

Advisory Council for Teacher Education in Norway 2025

Bachelor's and Master's Thesis Work in Teacher Education

Report



Advisory Council for Teacher Education in Norway 2025
December 2022

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In June 2017, the Norwegian Ministry of Education and Research launched *Teacher Education 2025 – National Strategy for Quality and Cooperation in Teacher Education*. To follow up on the strategic goals, a committee of experts was formed, the *Advisory Council for Teacher Education in Norway 2025 (the Council)*. The Council was commissioned to conduct professionally grounded analyses and provide recommendations to national authorities and the *National Forum for Teacher Education and Professional Development (NFLP)* for use in the follow-up of the teacher education strategy.

Council members bring knowledge from different parts of the sector and from various relevant research areas. They are personally appointed by the Ministry of Education and Research.

The Council members are as follows:

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The Ministry of Education and Research has delegated secretarial responsibilities for the Council to the Norwegian Directorate for Education and Training. The secretariat consists of Tove Margrethe Thommesen (Head of the Secretariat), Anne Turid Veigaard and Marijana Kelentrić. Wenche Åsheim from Universities Norway – Teacher Education (UHR-LU) attends the Council meetings and helps with secretarial tasks.

The Council's work is grounded in the research-based and experience-based knowledge that the members have available to them as representatives from teacher education and the education sector. As such, the Council's knowledge base is founded on the members' collective complementary knowledge and their ability to obtain and process new knowledge and experiences from the sector.

The Council's analyses and recommendations are primarily aimed at the Ministry of Education and Research and the NFLP as the commissioning party, but the Council also considers the teacher education programmes and sector to be important target groups. The Council will be in place until 31 December 2025, with the potential for extension if necessary.

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Abstract

The importance of research for professional practice underlies the introduction of primary and lower secondary teacher education on the Master's level and the government's target of more kindergarten teachers with Master's level competence. Working on a Bachelor's or Master's thesis is a major and important part of student and teacher activities in teacher education programmes in which research-based knowledge overlaps and interacts with experience-based knowledge. In the Council's view, Bachelor's and Master's theses are a vital part of students' development towards professional practice and important for meeting and modernising both current and future competence needs in kindergartens and schools.

The Council's impression is that teacher education features a diverse range of initiatives and arrangements aimed at facilitating the Bachelor's and Master's thesis process and that there is significant potential in both firmly rooting it in the profession and strengthening the academic foundation for thesis work in all teacher education programmes. Another impression is that teacher education theses are expected to help overcome many of the challenges facing teacher education. Those TE programmes in which theses are well integrated have strong coherence. All the same, the Council has found that a better link between the various elements of programmes is warranted. The Council believes there is a need for systematics and a clearer infrastructure that can provide guidance and support the contributions of students, academic staff and the field of practice in carrying out thesis projects.

In view of the goals of *Teacher Education 2025*, the Council believes there is untapped potential to Bachelor's and Master's qualifying thesis work. This pertains not only to untapped *qualification potential* and untapped *knowledge-sharing potential*, but also untapped *potential for organisational development*.

More concretely, this includes ensuring predictability and structure in thesis work, developing solid theory and methodological knowledge, access to and use of data, thesis form and relevance, supervisor competence and arenas for exploring thesis problems and topics. Also important is that the knowledge created during thesis work can make an important contribution to a common knowledge base that is also of benefit to others.

The Council's previous work on partnerships has made clear the need for concrete cooperation arenas for quality development activities. In the Council's view, carrying out qualifying activities through partnership cooperation strengthens the qualification of students and helps to develop teacher education, kindergartens and schools.

