-based teacher education and its relationship to their future profession – A Finnish case

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As a result of well-known international evaluations, an intense debate regarding teacher education has emerged focusing on its development in order to improve the national economy. Teacher education in Finland has been university-based for decades and has received a great deal of publicity because of its research-based approach. However, there is a lack of empirical research on the consequences of such an approach to teacher education. This study focuses on investigating (1) student teachers' experiences of research-based teacher education and (2) how they experience research-based education in relation to the teaching profession? One hundred and eleven student teachers wrote essays on these two research questions, and qualitative content analysis was used as the data analysis method. The results revealed that most student teachers principally understand the concept of research-based teacher education and appreciate this form of education because it provides them with high-level competence, status, and good job opportunities. However, they sometimes find it difficult to relate this type of education to the teaching profession and perceive that this approach does not provide them with enough practical tools before entering the reality of a teacher's work.

Keywords: teacher education, research-based, student teachers, Master's thesis, Bachelor's thesis

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Introduction

As a consequence of global student assessments and evaluations, interest in teacher education has increased internationally during the last decade. In terms of improving the national economy and meeting the challenges of the twenty-first century, teacher education is seen as a crucial factor (BERA, 2014; Menter, 2015; Özçınar, 2015). However, when examining teacher education via an international perspective, crucial variations concerning the goal, content, and structure of teacher education can be found. Different views of teaching underlying the various approaches of teacher education programmes can further be distinguished and according to Menter (2015), a teacher is characterized by four views - as effective, reflective, inquiring and/or transformative. Every teacher education programme is to some extent informed by several of them, while none of the views exists in an absolute form. Moving from the first to the fourth view, a spectrum of professionalism, from restricted to extended, can in addition be identified (cf. Elliot 2015).

The USA and the UK, for example represent a more restricted view of teacher professionalism (cf. Menter 2015). In the USA, a more technical view of teaching is emerging while the general trend is to reduce the role of universities in teacher education and move towards shorter and more clinically based programmes mainly founded on a practical base (Zeichner 2014). In the UK, except for Scotland, most teacher qualification programs involve school-based teacher training and the idea of teaching as a research-based profession is diminishing (Gilroy 2014). The use of research-based knowledge and research-related activities in teacher education in both countries is diffuse although there are examples of reflection and inquiry-based activities (Beauchamp, Clarke, Hulme & Murray, 2014; Munthe & Rogne 2015; Tatto 2015). A more extended view of teacher professionalism is illustrated by for example Norway and Finland (cf. Menter 2015). In Norway, there has been a contrasting shift in the development of teacher education and in accordance with the new reform, launched in 2017, all teacher education programmes will be based on Master's degrees (Munthe & Rogne 2015). The teacher education is profession-orientated and rooted in research and experience-based knowledge (The Norwegian Ministry of Education and Research, 2012). This approach in Norway resembles research-based teacher education in Finland, although a major difference is that Finnish teacher education has been university-based for decades (cf. Krokfors, Kynäslähti, Stenberg, Toom, Maaranen, Jyrhämä, Byman & Kansanen, 2011; Tirri, 2014; Toom, Kynäslähti, Krokfors, Jyrhämä, Byman, Stenberg, Maaranen & Kansanen, 2010).

When discussing the development of teacher education, issues concerning its organisation have often been in focus (cf. Gilroy, 2014; Hökkä & Eteläpelto, 2014; Zeichner, 2014). A discussion concerning a research base for teacher education is highly relevant, and a research approach can be seen as a means of achieving quality and status in teacher education and further promoting teachers' professional competence (cf. Cochran-Smith, Villegas, Abrams, Chavez Moreno, Mills & Stern, 2016; Munthe & Rogne, 2015; Özçınar, 2015). The role of research in teacher education is still quite unclear, as are the fundamental concepts defining such an approach (Burn & Mutton, 2015; Cochran-Smith et al., 2016; Munthe & Rogne, 2015).

