

Introduction to the special issue:

Final thesis in teacher education - Six country cases from Northern Europe

Teacher education in the Nordic countries is organized either in universities or in professional colleges as bachelor level programs or at master's degree level as part of adapting the respective recommendations of the Bologna agreement in 2008. Forsström and Munte (2023) carried out a systematic scoping review of Nordic research on teacher education to analyze the knowledge claims and identify the gaps for further research. Another such review was conducted by Lindblad, Samuelsson and Nelhans (2024) on 358 research articles published in one of the globally largest research journals to establish a research front and offer an understanding of intellectual traditions in the field of teacher education research. They pointed to a fragmentation in such traditions and a need for critical discussions on integration of research in teacher education.

This special issue aims to respond to such calls by problematizing final thesis as part of research-based teacher education in the Nordic countries and beyond and promote discussions about the scientific basis of teacher education. All Nordic countries and several countries in the European Union have a written work as the final examination for students in teacher education programs, the final thesis, either at the bachelors' or masters' level (Magnússon, & Rytzler, 2022). The final thesis is a scholarly work where students are expected to show what and how they have learnt the basic scientific and/or professional skills during their course of studies to become a teacher. There are different terms used for "final thesis" in the literature such as "degree project," "graduation thesis," "thesis," "bachelor's thesis," "master's thesis," and "final project." We use the term "final thesis" to refer to thesis work under different names and levels for consistency in this Special Issue, and when there is a deviation within a specific country context, we offer an explanation in relation to the term "final thesis."

Occasionally final thesis in teacher education is criticized for being too long, difficult to write, meaningless, and having low demands on students' knowledge. In addition, studies of students' experiences show that students find the final thesis as an important source to learn in their education (Åstrand, 2023). Concerns that the learning experience gained through writing a final thesis is not relevant for teaching and learning processes in schools have been discussed (Kowalczyk-Waledziak et al., 2020). There are also different approaches in supervision and examination of student teachers writing the final thesis. Moreover, the

question of what student teachers writing a final thesis in teacher education programs learn professionally is raised often both by the students themselves and some of the teacher educators.

In this special issue, we aim to problematize final thesis from both a conceptual perspective and how it is implemented by discussing the practices in the Nordic countries of Finland, Sweden, Denmark, Norway and Iceland, and a teacher education program in Germany. The foci of all contributions in the special issue concern final thesis in teacher education in relation to policies, processes and consequences for student teachers' knowledge development in the respective countries listed above. A model developed by the guest editors in this special issue displays various final thesis orientations in relation to the main purpose of the teacher education that guides the analysis of documents and empiric descriptions of final thesis practices in each country and establishes a framework for the discussion of the main results.

Previous research provides us with useful knowledge claims on aspects of the final thesis such as writing experience, academic and professional aspects and assessment considerations. However, the connection between the final thesis and teacher professional growth has rarely been studied. In addition, most of these studies are small scale case studies with primarily qualitative approaches. An overall understanding in relation to the academic or professional orientations approaches, contexts and processes for the final thesis implementation in teacher education programs, and their respective implications for teacher knowledge outcomes is missing.

To get a broader understanding of how final thesis is organized and implemented from national and local curriculum in the Nordic countries, a Nordic network was established in 2021. Initially, we had monthly digital meetings to discuss final thesis in teacher education and develop potential questions for exploring the issue with a broader perspective. The discussions on how final thesis is organized and carried out in the Nordic countries led to an interest to further deepen our understanding of how final thesis is positioned and implemented in teacher education, similarities, and differences among the countries. An application for funding a workshop was granted from a Swedish foundation for a meeting on the theme "Degree project practices and teacher knowledge construction in primary teacher education: A comparative study in Sweden, Finland, Norway and Denmark." The workshop included three plenary sessions with the titles; 1) "Teacher education paradigm and final thesis approaches: Implications for student teacher development," 2) "Perspectives on international comparative research on teacher education," and 3) "Final thesis in Swedish teacher education: Integration of an academic birds' eye view and a narrower more profession-oriented perspective." Plenary sessions encapsulated four group sessions where final thesis policies, implementation of final thesis, comparison between countries and brainstorming research ideas amongst the participants were the main issues.

