

# Notions of the final thesis as “research-based” and “profession-oriented:” The case of Norway

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In this article, we explore how expectations of the final thesis being “research-based” and “profession-oriented” is interpreted by different stakeholders in Norwegian teacher education programmes. Due to national curriculum regulations and guidelines, the final thesis in Norwegian teacher education is expected to integrate profession-oriented and research-based competencies. However, as the concepts are not further defined or specified, teacher education programmes are left with a great deal of discretion to decide how a research-based and profession-oriented final thesis might look. By using interview data from a national evaluation of the final thesis in Norwegian teacher education institutions, we investigate how the objectives of the final thesis being both research-based and profession-oriented are pursued in four teacher education programmes, that is, two primary and lower secondary school education, one early childhood education and one vocational education. Our findings show that the four cases differ in terms of their approach to the concept of research-based. Moreover, we find that the concept of profession-oriented often seems to be linked to thematic and methodological aspects of the thesis, as several of the interviewees seem to believe that some topics and methodological approaches are more relevant for profession-oriented theses than others.

**Keywords:** Final thesis, profession-oriented, research-based, teacher education

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## Introduction

Despite variations in its emphasis and focus, the final thesis is in many European teacher education programmes regarded as a pivotal ‘tool’ for developing students’ professional capabilities such as analytical thinking, reasoning, and reflection (Kowalczyk-Wałędziak et al., 2020; Maaranen, 2010). As many teacher education programmes have undergone processes of academisation and moved towards more research informed programs, the thesis also often plays a vital role in enhancing students’ research and inquiry skills, increasing their methodological knowledge, and the ability to apply research findings in their professional practice (Ellis & McNicholl, 2015; Kowalczyk-Wałędziak et al., 2020; Lorentzen, 2025). Simultaneously, both policymakers and professionals have highlighted the importance of the thesis’s relevance, stressing how it also needs to be related to future professional practice of student teachers (Afdal, 2017; Jakhelln, Bjørndal & Stølen, 2016). It is argued that the thesis should maintain close alignment with the specific professional field for which the educational programme is preparing the students, while also facilitating the integration of theoretical insights with practical application (Meeus et al., 2004). In sum, the overarching objective of the thesis is often to encourage students to integrate and synthesize academic and professional knowledge and objectives (Råde, 2019).

In Norway, the intention of combining research and teachers’ professional practice in final thesis work is manifested in national curriculum regulations, stating that the final thesis should be both *research-based* and *profession-oriented*. These expectations not only apply for the five-year teacher education programmes where students write a master’s thesis (i.e., primary, and lower secondary teacher education for years 1-7 and 5-10, as well as teacher education for years 8-13), but also the three-year bachelor’s programmes (i.e., vocational teacher education and early childhood education). Although *profession-oriented* implies that the thesis somehow should be related to the students’ future practice (Munthe & Haug, 2010), the concept is not further defined or clarified in the national policy documents. The same lack of clarity applies to the notion of the final thesis as *research-based*, which can imply, for instance, using scientific methods, conducting a small-scale research project and applying research-based knowledge or doing all these together. Teacher education programmes are thus left with a great deal of discretion to decide how the two concepts should be operationalized and how a research-based and profession-oriented final thesis might look like. Consequently, the forms of knowledge that students draw on and develop by writing the final thesis are likely to vary between different types of teacher education programmes, as well as within the same teacher education programme. Today, we know very little about how Norwegian teacher education programmes pursue the objectives of the final thesis being both research-based and profession-oriented and what knowledge is being mobilized through these discourses. This study aims to address this knowledge gap.

Although research on the final thesis as profession-oriented and research-based is sparse, studies of profession-oriented and research-based teacher education more generally can be found in the literature, particularly the latter. For example, Krokfors et al. (2011) reveal that the concept of research-based teacher education in Finland is particularly related to the content of the study programme (e.g., educational theory, methodology, reading research literature) and the fact that the educators are also researchers. Similarly, Toom et al. (2008) argue that research-based teacher education in Finland has four characteristics: a) it is

structured in line with the systematic analysis of education, b) all teaching is based on research, c) students are involved in activities where they can practice argumentation and justification, and d) students acquire academic research skills. In a study of perceptions of research-based teacher education in Norway, Munthe & Rogne (2015) find that students more often are positioned as passive than active participants in research activities. In contrast to the abovementioned studies, less research can be found on interpretations of the concept of profession-oriented. One exception is Munthe & Haug's (2010) study of the Norwegian primary and lower secondary teacher educations, highlighting education programme's orientations towards practice by investigating how theory and practice is integrated and how practicum periods are linked to campus-based teaching (Munthe & Haug, 2010). In sum, the concepts of profession-oriented and research-based appear as ambiguous and multifaced, hence underlining the importance of empirically exploring how they are understood and operationalized by various stakeholders.

In the Norwegian context, researchers find that early childhood teacher education students are likely to be oriented towards both theory and their future professional practice in their final theses (Birkeland et al., 2016). Moreover, the theses are often practice-oriented in the sense that they formulate research questions which are closely linked to the everyday life of kindergartens and that the implications of the studies often concern the field of practice (Birkeland et al., 2016). In primary teacher education, which has included a master's thesis since 2018, students express that the thesis provides in-depth knowledge and research and development competence relevant to their future roles (Jakhelln, Bjørndal & Stølen, 2016). It is emphasized that the master's thesis should be firmly rooted in the school's practice to contribute effectively to teacher development. However, how the thesis should be related to students' future practice remains unclear. A similar point is made in a study of newly qualified teachers with master's degrees, highlighting the need to enhance students' understanding of research and development competence and its practical applicability (Antonsen, Bjørndal & Jakhelln, 2020). The importance of clarifying the relationship between research and practice in final thesis work is also stressed in investigations of bachelor students' experiences with research-based activities (Afdal & Spemes, 2018).