To fulfil its mandate, the Council has acquired knowledge through a nationwide scoping study of work on Bachelor's and Master's theses in teacher education. The Council has also held dialogue meetings with the staff of teacher education programmes, kindergartens, schools and their owners across the country. The reports on the scoping study and dialogue meetings are enclosed with the report. The Council has also based its assessments and recommendations on the available research literature and information. Drawing on the knowledge base presented in this report, discussions held by the Council and the assessments we have made, the Council recommends the following:

Totality and collaboration

- Strengthening professional qualification for student teachers by linking Bachelor's and Master's theses more closely to the needs of the field of practice
- Underscoring the importance and function of practice training in students' thesis work in new framework plans for teacher education

- Strengthening occupational-related learning and a research base in students' thesis work through more systematic collaboration between teacher education programmes and the field of practice
- Incorporating collaboration into thesis work in teacher education partnership agreements

Supervision

- The Ministry of Education and Research should offer incentives to further develop systematic measures to strengthen supervisor competence in teacher education programmes, both on campus and in the field of practice
- Launching a pilot project to explore possibilities for co-supervision from the field of practice, such as reference groups and co-supervisor roles
- Linking collaboration on co-supervision to career development for teachers (see proposal in NOU 2022:13) and arrangements with dual/combined positions in teacher education

Thesis form and topic

- Exploring alternative types of topics that include more creative and/or development and practice-oriented approaches without deviating from academic requirements for theory and method in the regulatory framework for Bachelor's and Master's theses
- Facilitating a link between the theses and current problems or focal areas in the field of practice

Student teacher involvement in research

- Enabling student teacher thesis work to be part of R&D projects at the institution
- Granting eligibility-based funding to teacher education programmes for involving student teachers in R&D projects
- Requiring that R&D projects that are funded by, for example, the Norwegian Directorate for Higher Education and Skills or the Research Council of Norway involve student teachers in order to receive support

Sharing data and theses as a knowledge contribution

- Establishing a joint knowledge base with high-quality theses that are available to all teacher education programmes and the field of practice
- Encouraging universities and university colleges to establish systems for the reuse and multiple use of existing data for thesis work in line with the applicable ethical guidelines for research and privacy regulations

1. Commissioned study of Bachelor's and Master's theses

In this report, the Advisory Council for Teacher Education in Norway presents the results of its commissioned study on Bachelor's and Master's thesis work in teacher education. The report is based on the strategic document *Teacher Education 2025*, the Council's mandate, the knowledge base developed and available to the Council, as well as existing regulations and arrangements pertaining to Bachelor's and Master's theses in teacher education. The mandate is as follows:

Teacher Education 2025 points out that “teachers need to acquire solid, research-based skills and to have access to continued professional development within a professional learning community in order to make informed decisions in their day-to-day work in kindergartens and schools” (p. 5). A core task for teacher education institutions is the “Integration of education and research” (p. 19). To achieve the strategic goals, academic communities must conduct “high quality, relevance and innovation in R&D” (p. 19). The strategy also points out that the introduction of the five-year Master's programmes requires collaboration between teacher education programmes and school owners in order to facilitate practice-relevant Master's theses and good coordination of R&D initiatives that involve kindergartens and schools.

The Council will be preparing professionally based analyses and recommendations for strategy follow-up. Up to now, the Council has focused on priority area A of the strategy, which emphasises teacher education kindergartens and schools. Following discussions on current problems in the field and dialogue with the Ministry of Education and Research, the Council has decided to take a closer look at priority area C of the strategy, namely research and development work. Given that Bachelor's and Master's thesis work in teacher education programmes is important for students' understanding and knowledge of research and development work at kindergartens and schools, the Council has chosen to highlight Bachelor's and Master's thesis-related work in teacher education. Thesis work is also an interesting and important arena for collaboration and development initiatives between schools and kindergartens, the municipal sector and teacher education institutions.

The development of interaction between research-based knowledge and experience-based knowledge is a key element of the strategy. This element underlies the development of quality in all priority areas of the strategy and is important in the Council's analysis and assessment of Bachelor's and Master's thesis work.

Diversity and variation width between and within teacher education programmes in Norway are well known. The Council's previous work on partnerships also shows that teacher education programmes take different approaches to interaction between experience-based and research-based knowledge. Bachelor's and Master's theses in teacher education programmes are a major and important part of student and teacher activities in which research-based knowledge overlaps and interacts with experience-based knowledge. Thesis work provides insight into ways to adequately develop this interaction.