Finnish teacher education has been university-based since 1971 and is now research-based (cf. Uusiautti & Määttä, 2013). As a result of top scores in international evalu-

ations (Barber & Mourshed, 2007), teacher education has received a great deal of publicity. Despite this, there are dilemmas in the Finnish teacher education to be solved. The aim of the research-based approach is related to the view of a professional and reflective teacher, although the relation between research-based work and teacher practice cannot be taken for granted (c.f. Hansén, Forsman, Aspfors & Bendtsen, 2012; Komulainen, 2010). This aspect thus seems to be of key importance in the debate concerning the position and the importance of a research-based teacher education. There is also a lack of large-scale empirical research on the consequences of the research-based teacher educational programs. International student assessments and evaluations support the Finnish approach, but in order to develop education and teachers' pedagogical thinking based on research, studies with a specific focus on the research-based approach should be carried out (cf. Jyrhämä et al., 2008; Kansanen, 2014).

Thus, the aim of this study is to investigate student teachers' experiences of research-based teacher education in Finland. How do student teachers experience research-based education, and how do they experience research-based education in relation to the teaching profession? This study forms a part of a larger longitudinal and comparative research project in Finland (Aspfors & Eklund, 2017) and Norway (Jakhelln, Bjørndal, & Stølen, 2016) focusing on newly qualified teachers' experiences of research-based teacher education in relation to the reality they encounter in schools.

Background

Research-based teacher education in Finland

Finnish teacher education is characterized by a strong research-based approach (Jakku-Sihvonen & Niemi, 2006; Malinen, Väisänen & Savolainen, 2012; Niemi & Jakku-Sihvonen, 2011), and the aim is to qualify autonomous, responsible, and reflective professional teachers who can base their teaching on research principles and successfully use these principles to address the profession's practical challenges (Hansén & Eklund, 2014; Tirri, 2014; Toom et al., 2010). On an individual level, the approach develops the ability to deconstruct problems and reconstruct solutions, develops critical awareness, and promotes intellectual and personal development. The ambition is to promote teachers' didactic decision-making abilities and inspire them to adopt a research approach in their daily work. On a collective level, the goal is to expose perceptions to collective examination, develop the ability to think systematically, develop a professional language, and open up a space for collective reflection. Teacher education also aims to support teachers' professional development throughout their careers (Hansén, Eklund & Sjöberg, 2015; Husu & Toom, 2016; Välijärvi & Heikkinen, 2012).

The research-based approach underlying teacher education characterises the programme in both implicit and explicit ways (cf. Niemi & Nevgi, 2014). Implicitly, the orientation encourages the development of student teachers' critical reflection abilities and the systematic scrutiny of their daily work (Hansén & Eklund, 2014; Jakku-Sihvonen & Niemi, 2006; Kansanen, 2014). The teacher education programme is also closely based on current research because teacher educators are research-qualified and their teaching is based on research results conducted in relevant fields (Hökkä & Eteläpelto, 2014; Krokfors et al., 2011; Tryggvason, 2009). Explicitly, specific research activities form an obvious part of the

teacher education programme. Students carry out independent studies by using scholarly methods for their BA (6-10 ECTS) and MA (35 ECTS) theses, and they participate in research methodology courses. Writing a thesis means that students become familiar with scientific tools, such as methods for gathering data, systematic analytical thinking, interpretation, and evaluation. After completing their Master's degrees, students can also apply for further postgraduate study in education (Hansén, Eklund & Sjöberg, 2015). Teacher education in Finland has been compared to that in other countries, for example, Norway (Afdal, 2012), Estonia (Sihvonen, Tissar, Ots, & Uusiautti, 2012), and Denmark (Rasmussen & Bayer, 2014). Furthermore, some empirical studies have been carried out focusing on teacher educators' views of research-based teacher education (Hökkä & Eteläpelto, 2014; Krokfors et al., 2011; Tryggvason, 2009).