The above-mentioned studies reveal that the concepts of research-based and profession-oriented are indefinite and that they can connote multiple meanings depending on who is asked and what teacher education programmes are focused on. Although some studies on the final thesis in Norwegian teacher education programmes exist, in-depth investigations of how different stakeholders interpret and combine national expectations of the final thesis being both research-based and profession-oriented are still missing. In this article, we analyse data from a national study on the final thesis in Norwegian teacher educations to explore the diversity of how the two concepts are interpreted (see also Afdal & Lorentzen, 2023). By drawing on the data collected in several bachelor's and master's level teacher education programmes, the study explores the facets of the thesis as research-based and profession-oriented and to discuss how different operationalizations might generate different forms of knowledge. The study is guided by the following research question: *How are national expectations of final thesis as research-based and profession-oriented interpreted and operationalized in Norwegian teacher education programmes?*

In the next section, we elaborate on the Norwegian context and the role of the final thesis in Norwegian teacher education. We then introduce our conceptual framework by

describing a) Healey and Jenkins' (2009) model of ways of engaging students in research and inquiry, b) Afdal's (2017) work on discourses on profession-oriented educations, and c) Yildirim et al.'s (this issue) conceptual framework of final thesis orientations. Drawing on interview data from a national evaluation (Lorentzen et al., 2022), we present data from four teacher education programmes; two primary and lower secondary (year 1 to 7 and year 5 to 10), one vocational, and one early childhood. Finally, we discuss the implications of the study for teacher education, scholars, and teachers in the field of practice.

### **Norwegian context: Final thesis in policy documents**

Much like other European nations, Norwegian teacher education programmes have, over the past decade, undergone a significant process of academization. This transformation has been influenced by several key policy initiatives. Firstly, the Bologna Process, as articulated in the Bologna Declaration of 1999, set the stage for this shift. Additionally, the enactment of the new Higher Education Act in 2005 by the Ministry of Education and Research mandated that all professional programmes in Norway, both bachelor's and master's programmes, should have a research-based orientation.

Further reinforcing this academic orientation, Norway aligned with the European Qualifications Framework in 2011. This alignment imposed heightened expectations for explicit delineation and articulation of students' learning outcomes. Finally, in 2017, the Norwegian government launched a comprehensive national strategy for teacher education, known as 'Teacher Education 2025.' The strategy outlined long-term objectives for Norwegian teacher education programmes, including ways of enhancing their quality and fostering collaboration between higher education institutions and schools. As the present study explores the final thesis in several types of teacher education programmes, the next sections elaborate on the similarities and differences between the final thesis in these educations.

Although teacher education programmes differ in several ways, recent developments have contributed to a degree of homogenization among these programmes, particularly in terms of their duration. Teacher education for lower and upper secondary teachers (years 1-7 and 5-10) underwent a shift from a four-year programme to a five-year integrated master's programme in 2014, a transition that had already been implemented in the teacher education for years 8-13 in 2003. This shift marked a noteworthy transformation in Norwegian teacher education, placing increased emphasis on research, specialization, and alignment with professional relevance, as noted by Jakhelln, Bjørndal, and Stølen (2016). Furthermore, in 2021, teacher education programmes in practical and aesthetic subjects were also elevated to the master's degree level. As a result, early childhood education and vocational teacher education are now the only teacher education programmes offered at the bachelor's level.

Another commonality among the various teacher educations in Norway pertains to the centralized national regulations and governance of these educational programmes. In Norway, teacher education programmes are subject to oversight and governance through *national curriculum regulations*. These regulations hold a legally binding status and are designed to ensure a coherent and nationally consistent approach to teacher education. They delineate the scope and objectives of the programmes, articulate the required learning outcomes, and prescribe the organizational structure and central content of the curricula. Consequently, the regulations limit the degree of autonomy that teacher education programmes enjoy in

comparison to other professional education domains without such regulations. Each distinct type of teacher education is governed by its own unique national curriculum regulation. Furthermore, these curriculum regulations are specified further in *national guidelines* for each teacher education programme, which provide detailed specifications regarding the content and implementation of the curriculum regulations. Taken together, these national regulations and guidelines collectively play a pivotal role in informing the design of local programme plans and specific courses within higher education institutions. It should be noted, however, that a national committee evaluating the curriculum regulations was established in 2023. The purpose of the committee was to consider how national steering through the curriculum regulations could be reduced in order to increase the local autonomy and flexibility of the teacher education programmes. How the evaluation might affect the national steering and regulation of teacher education, including the final thesis work, remains unclear.