The Council wants to focus on three main areas: Firstly, student qualification through thesis writing and the conditions that influence the qualification process. Secondly, how knowledge developed through Bachelor's and Master's thesis work can benefit teacher education, the profession and research. Thirdly, making available and building structures for a knowledge base with examples of Bachelor's and Master's thesis work in teacher education programmes.

The overall objective of this work is in line with the strategic objective to strengthen quality and relevance in the qualification of students and to develop a joint knowledge base for teacher education programmes. The results should offer answers by providing examples and recommending models for Bachelor's and Master's thesis work.

The Council will be examining:

Student qualification through Bachelor's and Master's thesis work

1. How Bachelor's and Master's thesis work can be carried out in teacher education programmes and how interaction between research-based and experience-based knowledge is expressed in:
 - a. Student involvement
 - b. Occupational-related learning and practice orientation
 - c. Supervision
 - d. Problem statements, method and theory
 - e. Relevant and current literature
 - f. Ongoing research projects in and involving teacher education programmes
 - g. Available arenas for exploration

Knowledge development and sharing in teacher education and the profession

2. How can kindergartens, schools, kindergarten owners and school owners be involved in prioritising, planning and implementing Bachelor's and Master's theses?
3. How can the knowledge developed during Bachelor's and Master's thesis work be made available to teacher education programmes and the professional field in the broadest sense possible?
4. How can the knowledge developed during Bachelor's and Master's thesis work be applied in teacher education programmes and R&D within the programmes?
5. The Council will then use the results to formulate recommendations on how to design a knowledge base that can contribute to continuous knowledge sharing between teacher education programmes on Bachelor's and Master's thesis work.

Council's previous work

In the report *Partnerships in Teacher Education – a knowledge base* (Advisory Council for Teacher Education in Norway, 2019), the Council presented a model for a joint vision of professional practice. This model also forms the basis for the Council's work on this part of its mandate. Central to the model is the recognition of teacher education as a dynamic process in which all parties involved contribute to the development of the professional practice of teachers.

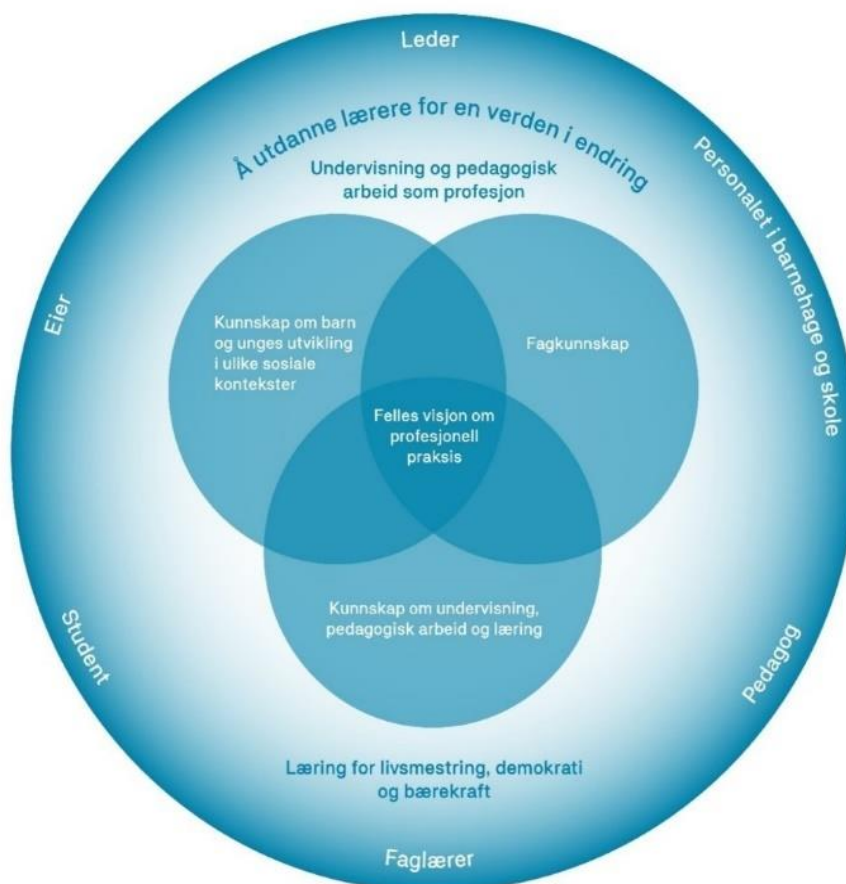


Figure 1: Partnership framework from the knowledge base

The stakeholders in a partnership comprise the outermost layer of the figure. With different and complementary approaches and competencies, they contribute to developing teacher education activities.