Student teachers' views of research-based teacher education in Finland

In 2011, Niemi investigated 545 student teachers about their experiences in and the learning outcomes of teacher education. The results showed that students assess they have high levels of competences in their profession. They have good skills in planning and teaching, they are aware of their own teaching philosophies and professional responsibilities, and they appreciate the research-based approach for the sake of their independent and critical thinking abilities. However, they would like more training regarding cooperation with partners outside the school community and tasks outside the classroom. Most of the students appreciate the research-based approach and find it important, although some other students are critical of it and believe that research-based studies should be developed so that students can see their relevance to the teaching profession. In another study by Jyrhämä, Kynäslähti, Krokfors, Byman, Maaranen, and Kansanen (2008), the respondents (n=113) participated in multimodal teacher education aimed at integrating theoretical studies and the work of teaching. Students appreciated the research-based approach and found that it was present in most courses and in the studies in general. However, they expected a more research-based approach in the supervision of student teaching and in the completion of the theses. The students further saw the approach as valuable in terms of the methodological studies and the Master's degree level of education. As in the previous study (Jyrhämä et al., 2008), Maaranen (2010) also investigated students (n=23) who had been working as teachers during teacher education. According to the results, newly qualified teachers saw many long-term benefits of teacher research. They saw it as beneficial to the teacher alone, the colleagues, the pupils, and their families, as well as to wider society. Most of them had a positive attitude towards inquiry and reflection and saw teacher research as a way to improve their professional development.

In a small-scale study, Eklund (2010) investigated Bachelor's students' views of research-based teacher education at the very beginning of the research process. The results showed that student teachers (n=69) had a complex picture of the scientific thesis and conceived of the writing process as challenging and quite difficult. They understood the motive for and meaning of the scientific thesis, although its relationship to the teaching profession was not at all clear to them. In another study (Eklund, 2014), Master's students (n=69) were investigated at the very end of their teacher education. The majority of student teachers had a positive view and stressed that writing a thesis had equipped them with deep knowledge of a subject, well-tuned professional language, and the ability to continue

with practically oriented research. Thesis writing further promotes their personal and professional development and gives them higher status. However, some students had a negative attitude, claiming that the relationship to the teaching profession was weak and that explicit research activities made up too large a part of their education. They also considered the education to be too theoretical and asked for extended practice and more practice-related studies. These results have been confirmed by other studies (cf. Aspfors, 2012; Heikkinen, Jokinen & Tynjälä, 2012; Sjølie 2014), which have shown that students realize that research is an important tool for professional teachers, although they sometimes feel that research does not provide them with enough practical tools before entering the reality of a teacher's work (cf. Kozina, 2013).

The study

The aim of this study is to investigate student teachers' experiences of research-based teacher education and its relationship with their future profession. The study poses the following research questions:

- How do student teachers experience research-based teacher education?
- How do student teachers experience research-based teacher education in relation to their future profession?

Method

For this study, as part of a larger longitudinal and comparative research project, empirical data were collected among primary school student teachers at a Swedish-speaking teacher education department in Finland. Since only students at one teacher educational department are investigated, the study has character of a case study. However, in order to expand the relevance of the results, these will be related to the underlying context as well as to previous research in the field. In Autumn of 2016, all third-year student teachers ($n=67$) participated in their first research method course at the Bachelor's level, and at the very beginning of this course, they were invited to participate in this study. Fifty-seven (85.1%) of them, 48 women and nine men, agreed to take part in the study. Another group of students were also asked to participate in the study. These were 66 students participating in their first research method course at the Master's level. A total of 54 (81.8%) student teachers, 47 women and seven men, agreed to participate in the study. The students in both groups were 20-32 years of age, although the students in the first group were, on average, younger. All students wrote down their background characteristics and responses to two essay questions regarding (1) their experiences of research-based education and (2) their experiences of research-based education in relation to their future profession as teachers.

Students' responses were analyzed in an inductive manner, and descriptive content analysis was used as the data analysis method (cf. Boeije, 2010; Schreier, 2014). Because the focus of the two research questions was different, each was analyzed separately. In the first phase, the researcher familiarized herself with the transcribed data by reading and re-reading it. Key points were summarized and initial potential themes were identified. The next phase in the analysis involved systematic coding of each part of the data and the re-

searcher assigned newly emerging, inductive categories containing units of meaning. The researcher further reviewed all the categories, identifying specific aspects of them, looking for connections between them, and paying attention to any patterns in the whole dataset. For example, differences between students’ experiences on Bachelor’s and Master’s level became apparent. Finally, the researcher labelled the categories, trying to capture the phenomena and the key dimensions of student teachers’ experiences of research-based teacher education. (cf. Willing, 2013)

In the presentation of the results, the categories and their identified aspects are presented. By counting students’ responses and comparing them between the Bachelor’s and Master’s level, the dataset can be made broader and more reliable for the sake of the analysis (Creswell, 2013). In order to ensure the trustworthiness of the study, a thick description of the data is presented, as well as original extracts from the students’ responses to the two essay questions (cf. Angen, 2000). The students are identified by level (B/M), gender (F/M), and number. The study further follows the general ethical standards approved by the scientific community (Finnish Advisory Board on Research Integrity, 2016).