One of the objectives described in the national curriculum regulations for all the teacher education programmes is that the programmes should be integrated, profession-oriented and research-based. The concepts of profession-oriented and research-based are not only applied when referring to education in general, but also the final thesis in particular, although the emphasis, terminology and level of accuracy vary between teacher education programmes. Especially in the curriculum regulations for teacher education at a master's level, the descriptions of the thesis as research-based and profession-oriented/ practice-oriented/ practice-relevant are prominent. For example, the *National curriculum regulations for primary and lower secondary teacher education (year 1-7 and 5-10)* notes that "The master thesis should make up at least 30 ECTs. It should be profession-oriented and practice-based. Master's theses in school subjects should be firmly rooted in the subject and subject didactics and may also include elements from pedagogy and special needs education." In this document, the emphasis of research-based knowledge in relation to the final thesis is also highlighted as the thesis is described as "(...) an extensive research-based written work in which the students must demonstrate that they master philosophy of science and method" (p. 4).

In the *National curriculum regulations for teacher education year 8-13* (2013), the master's thesis is to a limited extent described, as the document only notes that the thesis should be professionally relevant and make up at least 30 credits. The national guidelines for teacher education year 8-13 (2017), however, specifies that the thesis "(...) should be rooted in themes and topics from research and development work that are relevant for the professional practice" and "that the students through the work of the thesis should conduct their own research work." Moreover, the guidelines highlight that "It is important that the work also promotes insight into scientific use of resources and research ethical principles which also is fundamental for their future professional practice" (pp. 5-6).

In the *National curriculum regulations for early childhood education* (2023), the bachelor thesis is referred to as "(...) profession-orientated and thematically linked to the areas of knowledge or the specialisation module" (p. 3). *The national guidelines for early childhood education* (2018) also add that "the thesis should be related to everyday life in pre-schools, and that it should be relevant for future professional practice" (p. 20). It should be research preparatory so that the students develop knowledge about relevant research ethical issues and methods. Correspondingly, the descriptions of the bachelor's thesis are also sparse in the *National curriculum regulations for vocational teacher education* (2018). Like early childhood teacher education, however, the thesis is elaborated on in the *National guidelines for vocational teacher education*, stating that it is

a “research- and development-based work,” and that the thesis should be rooted in teachers’ perspectives on school/ working life and/or society issues (p. 7).

The curriculum regulations and the national guidelines thus aim to ensure consistency in all teacher education regarding the final thesis being both research-based and practice-oriented, yet without specifying how these concepts should be operationalized and understood. Teacher education programmes are therefore offered by local authorities, yet few if any studies have explored how the purposes of the final thesis are sought achieved across different types of teacher education. Moreover, as the discourse of profession-oriented and research-based may activate new forms of knowledge (Afdal, 2017), insight into what types of knowledge being generated through final thesis work is missing. The present study aims to address these questions by investigating how the concepts are understood when carrying out the final thesis in teacher education year 1-7 and 5-10, vocational teacher education and early childhood teacher education.

### Analytical framework

In order to explore how the concepts of research-based and profession-oriented are approached in final thesis work, we draw on a) Healey and Jenkins’ (2009) model of ways of engaging students in research and inquiry, b) Afdal’s (2017) work on discourses on profession-oriented educations and c) Yildirim et al.’s (this issue) conceptual framework of thesis orientations. The contribution of each perspective is described below.

Firstly, inspired by the work of Healey and Jenkins (2009), the final thesis as research-based can be linked to two dimensions, the first of which concerns the relationship between research as a process and a product. The *process dimension* refers to the preparation for and actual work with the thesis, and concerns, for example, what activities exist in the education programmes and how the activities are interrelated and organised. The *product dimension*, on the other hand, concerns the thesis as a final outcome, but also what competence the students are supposed to have after finalizing the thesis. This second dimension revolves around how students are positioned (Kayı-Aydar & Kayı-Aydar, 2019) within the context of their thesis work. Students’ opportunities to influence various aspects of the thesis may vary, for instance, regarding the selection of the topic, the methodological approach or the theoretical framework. When students are given a substantial degree of autonomy in these regards, they are empowered to play an active role in shaping the research process that underpins their thesis work. Conversely, in situations where students have fewer options and limited autonomy, their capacity to define the parameters of research-based work within the context of their thesis is more restricted. In sum, the two dimensions illustrate how a research-based final thesis can take on different forms and manifest itself both prior to, during, and after the thesis work.

Second, in order to investigate notions of the final thesis as profession-oriented, we draw on research on how the concept of profession-oriented is conceptualized in policy processes and documents for teacher education and engineering education in Norway (Afdal, 2017). Discussing how discourses on profession-oriented might be analytically approached, Afdal (2017) distinguishes between five operationalizations of the concept: (1) How relevance is understood, (2) How the relationship between theory and practice is constituted, (3) Ideas about integration of knowledge domains, (4) How insight into professional

work is understood, and (5) How professional expertise is understood. For the purpose of this article, we will particularly focus on the three former elements and use these questions as an analytical point of departure to examine how different stakeholders operationalize and interpret the concept of profession oriented.

Finally, we draw on Yildirim et al.'s (this issue) conceptual model of thesis orientations in this volume (see Figure 1). Based on a literature review, the model illustrates ways of organizing final thesis and how these approaches differ in terms of their emphasis on scientific investigations. By distinguishing between three main thesis orientations and linking them to specific final thesis models, the model nuances Healey & Jenkins' (2009) two dimensions. In addition, the model is particularly relevant for the present study as it reveals how a thesis might vary in its position to scientific investigation, ranging from primarily being academic to more profession oriented. The model thus makes it possible to not only explore the concepts of *research-based* and *profession-oriented* separately, but also to see them as representations of different thesis orientations of the same continuum.