The development of a *joint vision of professional practice* in which all parties contribute comprises the centre point of the model, and consequently teacher education. The goal is to help develop teaching and pedagogical work as a profession and establish conditions for learning life skills, democracy and sustainability by preparing teachers in collaboration and partnership for a changing world. In this respect, teacher education can be viewed as the foundation for continuous learning and further development of the profession. The Council has considered this joint vision in its examination and assessment of Bachelor's and Master's thesis work.

1.1. Background to the mandate

The importance of research for professional practice underlies the introduction of primary and secondary teacher education on the Master's level, as laid out in the strategy document *Teacher Promotion. On Team for the Knowledge School (Lærerløftet – på lag for kunnskapsskolen)* (2014). It also underlies the government's goal of more kindergarten teachers with Master's level competence (*Strategy for Kindergarten Quality 2021-2030, Barnehager mot 2030: 2021*). The focus is partly on developing the ability to reflect on and apply research while studying and partly on reflecting on its importance for future development work in the profession. When working on their Master's theses, students acquire knowledge about research and have the possibility to try out research work as part

of their thesis work. This makes the thesis an important tool for strengthening the theoretical, analytical and methodological competence of teachers. The introduction of Bachelor's theses in kindergarten teacher education was intended to strengthen occupational-related learning and incorporate issues and topics that students had previously worked on during their studies, such as practice training. The emphasis is on introducing students to academic and methodological requirements and on the material collected for the Bachelor's thesis from existing research and development work.

In the past decade, various measures have been launched to develop research competence in teacher education. It is the Council's impression that much good work is being carried out in the sector in terms of the development of teacher education in general and student qualification through theses in particular. Yet the Council also believes that considering the goals of *Teacher Education 2025*, there may be untapped potential in Bachelor's and Master's thesis work, both internally on campus and in collaboration with stakeholders from the field of practice.

- This is partly about untapped *qualification potential*. Systematic knowledge is lacking, for example, about how thesis work affects students' sense of being better qualified for the profession. Updated knowledge is also lacking on the extent to which higher education and kindergartens and schools consider and link Bachelor's and Master's thesis work to the actual qualification processes.
- Another challenge is untapped *knowledge-sharing potential*. As pointed out in the strategy, the considerable increase in the number of Master's theses in teacher education translates into increased opportunities to strengthen R&D work. This enhances the need to share existing information, data and knowledge prior to thesis work, but also leads to issues related to the sharing of completed theses.
- Last but not least, there is also untapped *potential for organisational development*. For teacher education programmes, kindergartens and schools, as well as their owners, thesis work offers interesting possibilities to further develop teacher education programmes internally and in collaboration and partnership with the sector.

International advisory panel

The international advisory group APT (Advisory Panel for Teacher Education) has highlighted partnership as a tool to strengthen the quality of Master's theses in primary and lower secondary teacher education (NOKUT, 2020). Although their work focuses primarily on primary and lower secondary teacher education, it is also worthwhile to view the Council's work with Bachelor's and Master's theses in all teacher education programmes in relation to the APT's work. Particularly relevant are the following recommendations from the APT:

Funding recommendations

Norway's primary and secondary teacher education reform requires a higher level of professionalisation, closer relationship to schools, stronger link between theory and practice and research as a primary component of the education programme. Achieving this requires sufficient long-term funding of the reform plan.

[...]

- Finance specific initiatives relating to the building of research capacity, programme integration, partnerships, practice training and Master's theses [...]. Of particular importance is the recommendation to provide schools with direct funding for dedicated school-based

administrators and teachers who are responsible for partnership activities, work with student teachers and participation in thesis and R&D supervision.

[...]

Partnership and practice training recommendations

[...]