Findings

Student teachers’ experiences of research-based teacher education

The first research question concerns student teachers’ experiences of research-based teacher education, and altogether, 190 statements could be identified and categorized into three categories with nine aspects (Table 1).

	B	%	M	%
<i>Characteristics of education</i>				
A broad education	4	7	4	7
Educational science and research	8	14	2	4
Research and research related courses, contents and literature	19	33	21	39
Research qualified teacher educators	4	7	2	4
Status, quality, standard and development of the education	12	21	11	20
<i>Students’ own research activities</i>				
Write texts with scientific contents and formulations	18	32	23	43
Search and use of previous research and references	13	23	4	7
<i>Aim and ambition</i>				
Personal development and critical thinking	8	14	16	30
Basis and motive for teacher profession	8	14	9	17
	94		92	

Table 1. Student teachers’ experiences of research-based teacher education (B:57, M:54).

Characteristics of education

Some students (B: 4/7%, M: 4/7%) emphasised that they received *a broad education*. Within education, students acquire broad competence covering all subjects taught in primary school. They can further choose to specialise in one or two subjects. Students have many tasks and exercises, both written and verbal, within their education. They also have theoretical courses, mainly based on research and practice periods in a practice school closely related to the university, as well as in field schools: *A lot of work, both written and verbal, such as practical exercises and work regarding different methods of teaching...* (B-F34). A research-based approach also means that education is based on *educational science and research* (B: 8/14%, M: 2/4%): *Research-based teacher education means that we, as students, can take part in research within educational science and, based on that, we learn* (B-F42). Educational science is the main subject in teacher education, and as it represents about 140 of 300 ECTS, it comprises the main part of education.

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Many students related teacher education to *research and research-related courses, content, and literature* (B: 19/33%, M: 21/39%). The courses and their contents are based on reliable sources and scientific literature, and students gain knowledge of previous research and theories in relation to the teaching profession: *The courses and the course contents are always based on scientific literature and reliable references* (B-F12). Students read and discuss research, various kinds of theories, and scientific articles and theses. During specific courses on research methodology, they also obtain insights into scientific theories, quantitative and qualitative methods, and the rules of academic writing. In Finland, *teacher educators are research-qualified* (B: 4/7%, M: 2/4%) and possess doctoral degrees. Both the professors and the lectures are seen by the students as professional and competent and relevant to the profession. Teacher educators follow the latest research, refer to previous research in their courses, and bring forward areas of interest they are engaged in: *The teachers are updated; they know the latest news or at least how and with which tools one can find it...* (M-F13).

The students appreciate the *status, quality, standard, and development* of research-based education (B: 12/21%, M: 11/20%). The education is on a high level and confers status upon the teaching profession, which is seen as very important by the students: *I believe that research-based teacher education guarantees well-educated and scientifically knowledgeable teachers. The fact that the education is research-based gives me more status, which means that I feel more proud of my educa-*

tion... (M-F28). The education is of a high quality and aims to educate competent and professional teachers. A research-based approach also means that education is continuously developing and seen as the backbone of Finnish schools and the Finnish education system in general.

Students' own research activities

Most students related research-based education to their own research activities within education. They *write texts with scientific content and formulations*, and they learn to perform own research (B: 18/32%, M: 23/43%). During courses in research methodology, students learn how to use various methods and carry out their own research projects: *We learn how to choose the principles we base our research on and why we do what we do. We learn to design our own research* (M-F41). Students also write a Bachelor's and a Master's thesis, which comprises a large part of their studies. Students on the Master's level pointed to their own engagement and work in research-related activities and emphasised their contribution to the scientific development of educational science and the teaching profession via performing research. The assignments and the written theses require that students *search for and use previous research and references* (B: 13/23%, M: 4/7%): *Our home assignments require that we become familiar with the scientific literature... in our assignments, we refer to these sources and write a reference list* (B-F56). Specifically, Bachelor's students described their search for scientific literature and their references to previous research and literature.