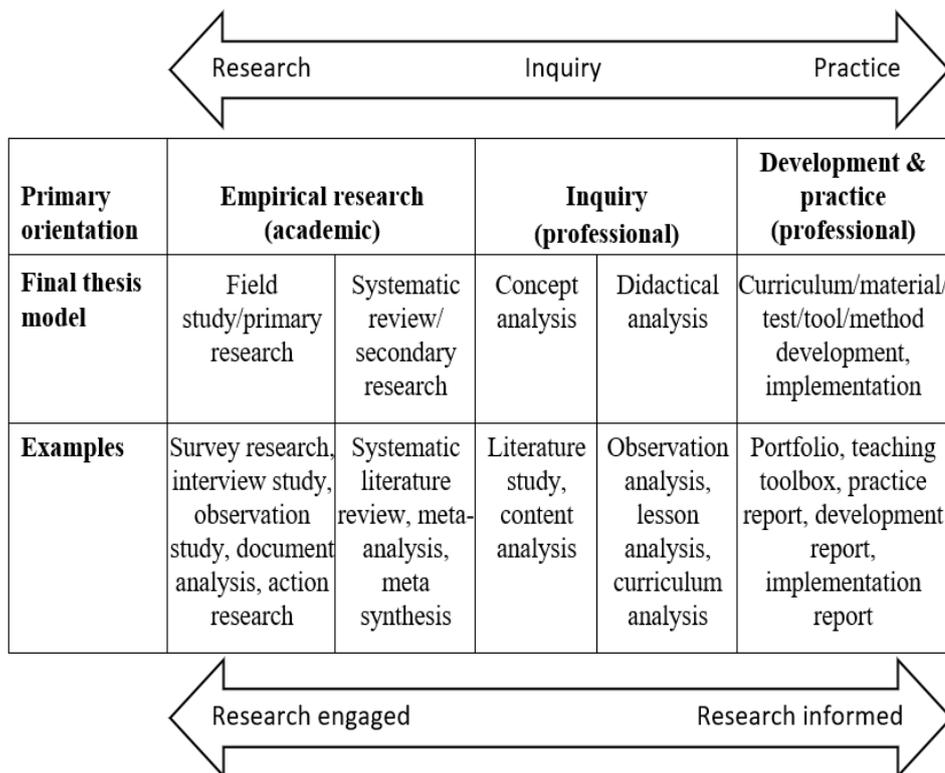


Figure 1: A framework to represent various final thesis orientations in teacher education (Yildirim et al., this issue)

## Data and methodology

To discuss how the concepts of research-based and profession-oriented are operationalized in the work with final thesis, we draw on data from a national study of bachelor's and master's thesis from 2022 (Lorentzen et al., 2022). The evaluation was conducted on behalf of the Norwegian Directorate for Education and Training the Advisory Council for Teacher Education 2025 (*Faglig råd for lærerutdanning 2025*). The purpose of the study was to explore how student teachers qualify through writing their final thesis, and what conditions affect these qualification processes. The study was conducted in two phases. First, a digital survey was sent to all vocational, year 8-13, early childhood, primary and lower secondary (year 1-7 and 5-10) teacher education programmes in Norway, as well as teacher education programmes in practical and aesthetic subjects, and consecutive master programmes for pre-school teachers and primary and lower secondary teachers educated before the master reform. The aim of the survey was to gain an overall impression of the final thesis work within and across teacher education programmes, and the survey clustered around four main aspects: how the programmes organize the work with the final thesis, how the students are involved in decision making, involvement of the field of practice, and how supervision is organized and conducted. The respondents invited were individuals with key responsibilities related to the final thesis, e.g., course coordinators, programme coordinators and members of bachelor's and master's programme networks. In total, 199 persons received the survey and 82 of them responded.

Based on data from the survey, an in-depth study was conducted in phase two of the evaluation. More specifically, four education institutions were selected from the survey, as these institutions reported on practices, routines and/or projects that had been implemented in order to improve the work with the final thesis. In this article, we primarily draw on data from the in-depth study of the four cases.

The in-depth study consists of data from two (TE 1-7 and 5-10, hereafter referred to as TE A and TE B), one early childhood teacher education (ECTE) and one vocational teacher education (VTE). Within each case, students, educators/ supervisors, and persons related to the field of practice were interviewed, as well as the coordinators in the primary and lower secondary education programmes (see Table 1). The main purpose of the interviews was to gain more insight into the arenas, practices and stakeholders associated with the final thesis, the students' experiences with writing the thesis, and how different forms of knowledge are being integrated in this work. The informants were also explicitly requested to reflect on the concepts of *research-based* and *profession-oriented*. In this article, we particularly draw and these reflections, in addition to their descriptions of the main purpose of the thesis, involvement of the field of practice and the role of methodology and philosophy of science. How the various questions are related to the two concepts is described below.

Table 1. Interviews conducted in phase two of the project

Case	Interviews
1 – ECTE	4 supervisors/ educators (group interview) 3 students (individual interviews)
2 – TE A (1-7 and 5-10)	1 programme leader 4 supervisors/ educators (group interview) 3 students (group interview) 2 teachers from the field of practice (individual interviews)
3 – TE B (1-7 and 5-10)	1 programme leader 3 supervisors/ educators (group interview and individual interview) 2 students (group interview) 1 vice-principals from the field of practice
4 - VTE	3 supervisors/ educators (individual interviews) 3 students (group interview) 2 teachers from the field of practice (individual interviews)

*The early childhood teacher education* programme is located in the eastern part of Norway and admits approximately 120 students each year. The scope of the final thesis is 15 credits, and the students are free to decide whether they want to write it individually or in groups. According to the local curriculum, the final thesis should be an independent research work in line with professional, methodological and ethical requirements and guidelines.