- Collaborate to develop sustainable, productive and mutually beneficial practice schools to support student teachers with high academic ability and research competence.

[...]

- Collectively prepare formal partnership agreements that describe a vision and purpose, partner contributions, roles, responsibilities and advantages, and the structures, processes and resources needed for productive and sustainable partnerships.

[...]

Master's thesis and supervision recommendations

The panel recommends that all school partnerships agree on the Master's theses' focus, scope, quality and supervision, a central component of the new primary and secondary teacher education programmes.

- Agree on the importance of 'professionally oriented' and 'practice-oriented' research and on the focus and scope of Master's theses.

[...]

- Agree on what constitutes accuracy and quality in Master's theses as a result of professionally oriented and practice-based research.
 - Agree on guidelines for adequate assessment criteria and use the expertise of teachers at teacher education institutions and practice schools.
 - Acknowledge that not everyone in the field of education agrees on 'practice relevance' as a criterion for thorough research. But joint reflection on this and other complex issues is necessary to develop meaningful assessment criteria for Master's theses.

- Identify and share across all teacher education institutions national and international examples of Master's theses carried out by teams or small groups that can be assessed individually in the form of an individual student dissertation.

[...]

- Agree on supervision structures and practices that support the process of carrying out and completing high-quality Master's theses by student teachers in a timely manner.

2. Laws and regulations

The implementation of the current degree structure with Bachelor's and Master's theses is the result of the Quality Reform in Higher Education and part of the development of, among other things, a common European education market through common educational structures (Bologna Process and process involving a European qualification framework). In Norway, this led to a harmonisation of the Norwegian degree structure for all study programmes into a two-part cycle consisting of a three-year Bachelor's degree and a two-year Master's degree instead of the former structure with a four-year cand. mag. degree and two-year specialisation programme. However, various study programmes continued to offer a five-year or four-year programme, such as teacher education (NOU 2000:14). Teacher education has gradually been adapted to the new Norwegian degree structure with Bachelor's and Master's degrees.

A Master's thesis as an integral part of teacher education is relatively new in Norway. In 2013, a framework was introduced for a five-year integrated secondary school teacher education (grades 8-13) and in 2017, for five-year primary and secondary teacher education¹. The framework for the five-year subject teacher training programme in practical and aesthetic subjects was established in 2020 and will be implemented gradually². Kindergarten teacher education and vocational teacher education are on the Bachelor's level. Both offer the possibility to continue to a Master's degree programme.

Bachelor's and Master's theses in teacher education are currently governed by various regulations and provisions, such as the *Act relating to universities and university colleges, Norwegian qualifications framework for lifelong learning* and frameworks for the various study programmes. National guidelines have also been prepared for each teacher education programme.

The [Norwegian qualifications framework for lifelong learning](#) (NKR) has the same status as regulations and is a reference system for lifelong learning that combines qualifications in a common framework. The framework contains levels that reflect progress. These levels represent an increasing degree of complexity in the learning outcomes. The learning outcome descriptions for the Bachelor's degree state that the candidate/student must *be familiar with* research and development work, be able to *apply academic knowledge* to practical and theoretical problems and be able to *plan and carry out various assignments and projects* over time, individually and as part of a group. On the Master's level, the candidate/student must be able to *apply knowledge* to new areas within the field, be *able to analyse* academic problems, be able to *independently use relevant methods for research and academic and/or artistic development work* and be able to *carry out an individual, defined research or development project* under supervision and in line with applicable ethical standards for research.

¹ UiT The Arctic University of Norway has offered a five-year primary and secondary teacher educational programme since 2010.

² Postgraduate programmes in educational theory and practice for subject teachers (PPU) and Postgraduate programmes in educational theory and practice for subject teachers in vocational subjects (PPU-Y) are one-year programmes based on Bachelor's or Master's thesis work prior to admission. The Council's activities related to Bachelor's and Master's theses are limited to teacher education activities involving theses and consequently, separate from PPU and PPU-Y. There are also a number of continuing education programmes for teachers on the Master's level, such as in adapted education, didactics of mathematics and the natural sciences, physical education and sports. Given that *continuing education* on the Master's level is not part of the basic teacher training qualification programmes, these are not covered by this mandate.