Aim and ambition

Within teacher education, especially at the Master's level, **students develop their critical thinking skills and develop as persons** (B: 8/14%, M: 16/30%): Within research-based teacher education, you learn to think, reflect, and examine information in a critical way (M-F12). They learn to think using a research perspective, evaluate information and knowledge in an analytic way, and find solutions and answers by themselves: We critically discuss various theories in order to form our own view of the teaching profession and teaching (M-F47). Students are aware of the fact that within an international perspective, research-based teacher education is not common. They understand the challenges of such an education, but at the same time, they see its importance for the future of the teaching profession: We must develop as individuals and become highly educated in order to become teachers (B-F30).

Students' experiences of a research-based education were also explicitly related to the teaching profession, and students saw a research-based education as the *basis of and motivation for the teaching profession* (B: 8/14%, M: 9/17%). Based on research, teachers can choose their teaching choices, claims and methods. Instead of relying on practical trial and error, they can choose their actions based on a scientific point of view: *You must be able to justify why you, for example, have planned a lesson in a certain way. It is natural to refer to research to support your choices and methods* (B-F2). Teachers continuously receive a great deal of information, and it is important for them to be able to evaluate and develop their own teaching based on reliable sources: *The idea is probably to educate us for a changing world in which the teacher must perform research and follow up on things herself* (M-M1). Teachers learn to see relationships between different methods and learning results, and they can use the knowledge they find to improve their own teaching.

Student Teachers' Experiences of Research-Based Teacher Education in Relation to the Future of the Profession

The second research question concerns how student teachers experience research-based teacher education in relation to their future profession. A total number of 139 statements were identified and categorized into three categories with six aspects (Table 2).

	B	%	M	%
<i>Teacher competence</i>				
Knowledge base for teacher profession			11	20
Basis and support for teacher profession	19	33	15	28
Motive for teaching and teacher profession	9	16	4	7
Critical thinking and information search	5	9	12	22
<i>Teacher professionalism</i>				
Development and further research in the profession	16	28	12	22
High competence, expert knowledge, status and job opportunities	10	18	10	19
<i>A critical and negative view</i>				
	10	18	6	11
	69		70	

Table 2. Student teachers' experiences of research-based teacher education in relation to their future teacher profession (B:57, M:54).

Teacher competence

Only Master's students explicitly emphasised that research-based teacher education provides them with a good **knowledge base for the profession** (M: 11/20%): Research-based teacher education makes it possible to become a qualified teacher with a broad knowledge base and the tools needed to do the work... (M-F53). The knowledge received was related to education in general, as well as to writing scientific theses. Most students explained that a research-based education **provides the basis of and support for the teaching profession** (B: 19/33%, M: 15/28%). This basis is the educational research approach, and teachers experience it as fundamental to the profession. Research provides them with tools for use in practice and supports them in their daily work: I can utilise research and the results achieved. It provides me with tools with which to supervise and support my pupils in their learning process (B-F24). Theoretical studies, as well as general experiences during education, provide a base to fall back on during practice. Students also refer to practical studies within teacher education, but they mainly view theoretical studies as the basis for the teaching profession.

Research helps teachers *justify their actions* in the profession. Bachelor's students (B: 9/16%, M: 4/7%) commonly mentioned parents and the importance of having the competence to argue and justify their decisions about teaching in front of them: *I can give answers to other teachers and parents about why I have chosen to work in this or that way or with a certain topic by*

referring to research... I have more flesh on the bones (B-F25). This aspect of education was, however, not apparent among Master's students.