The two primary and lower secondary teacher education programmes, i.e., *TE A and TE B*, are both medium-sized. In 2022, 50 and 80 students were admitted to the TE A for years 1-7 and 5-10 respectively, whereas 73 students were admitted for years 1-7 and 54 for years 5-10 in TE B. A distinct difference between the two education programmes concerns the number of credits assigned to the master's thesis. In line with most other primary and lower secondary teacher educations in Norway, the scope of the final thesis in TE A is 30 credits. In contrast, TE B provides a 45 credit masters' thesis. Consequently, final thesis work in TE B extends over several semesters, whereas students in TE A start and finish their thesis work during the last semester.

*The vocational teacher education* consists of five different vocational teacher education programmes<sup>1</sup>. All programmes combine professional and vocational courses and are designed with a 30-credits bachelor's thesis carried out as group work. During the last semester, vocational teacher education students plan and carry out a *research and development* project in a school. In their final thesis, the students are expected to discuss the choices made in the project and reflect upon adjustments that could have been made.

In the analysis of the data, the interview transcriptions were read in detail, before we focused on the more explicit and direct expressions of the concepts of research-based and profession-oriented. In this stage, we coded statements addressing the main purpose of the theses and explicit utterances about how the interviewees understood the two concepts.

<sup>1</sup> These are 1) Building and Construction, 2) Health and Social Care, 3) Electricity and Electronics, 4) Restaurant and Food Business and 5) Technical and Industrial Production.

Second, we looked for the more implicit notions of research-based and profession-oriented in the interviews. Inspired by Afdal’s (2017) work, we identified extracts addressing discourses on *profession-oriented*, e.g., the perceived relevance of the thesis, different forms of involvement of the field of practice and ideas about knowledge integration, before looking for extracts addressing discourses on *research-based*, e.g., reflections on the function of the thesis, student involvement and the role of methodology and philosophy of science. Next, we conducted a cross-case analysis by exploring similarities and differences in how various stakeholders perceived the concepts of research-based and profession-oriented. Finally, we reviewed our findings in the light of Healey and Jenkins’ (2009) model and Yildirim et al.’s (this issue) notions of final thesis orientations.

### Results

The findings from the study are summarized in Table 2, illustrating the main objective of the final thesis, prevailing interpretations of the concepts of research-based and profession-oriented, as well as ongoing debates and tensions within the four cases. In the next sections, we elaborate on these results.

Table 2. Overview of the findings concerning “research-based and “profession-oriented” thesis<sup>2</sup>

Case	Main objective	Final thesis orientation: Research-based (RB)	Final thesis orientation: Profession-oriented (PO)
Early childhood teacher education (ECTE)	Let the students immerse themselves in a topic they are interested in	Combine research and development	Choice of topic is partially predetermined.  Involvement of the field of practice through “The Science Centre”
TE A (1-7 and 5-10)	Develop research skills and methodological knowledge	Use research methods, link their own study to existing research, develop analytical skills, teaching evaluations and improvements, acquire new knowledge and “dare to try it in practice”	Self-selected topic and research method  Involvement of the field of practice through the “master-market” and facilitation of students’ data collection  Related to the choice of topic: Broad vs. narrow understandings

<sup>2</sup> ECTE: Early Childhood Teacher Education, TE: primary and lower secondary educations cases A and B, VTE: vocational teacher education.

TE B (1-7 and 5-10)	Develop research skills and methodological knowledge	Develop "a researcher's point of view," monitor and develop professional practice, understand research literature	Self-selected topic and research method  Involvement of the field of practice through the "master-market" and facilitation of students' data collection  Choice of topic: broad vs narrow understandings
Vocational teacher education (VTE)	Let the students immerse themselves in a topic they are interested in.	Inquiry and development rather than (systematic) use of research, problematization, reflection, critical thinking	Self-selected topic and research method (action research)  Field of practice as the arena for conducting action research

### Notions of a research-based final thesis

During the interviews, all the informants were asked how they understood the concepts of profession-oriented and research-based. Regarding the latter concept, a recurring finding in the data from the two primary teacher education programmes was that this concept particularly was associated with the development of a scientific mindset, the ability to use various research methods, and an analytical approach to teaching. For example, it was pointed out that a research-based thesis should be understood as "(...) using research methods" (programme leader) and "building on previous research and being analytical" (educator). Several informants also drew parallels between the thesis as research-based and future professional practice, for example, by relating research-based to "being able to reflect on one's own teaching in the future and justify what one does based on theory" (educator), "avoiding fixed patterns, having an independent critical view of one's own practice" (educator), and "daring to conduct research in teaching" (student). However, although this emphasis on research skills and methodological knowledge was particularly prominent in TE A and B, discussions of the benefits of this thesis orientation also existed within the two programmes. For instance, one of the programme leaders commented that

We have an ongoing debate on whether we should include, for example, more actions research, and whether this master's thesis should be even closer related to the teaching profession.