The [Regulations relating to Master's Degree requirements](#) govern Master's degrees for institutions subject to the Act relating to Universities and University Colleges: §3 applies to Master's degrees requiring 120 credits, §4 Master's degrees requiring 300 credits and §5 experience-based Master's degree requiring 90 or 120 credits. In the Master's degree programmes that fall under §3 and §5, the regulations state that these must include independent work equivalent to at least 30 credits. In the Master's degree programmes that fall under § 4, the regulations state that these must include independent work equivalent to at least 20 credits. The scope of the independent work may not exceed 60 credits and must demonstrate understanding, reflection and development. According to the regulations, the institution must establish more detailed rules concerning independent work, including scope, assessment form and that the work be carried out individually or by several students.

Teacher education is also strengthened through national *framework plans* that are laid down in regulations, with requirements pertaining to Bachelor's and Master's theses in the study programmes (see Table 1 below). The framework plans assume that the education programmes are professionally oriented and based on research and experience-based knowledge. They presume programme totality and coherence. The framework plans provide guidelines for structure and content and regulate the general requirements for qualifying theses in the study programmes. An overview is provided below of the types of theses that qualify student teachers in Norway. The framework plan requirements for Master's theses have some similarities, but also differences that define the distinctiveness of the various study programmes.

Type of teacher education programme/Level	Bachelor's level	Master's level
Kindergarten teacher education	Professionally oriented Bachelor's thesis of at least 15 credits, thematically anchored in the knowledge areas or in specialisation.	
Vocational teacher education	Bachelor's thesis of 30 credits. The thesis must be interdisciplinary, with 10 credits for pedagogy and vocational didactics and 20 credits for vocational education.	
Primary education, grades 1-7		Professional and practice-oriented Master's thesis of at least 30 credits. The thesis can pertain to a school subject, to teaching at the beginner's level, to pedagogy or to special education.
Lower secondary teacher education, grades 5-10		Professional and practice-oriented Master's thesis of at least 30 credits. The thesis can

		pertain to a school subject, to pedagogy or to special education.
Secondary school teacher education		Professionally relevant Master's thesis of at least 30 credits. The thesis must be part of subject 1.
Teacher education in practical and aesthetic subjects, grades 1-13		Master's thesis of 30–60 credits. Professionally and practice-oriented Master's thesis based on the mastersubject or subject II. The thesis must have elements of practical creative and/or occupational activities.

Table 1: Qualifying theses in teacher education.

The framework plans also specify that national guidelines must be prepared for each of the study programmes. It must be possible to adapt the national guidelines as needed, and they have a formal status on the level below regulation/framework plan. The Advisory Council for Teacher Education in Norway is responsible for the national guidelines for teacher education that are developed by specialist communities. The guidelines contain general and in-depth information on each education programme. They provide important specifications for what can be considered standards for good teacher education and must facilitate the institutions in formulating programme plans and subject plans. In terms of qualifying thesis work, the guidelines state the following:

[National Guidelines for Kindergarten Teacher Education \(in Norwegian\)](#): The thesis is to be carried out during the final academic year, comprise 15 credits, focus on everyday kindergarten life, benefit future professionals and be research preparatory. The thesis must be based on one or more knowledge areas and/or specialisations (National Guidelines from 2018).

[National Guidelines for Vocational Teacher Education \(in Norwegian\)](#): The Bachelor's thesis is carried out during the third academic year. The thesis must be interdisciplinary and comprise 30 credits, 10 of which are linked to the professional subject and 20 to the vocational subject. The thesis must be based on issues related to school/working life and/or society from a teacher's perspective. The thesis must be assessed from a comprehensive perspective within the study programme, and the learning outcome descriptions that apply to the study programme provide a benchmark for thesis work (National Guidelines from 2018).