The students further pointed out that teachers must feel confident and competent in the profession and that in this respect, education allow them to justify their decisions and work strategies. They can more easily handle critical issues and justify their teaching methods by referring to research. A research-based approach further enhances the *ability to search for reliable information and develop critical thinking* (B: 5/9%, M: 12/22%). Master's students in particular emphasised their ability to find relevant knowledge for teaching and consider facts in a critical way. They related this directly to the teaching profession and further pointed out that *It develops my scientific thinking – you really need it as a primary school teacher* (M-F35). In contrast, Bachelor's students mainly pointed out the teacher's responsibility in terms of enhancing pupils' ability to find relevant knowledge and develop critical thinking.

Teacher professionalism

Research-based education provides teachers with a solid basis and justification for further **development and research in the teaching profession** (B: 16/28%, M: 12/22%): I, as a teacher, keep up with developments, and my pupils receive the best possible teaching (B-F40). New research and results provide inspiration and new ideas for teaching and support teachers' development in their jobs. Teachers evaluate their methods in a critical way, and based on research, they attempt to find new ways of teaching and enhancing pupils' learning. However, research not only concerns the development of teachers' practical work but also their own personal development: A research-based education develop our personal and professional identity (M-F37). Teachers must participate in in-service training and be open to new perspectives and ways of thinking. This, in turn, can motivate teachers to perform their own research and complete projects in relation to the profession.

A research-based education represents *a high-level of competence, expert knowledge, status, and good job opportunities* (B: 10/18%, M: 10/19%). Students were very proud of their education and felt that they has received broad competence: *I will have a broad competence and research-based knowledge, which will give me higher standard* (B-F18). Furthermore, a research-based education provides teachers with status and a solid basis for a prestigious job in Finland. Education at the Master's level is also seen as very profitable in terms of obtaining good jobs outside of school across Europe: *A research-based teacher education can be an advantage if you want to job outside Finland* (M-F9). In this way, a Master's education is conceived of as very important not only in relation to the teaching profession but also in a wider professional context.

A critical and negative view

Some Bachelor's students could not relate a research-based education to the teaching profession or explained this relationship in a very diffuse way: *Why do I need a Bachelor's and a Master's thesis when I am working as a professional teacher? I do not understand how I will become a better teacher by writing theses* (B-F49). Some students had difficulties in understanding the research component of their education, and they expressed *frustration* concerning the meaning and importance of such an approach to teacher education (B: 10/18%, M: 6/11%). Students experienced they spent too much time on research-based studies in their education: *I would have preferred more practice instead. Nobody will ever ask to see my Bachelor's or Master's thesis at a job*

interview... (M-F35). Research was sometimes not seen as relevant to the profession: *For me, it does not really feel relevant to what we are going to work with...* (M-F50).

Discussion

The aim of this study was to investigate student teachers' experiences of research-based teacher education in Finland. The data collected for the study has its limitations because the study is quite small in nature. Only students representing one teacher education department participated in the study, and the total number of participants was 111. However, the participants can be seen as representative of the chosen study group because 83.4% of the students (Bachelor students: 85.1%; Master's students: 81.8%) agreed to participate in the study. The students' responses to the two essay questions were comprehensive because the total numbers of statements obtained were 186 for the first question and 139 for the second question. In order to obtain a broader view of the topic chosen for the study, more essay questions must be included in the instrument. The aim of the study was to obtain a deeper insight into student teachers' experiences of research-based education and gain a better understanding of the approach from the students' perspective. Despite the limitations, the collected data and analysis contribute to interesting insights into the phenomena, in accordance with the ambition of qualitative studies in general (cf. Larsson, 2012).

According to the results, all students could explain their experiences of research-based teacher education, although some of them did so in a quite general or diffuse way (cf. Eklund, 2010; 2014; Jyrhämä et al., 2008). Most students emphasised the characteristics of teacher education and referred to the explicit parts of education in terms of research-related courses, content, and literature, as well as research-qualified teacher educators (Hansén, Eklund & Sjöberg, 2015). Some of the students were also very proud of their education and pointed out that it represents status, quality, standards, and development (cf. Niemi, 2011). Furthermore, many students defined their approach to education by relating it to their own research activities in terms of performing research and writing scientific texts and theses, as well as searching for and using previous research and references (cf. Eklund, 2010). Finally, some students focused on the implicit component of education, its aim and ambition, and related it to their own personal development and critical thinking (cf. Hansén & Eklund, 2014; Jakku-Sihvonen & Niemi, 2006; Kansanen, 2014, Niemi, 2011). Students further connected research based-education to their future teaching jobs and saw research as the basis and justification for the profession (cf. Maaranen, 2010). In comparing students on different levels, it was clear that Master's students more frequently related a research-based approach to their own research activities within education, as well as to the underlying aim and ambition of the research-based approach (cf. Eklund, 2014).