A similar emphasis on scientific investigations was not highlighted by the interviewees from the two bachelor's programmes. In vocational teacher education, for example, it emerged that less emphasis was placed on the bachelor's thesis as a research project. Instead, the focus was on the final thesis being more of a development project. Several educators explained that this shift from research to development was largely due to students lacking

methodological competence and that they often generalized their findings based on a low number of informants. One educator, for example, mentioned that the students probably had room for improvement when it came to "(...) systematically applying the use of research methods in connection with planning and implementation of an action (...) and how to analyse and interpret findings." For this reason, it was more important that the thesis contributed to reflection and awareness-raising among the students, rather than systematic use of theory and research methods.

It often becomes unfortunate because they become eager and start designing questionnaires without familiarizing themselves with methodological literature and such. So, this year, we tried to be cautious about this, saying that we tone down the R. (Educator).

Another educator in the vocational teacher education programme also stated that the students probably had a lot of potential regarding "applying research methods systematically in relation to the planning and implementation of an action (...), and how to analyze and interpret findings." As the vocational programme to a limited extent provided students with training in research methodology and skills in how to undertake a research study, they had decided to change the genre of the final thesis from being a research project to become more of a development project. Consequently, the final thesis in vocational teacher education education programme was seen as a tool for developing critical thinking and reflective practices rather than systematically using theory and research methods.

### **Notions of a profession-oriented final thesis**

Regarding the concept of "profession-oriented" and how this should be defined in relation to the final thesis, a general tendency in the interviews was that this concept was used synonymously with the concept of "practice-oriented." More specifically, the majority of the interviewees in all of the four cases described a profession-oriented thesis as a thesis being somehow relevant for the students' future professional practice.

Relatedly, all the education programmes, except for vocational education, had procedures for the field of practice to suggest topics they wanted students to investigate. In the field of early childhood education, for instance, a digital collaborative platform was under construction. The aim of the platform is to strengthen the collaboration between the field of practice and the education programme, primarily by increasing the number of kindergartens suggesting topics for students to explore. In the primary teacher education programmes, "master markets" were conducted before students embarked on their theses. These "markets" are physical meetings where researchers, schools, and other external stakeholders present project ideas and issues they want students to address in their theses. By selecting a topic presented at the master market, students were aware that they were contributing to their future field of practice by providing further insights into specific subjects. This process also ensured that their theses were profession-oriented and relevant, the interviewees explained.

While the field of practice played a vital role in data collection in all four cases, significantly fewer established procedures were found for involving the field of practice after the thesis was completed. For instance, none of the education programmes had routines for

systematically sharing insights from the final theses with the schools/ kindergartens where students had collected their data. Lack of time and ethical considerations related to anonymity were described as factors impeding dissemination. This finding aligned with the results from the survey conducted in phase one of the study, where 64 out of 82 respondents indicated that there were no established procedures for communicating the findings from the theses back to the field of practice.

Another commonality across the four cases was that when asked about how the informants interpreted the concept of profession-oriented, several of the interviewees immediately linked this concept to the themes and methodological approaches in the theses. Regarding the latter, participant observation and interviews were described as particularly relevant/ profession-oriented methodological approaches. One of the students in early childhood teacher education, who had conducted observations in her thesis work, highlighted this:

I think what we did with participant observation was very practice-oriented, that we had a plan and carried it out together with the children. We took their perspective and focused on the children. So, I felt that it was very practice-oriented and something we did together with children in kindergarten. But I think it's also practice-oriented if you talk to an early childhood educator, but we didn't do that" (Student).

Hence, in many cases, the concepts of profession-oriented and research-based were naturally associated with each other. For instance, in the interview with educators and supervisors from TE A, the conversation about what a research-based thesis might look like developed to a discussion about broad versus narrow approaches to the final thesis as profession-oriented and research-based. One of the educators reflected:

I think that the concepts of profession-oriented and research-based are often interpreted too narrowly. I have always insisted on a broad interpretation of the concepts, and I have had some feuds with other educators who want to have a much narrower interpretation. But if it gets too narrow, the students will get uncomfortable with writing about some parts of the subject. And then it can be too much focus on just interviewing teachers or just gathering classroom data.

The excerpt sheds light on the existence of certain tensions among educators and students regarding the interpretation of the conceptualization of profession-oriented. While not explicitly articulated, it may be inferred that this narrow-broad dimension may be associated with the students' selection of both their thesis topic and research methodology. Concerning the latter, a narrow notion of practice-oriented methods seems to encompass activities such as interviews and classroom observations.

Interestingly, a distinction between a narrow and a broad interpretation of the concept of profession-oriented was also brought up by the educators in TE B. Here, however, this dimension was only related to the students' choice of topic for the thesis. When asked how they thought about the concept of profession-oriented, one of the educators replied:

I think there are at least two definitions here. You can think of it narrowly, as investigating what's going on in the classroom, in the teacher collegium or the organization, things like that. But you can also choose to think of it as. I have chosen to think of it as something that should be relevant for history teachers, or it should be relevant for teachers in schools, but it must be subject-related. But sometimes the subject-dimension is lost when writing a profession-oriented thesis. It is sometimes difficult to connect pedagogy and the school subject.

In sum, the results reveal that the interviewees from TE A and B associated a research-based final thesis with the students' development of research competence and methodological skills. Moreover, the concept of profession-oriented was related to ongoing discussions about the extent to which one should have a broad or a narrow approach to the theses' theme and methodology. In contrast, the informants from vocational teacher education and early childhood teacher education mainly highlighted that the thesis should be seen as development project, although developing analytical and methodological skills as part of working with the final thesis was also emphasized in early childhood teacher education. The fact that exploration and practical relevance are more important in the two bachelor's programmes than developing research-based knowledge is understandable as the bachelor's programmes are less research-intensive than the 5-year primary school teacher education programmes at the master's level. Nonetheless, the findings are important as the facets of the concepts of research-based and profession-oriented are made visible and unfolded.