[National Guidelines for Primary Teacher Education Programme for Years 1-7](#): In working on the mastersubject that is based on individual research, the student must acquire thorough knowledge of the profession, its role and function within the school and, as regards the school subjects, also of didactics. The student should be able to analyse and take a critical approach to research and to apply this knowledge to professional practice. The student must also acquire an understanding of assessment forms in the mastersubject. Apart from regulatory guidelines, the Master's thesis is also

related to scientific theory and method. The thesis must comprise at least 30 credits and be professionally and practice-oriented. A Master's thesis related to a school subject must have a solid foundation in the subject and subject didactics, and may also include elements of pedagogy and special education. A Master's thesis related to pedagogy or special education must focus on classroom work and be linked to both subject teaching and learning (National Guidelines from 2018).

[National Guidelines for Primary and Lower Secondary Teacher Education Programme for Years 5-10:](#)

In working on the mastersubject and associated individual research, the student must acquire thorough knowledge of the profession, its role and function within the school and, as regards the school subjects, also of didactics. The student should be able to analyse and take a critical approach to research and to apply this knowledge to professional practice. The student must also acquire an understanding of assessment forms in the Master's degree subject. Apart from regulatory guidelines, the Master's thesis is also related to scientific theory and method. The thesis must comprise at least 30 credits and be professionally and practice-oriented. A Master's thesis related to a school subject must have a solid foundation in the subject and subject didactics, and may also include elements of pedagogy and special education. A Master's thesis related to pedagogy or special education must focus on classroom work and be linked to both subject teaching and learning (National Guidelines from 2018).

[National Guidelines for Secondary School Teacher Education \(Grades 8-13\) \(in Norwegian\):](#) The Master's thesis must comprise 30 credits and facilitate specialisation and in-depth study in subject 1. The student can opt to specialise in discipline subjects or subject didactic issues, or a combination of both. The thesis must be based on topics and issues from research and development work that are relevant to professional practice. The student must conduct individual research as part of the thesis work. The student must be given the opportunity to further develop research methodological insight and understanding. The work must also promote insight into the academic use of sources and research ethics principles. (National Guidelines from 2017).

[National Guidelines for Teacher Education in Practical and Aesthetic Subjects \(Grades 1-13\) \(in Norwegian\):](#) The Master's thesis must be based on the Master's degree subject (subject I) and entail professionally and practice-oriented research work. The scope of the Master's thesis is determined by the institution within a framework of 30-60 credits. The institutions have the opportunity to use alternative placement arenas for 30 days. This form of placement form can relate to, for example, project work, R&D assignments and/or the Master's thesis (National Guidelines from 2021).

In terms of the regulatory requirement that the theses be *professionally oriented* and/or *practice-relevant*³, the Council has noted that the understanding and operationalisation of the terms *professionally oriented* and/or *practice-relevant* differ to some degree, as also indicated in the APT group's recommendations. The Council also found similar discrepancies in interpretations of the terms *professionally oriented* and *research-based* in NOKUT's evaluation of secondary school teacher education (NOKUT, 2022).

³ The framework plan for vocational teacher education does not use the terms *professionally oriented* or *practice-oriented*, but *rather issues related to school/working life and/or society from a curriculum perspective*.

3. Approach to commissioned study and knowledge sources

To fulfil its mandate, the Council has acquired knowledge through a nationwide scoping study of work on Bachelor's and Master's theses in teacher education and case studies in a project carried out by the Centre for the Study of Professions at OsloMet – metropolitan university (Appendix 2). The Council has also held dialogue meetings with the staff of teacher education programmes, kindergartens, schools and their owners across the country (Appendix 3), reviewed regulations and received input from the Master's Network (Appendix 4). The Council has also based its assessments and recommendations on the available research literature and information.

Below is an outline of the knowledge base used by the Council.

3.1. Research on Bachelor's and Master's Theses in teacher education

In general, research on Bachelor's and Master's thesis in teacher education in Norway is limited. One of the reasons for this is that an integrated Master's degree in teacher education is a relatively new development. All the same, it is interesting to note that studies prior to the introduction of the primary and secondary teacher education Master's degree suggest significant diversity in Master's degree possibilities for teachers/student teachers. On the one hand, these indicate that diversity can be perceived as a strength due to the wide range of teacher education graduates with knowledge within numerous disciplines, while on the other hand, diversity can lead to practical problems for the knowledge-related predictability that schools, school administrators and school owners require in order to properly plan the development of the school (Hausstätter, Kleppan and Sletten, 2008:39). Below, we discuss a selection of studies that are relevant for the Council's mandate.