Discussions at the workshop led us to a roundtable session at the Nordic Educational Research Association Conference in Oslo in 2023. The roundtable commenced with a presentation on academic and professional teacher education orientations and final thesis practices. Presentations from all the Nordic countries added perspectives to the roundtable discussion about the similarities and differences we detected in final thesis practices in our countries. The roundtable discussion concluded with a decision to edit a special issue in a peer-reviewed journal with country cases from each of the Nordic countries. The authors

invited to write these cases were asked to cover the background of the national context for teacher education program(s), final thesis policies, regulations, curriculum guides and practices, final thesis orientations and practices, review of research on final thesis, and a discussion on the future of final thesis in the national context. Each Nordic country and one German university presented final thesis practices in teacher education program(s) focusing on these themes. The authors for each country were decided within the group, and a stable communication was established on a digital platform at the University of Gothenburg.

The first article in this special issue introduces teacher education paradigms to establish a context for discussion on research-based teacher education, then a critical review of diverse final thesis approaches. The article concludes with a model on final thesis to establish a framework for the country case studies on final thesis practices. The last article in the special issue compares final thesis orientations and practices described in the country case studies and develops implications for further research and practice in teacher education. The other articles, as described below, are the country case studies that focus on national policies, guidelines, practices and, research review on final thesis in the Nordic countries and in Germany.

The country case studies on final thesis in this special issue

In the first country case study, Maaranen, Eklund and Aspfors position teacher education in Finland as strongly research based ever since the late 1970s. Specific research activities form a self-evident part of the teacher education program and are clearly reinforced during the final year when the students write their master's theses with a focus primarily on empirical (academic) research. Despite the lack of specific national regulations and guidelines, the master's thesis is carried out in a similar way in the two different universities that are chosen for analysis of the academic final thesis practice in the article, Åbo Akademi and University of Helsinki. However, there are also critical voices that question research-based teacher education by arguing that the expectation from teachers in doing research may diminish the attraction to teaching profession among students.

In the next article, Nyman, Börjesson and Råde provide a review of restructuring teacher education in the last 50 years in Sweden in line with the efforts to professionalize teaching through policy changes and reform efforts nationally and at the European level. Their study analyzes curriculum documents at teacher education program and course levels to identify conceptions of teacher education and academic or professional orientations toward educating future teachers at the primary school level. A total of 18 primary teacher education programs and five of their final thesis course syllabi were subjected to content analysis. The findings revealed that an academic orientation highlighting a focus on subject knowledge was most prominent in teacher education documents at the program level and an educational sciences orientation primarily gave shape to the content of the course syllabi.

The article by Lorentzon and Wågsås Afdal describes final thesis in relation to the four teacher education programs in Norway: two with bachelor's and two with master's degrees. All four programs contain a written final thesis with differences concerning degree levels, and research and practice orientations. The differences in final thesis practices are illustrated with interview data from Norwegian universities with informants selected from a

large survey study. The selected informants are course coordinators, program coordinators and members of bachelor's and masters' networks. The results are analyzed with regards to the processes and outcomes of research- and profession-oriented practices and the target group for whom the final thesis research would be relevant.

Denmark representing an interesting case amongst the Nordic countries with a final thesis at the bachelor's degree level, as discussed by Lund Nielsen. There is an organizational division between the academia and teacher colleges where the students take the subject area courses at universities and the pedagogical courses at teacher colleges. Teacher education is separated in both time and space. Nielsen describes this complex system of organization of teacher education programs and discusses final thesis practices in content and orientation within this parted teacher education in Denmark.

Teacher education in Iceland has recently changed dramatically as described by Ragnarsdóttir and Jónsdóttir in their article. These changes are due to increasingly diverse student groups, falling PISA results and a shortage of teachers. All teacher education programs are currently on master's level but with varied and flexible graduation requirements. For example, a new master's program replaced master's thesis with developing teaching material or conducting developmental projects. Ongoing discussions are taking place on how flexible and varied teacher education should be for student teachers in different subject areas and what expertise is needed in schools at different levels.

In the final case study, Spies and Gerheim review the current state of final thesis at the master's level teacher education programs in Germany through a document analysis. They first discuss final thesis policies and practices in teacher education in Germany and then analyze the implementation of final thesis in terms of their research orientation and positioning in professional development of student teachers. Their findings show that final thesis provides an opportunity for student teachers to demonstrate their academic and professional competencies with scientific and practical knowledge, methodological and research knowledge as well as professional knowledge in the respective subject disciplines. They argue that there is a special emphasis on educational sciences orientation to guide students to reflect on professional aspects of teaching and requirements for their future pedagogical activities in schools and classrooms.

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Acknowledgement

The studies in this special issue were written partially based on the collaboration established in the Network financed through Riksbankens Jubileumsfonds Forskningsinitiering (F22-0033), so we would like to thank RJ Forskningsinitiering for its support.

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