## **Discussion**

In this article, we have explored how the intension of the final thesis being research-based and profession-oriented is operationalized in different teacher education programmes. In general, the interviewees seem to believe that this intension can be realized. However, the findings also indicate ongoing discussions and negotiations in several of the programmes about how the concepts should be interpreted. In the next sections we discuss our results in relation to the conceptual framework presented above and the potential implications of the study.

Regarding the concept of research-based, the results show that the four cases differ in terms of their approach to this concept. To some extent, these differences concern the extent to which the students are positioned as active/passive participants in their projects and whether the programmes emphasize the final thesis as product/process (Healey & Jenkins, 2009). For instance, regarding the passive/active dimension, students in early childhood education are assigned a (general) theme to explore in their thesis, whereas the choice of topic is left to the students themselves in the three other education programmes. In line with previous research revealing that student teachers are more often seen as audience than active participants, the students in early childhood education appear as less agentic in their thesis work (Munthe & Rogne, 2015). Moreover, students in the two master's programmes are to a greater extent expected to systematically undertake a research project in their final thesis than the students in the two bachelor's programmes. The results also indicate that the main objectives of the master's thesis are related to developing scientific skills and thinking rather than developing professional practice. The variation between the four cases, however, is not fully covered by Healey & Jenkins' model, as the discourses of research-based arguably are

more fine-grained than what this model takes into account. For example, the model does not include the theses orientations as outlined by Yildirim et al. (this issue). Due to this framework, the primary teacher education programmes can be described as research engaged, focusing on the thesis being an empirical research project (although theoretical theses are allowed). In contrast, the main thesis orientation in vocational teacher education is development and practice, as the students are expected to conduct an action research project where they develop and test a specific teaching plan. The thesis in vocational education can therefore be characterized as research informed rather than research engaged. Finally, the thesis orientation in early childhood education can be described as both research engaged and research informed.

In line with national curriculum regulations, different types of teacher education are likely to have different final thesis orientations. For instance, it is reasonable to believe that final thesis at the master's level is more oriented towards academic, empirical research than teacher education at bachelor's level, as the latter educations are less research-intensive and include less methodological training than programmes at the master's level. This assumption is also supported by Meeus et al. (2004), arguing that the practice-oriented final thesis approach is more relevant to bachelor level teacher education programmes. However, this does not mean that facilitation of research engaged theses is unfeasible in bachelor's programmes, or that bachelor's students cannot work theory-oriented or academic oriented. Presuming that students are closely supported and provided with methodological training and skills, programmes at a bachelor's level can arguably have a similar approach to the concept of research-based as programmes at a master's level. We therefore argue that an academic thesis orientation is not reserved for master's programmes but can be implemented across types of teacher education and theses.

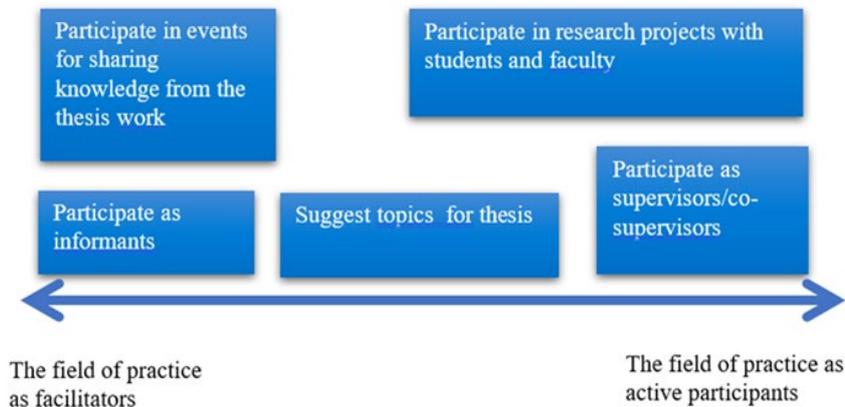
The conceptualization of final thesis orientations outlined by Yildirim et al. (this issue) enables differentiating between various approaches to the final thesis as research-based, hence illustrating the breadth of interpretations of the concept. However, our data also indicates that discussions about the prevailing thesis orientations are closely coupled with questions related to what forms of knowledge that is (or should be) mobilized through the final thesis work. First, tensions can occur between emphasizing didactics on the one hand, and pedagogy and school subjects on the other hand. Second, although some of the informants highlight subject didactics and pedagogy, others underline the importance of including disciplinary knowledge in the final thesis. Finally, stakeholders' views might range from learning about philosophy of science and methodology, to being able to use such knowledge. It's important to note, however, that these dimensions should not be perceived as dichotomies, but rather as continuums illustrating how different forms of knowledge can be mobilized through final thesis work, and that different stakeholders might have different views on what types of knowledge should be emphasized.