According to the results, it was difficult for the students to see the relationship between research-based teacher education and their future profession, and some of them could not even explain it (cf. Eklund, 2010; Heikkinen et al., 2012). The aim of the approach is related to the view of a professional and reflective teacher, although the results showed that students experienced the relation between research-based work and teacher practice as diffuse (c.f. Hansén, Forsman, Aspfors & Bendtsen, 2012; Komulainen, 2010). In the debate concerning research-based teacher education and the position of the scientific theses, his aspect should thus be considered. Students further expressed frustration regarding the concept of the research-based approach and criticized the content and struc-

ture of this approach to education (cf. Aspfors & Eklund, 2017; Eklund, 2010, 2014; Niemi, 2011; Sjølie, 2014). Despite this, many students focused on teacher competence and claimed that research-based education provides them with a solid basis and support for the profession; helps them in justifying their decisions and choices to, for example, critical parents; and enhances their ability to find reliable knowledge and develop their critical thinking skills (cf. Jyrhämä et al., 2008; Krokfors et al., 2011; Maaranen, 2010; Tirri, 2014). Students further emphasised teacher professionalism and claimed that their education had motivated them to develop and carry out further research in the profession. They appreciated the Master's education for providing them with a high level of competence, expert knowledge, status, and good job opportunities (cf. Eklund, 2014; Hansén et al., 2012; Maaranen, 2010; Niemi 2011). One difference between students at different levels could be identified: Master's students' expressed a more positive view and deeper understanding of the research-based approach (cf. Eklund, 2014).

Implications

In order to develop research-based teacher education, some implications should be taken into consideration. First, the results show that student teachers largely emphasise the explicit components of teacher education (cf. Aspfors & Eklund, 2017). However, the research-based approach underlying teacher education characterises the programmes in both implicit and explicit ways, which together comprise the core of the research-based approach. Consequently, the implicit parts of education could be more directly communicated to the students. For example, teacher education programmes should be more explicit about their research-related visions and aims. Secondly, the results show that most student teachers principally understand the concept of research-based teacher education and realize that it is an important tool for qualifying teachers (cf. Eklund, 2010, 2014). However, they sometimes find it difficult to relate to the profession, and they perceive that the approach does not provide them with enough practical tools prior to entering the reality of a teacher's work (cf. Kozina, 2013; Sjølie, 2014). The aim of research-based teacher education is to qualify autonomous, responsible, and reflective professional teachers and support their professional development throughout their careers. Teacher education could thus consider alternative ways of accomplishing research-based activities that more closely correspond to practically oriented requirements (Hansén & Eklund, 2014; Niemi 2011). For example, multimodal teacher education could enable students to integrate theory into practice more completely by combining studies with teacher work (cf. Jyrhämä et al., 2008; Maaranen, 2010).

Conclusions

From an international point of view, there has been increased interest in research-based teacher education in Finland (cf. Barber & Mourshed 2007). However, there are few large-scale empirical research projects focusing on the consequences of teacher education and its underlying research-based approach. This study has investigated student teachers' experiences of research-based teacher education. The study forms a part of a larger longitudinal and comparative research project (Aspfors & Eklund, 2017; Jakhelln et al., 2016), and in order obtain a deeper insight into the relevance of a research-based approach within a larger perspective, more studies should be conducted focusing on NQTs' experiences of re-

search-based teacher education in relation to the school reality they encounter. A strong research approach and a Master's degree for primary school teachers play crucial roles in the high prestige of the teaching profession in Finland, and it would be worthwhile to support these via further research (cf. Malinen, Väisänen & Savolainen 2012; Heikkinen, Jokinen & Tynjälä, 2012).

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