Whereas the discussion of thesis orientations and forms of knowledge primarily relates to the concept of research-based, two important notes can be made to the concept of profession-oriented. First, the results demonstrate that the concept of profession-oriented connotes that the thesis should be somewhat relevant. This understanding is shared by both students, educators, programme coordinators and teachers from the field of practice, but can also be found in the existing literature. For instance, Toom et al. (2008) argue that the main purpose of the final thesis is to carry out research that is relevant for teachers'

professional teaching. Although this interpretation seems reasonable, a vital question becomes *how* relevance is understood (Afdal, 2017; Lorentzen, 2025). Our data shows how the concept of profession-oriented is linked to the thematic and methodological aspects of the thesis, as several of the interviewees seem to believe that some topics and methodological approaches provide more profession-oriented theses than others. For instance, the interviews with educators from TE A and B revealed that tensions can be found regarding whether the thesis primarily should address subject didactics or topics thought in schools, or if the thesis can concern *all* themes relevant for teachers and the teaching profession. In addition, the results also imply ongoing discussions on whether interviews and observations offer more profession-oriented data than other research methods.

Second, an important aspect of the final thesis practices investigated in the present study concerns the involvement of the field of practice. Figure 2 illustrates how the involvement varies from functioning as facilitators to actively participating before, during, or after the assignment work.

Figure 2: Involvement by the field of practice in the final thesis work



Our data reveals that using teachers as informants is the most common way of involving the field of practice in the students' final thesis work. However, we also found local initiatives where the field of practice participated more actively in the assignment work. For example, in TE A, a pilot project where schoolteachers served as co-supervisors had been tested.

A general finding across the four cases concerns the lack of routines for systematically sharing insights from the theses to the schools/kindergartens. In the interviews with the educators and the teachers from the field of practice, lack of time and ethical considerations such as anonymity are described as hindering factors. The lack of routines for disseminating results from the theses to the field of practice has also been reported in Finland (Maaranen et al., this issue). Questions can be raised about how such lack of routines might affect the

relationship between the education programmes and the field of practice. If teachers continue to facilitate the students' data collection by participating as informants or enabling classroom observations without receiving anything in return, the field of practice risk ending up as facilitators rather than mutual partners to the education programmes in the students' final thesis work. This implies that discussions should be initiated about how contexts for presenting the final theses can be established. Attention should also be paid to the topics of the theses, and what thematic areas the field of practice perceive as particularly relevant for students to investigate. This, in turn, might increase the potential impact of the theses for teachers and respond to calls for strengthening the connections between final thesis work and the field of practice (Antonsen et al., 2020; Jakhelln et al., 2016).

### **Practical implications and future research**

Several practical implications can be derived from our study and the concepts of research-based and profession-oriented are interpreted. First, the findings related to the concept of profession-oriented generate important questions about *who* the final thesis should be relevant for. For instance, teachers' and school leaders' opinions about topics of importance do not necessarily correspond to the perceptions of students. Similarly, scholars might interpret the relevance of final thesis differently from students. Consequently, teacher education programmes should arguably be aware of this potential diversity of opinion, and initiate discussions identifying different stakeholders' responses to what is a relevant final thesis. Discussing what a profession-oriented thesis might look like is arguably also useful for teachers in the field of practice, as this might enable consistency in how different stakeholders interpret the concept. In sum, such discussions will assumably provide a better foundation for deciding who the theses should be practice-oriented and relevant for.

Another note can be made to the finding of some informants perceiving interviews and observations to be more profession-oriented approaches than other research methods. From our perspective, this point of view might be problematic as it suggests that some forms of data automatically lead to less relevant theses. As outlined by Yildirim et al. (this issue), final thesis practices can range from field studies to systematic literature reviews, concept analyses and action research, hence potentially including a variety of methodological approaches. Our study thus highlights the importance of teacher education programmes unfolding and making visible the breadth of possible methodological approaches. This way, the extent to which a final thesis is profession-oriented is not reduced to a matter of the students' methodological approach.

A final practical implication concerns the role of the field of practice in students' work with the thesis. The significance of creating routines for disseminating information from the final theses has already been noted, as this might ensure that teachers to a greater extent benefit from the students' work. However, it is important to note that a more mutual relationship between schools/kindergartens and the education programmes also can be created in other ways than merely establishing routines for dissemination. For instance, including teachers in research projects or using teachers as co-supervisors (see figure 4 above), can also be beneficial initiatives for strengthening the role of the field of practice in students' work with the final thesis. Our data implies that several education programmes are in their early stages of developing and testing such initiatives.

Our study also points to areas requiring further investigation. First, as this study has uncovered ongoing debates on whether students should have a broad/narrow methodological and thematic approach to their final thesis, more insight into these arguments and perspectives is needed. This, in turn, may provide a better foundation for different teacher education programmes to decide how the concept of profession-oriented should be interpreted locally, but also how it relates to the concept of research-based. Conceptually, more knowledge about the connections between methodological and thematic choices can also enable nuanced perspectives on how final thesis models and thesis orientations (Yildirim et al., this issue) are coupled.

Finally, any changes of the national curriculum regulations as a result of the ongoing evaluation in Norway might reshape the conditions for student teachers final thesis work. If teacher education programmes are offered more local autonomy, the variety of the ways in which education programmes organize and prepare their students for the final thesis might increase. Additionally, greater differences between bachelor's and master's programmes might occur. Although having a less consistent and nationally coherent approach to teacher education might have certain undesirable consequences, reducing the national steering could enable education programmes to try out new ways of organizing the final thesis work. For instance, courses in philosophy of science and research methodology can be introduced at an earlier stage in education. From our perspective, more research is needed on the consequences of policy regulations for final thesis work in teacher education, and how adjustments in such regulations might enable and impede this work.

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