Birkeland et al. (2016) examined whether Bachelor's theses in kindergarten teacher education meet the expectations of practice orientation and professional relevance, while at the same time fulfilling the academic requirement of being research-based. Their findings show that this is possible. Yet the studies show that the study programmes appear to favour student work with a stronger theoretical orientation to some degree. They also show that a Bachelor's thesis can help to create a good connection between practice orientation, professional relevance and academic aspects that together contribute to a positive development of students' understanding of the profession.

Stock (2017) discusses how the Bachelor's thesis as a genre can be understood and the possibilities it offers. According to her, the Bachelor's thesis is essential to student development, among other things due to how students reflect on and apply their own knowledge and how this is closely related to work as a kindergarten teacher. She also believes that the Bachelor's thesis has considerable value as preparation for a possible Master's degree. When it comes to the choice of topic for Bachelor's theses, a study conducted by Forsbakk (2020) shows that students largely write a Bachelor's thesis about relevant topics from the framework plan, which in turn puts them in a good position to meet the requirements and challenges of kindergartens.

A vocational teacher education study focusing on R&D work in the degree programme is also relevant to highlight here. Spetalen & Eben study the degree of connection between completed R&D activities and student use of this competency in later professional practice as a vocational teacher. The findings indicate that on completion of the degree programme, students have a positive attitude towards R&D-based activities, as well as positive mastery experiences and mastery expectations to utilise R&D-based activities in their professional practice as a vocational teacher. The findings also indicate that newly qualified teachers use R&D-based activities in practicing their profession, which the researchers believe can suggest a relatively high level of transference between the educational context and the school context. (Spetalen & Eben 2018).

Several studies were carried out as part of a pilot study of five-year primary and lower secondary teacher education at UiT The Arctic University of Norway. One study from 2016 shows that working on a Master's degree provides students with in-depth knowledge and research and development expertise that is considered relevant for professional practice (Jakhelln et al., 2016). The study also shows that it is important for a Master's thesis to be based on school practice and contribute to professional development as a teacher. Another study from the pilot shows that teachers who wrote subject didactic Master's theses establish a good foundation for working at a school (Antonsen et al., 2020). Specialisation provides a good basis for varied approaches to teaching and enables student teachers to contribute as a professional resource for the school. Teachers who did not write a subject didactic thesis experienced limited usefulness of their Master's degree as teachers in schools.

Another study by Jakhelln and Lund (2019) highlights challenges associated with supervision with the introduction of a five-year Master's degree in primary and secondary teacher education. The study points out that supervisors find it challenging to supervise students working on their Master's due to their diverse professional backgrounds, traditions and experience. Supervisors may also have different views on what the thesis should contribute to a professional education for primary and lower secondary school teachers. Borgen et al. (2020) point out that teacher educators in subject teacher education express a need for increased competence in supervision and that relatively few theses highlight concepts, theories, practices or didactics in the professional field. The results also show that teacher educators in subject teacher education have identified structural challenges and point out a need for more practice relevance and (professional) relevance in future Master's theses.

Finland has a long tradition of Master's degree programmes for teachers and in 2007, Krokfors found that Master's thesis in teacher education is a crucial learning activity that promotes the professional development of student teachers. It also provides students with a better understanding of their own learning process through reflection on the research process. Maaranen (2010) also studied the relevance of Master's theses for new teacher graduates and found that teachers' experiences with research and the research process benefit teachers, students, parents, the workplace environment and society in general. Teachers' experiences with research on teaching and learning enable them to develop their own teaching skills through analytical thinking. Another study, carried out by Eklund (2019), discovered through an analysis of Master's theses in primary and lower secondary teacher education that theses do not always lead to the development of analytical thinking that contributes to developing teaching skills. She found that students wrote Master's theses of high academic quality, but were not always able to apply the knowledge gained to professional practice.

A very recent follow-up evaluation of the first cohort of student teachers under the new arrangement and introduction of the primary and secondary teacher education Master's degree programme at the University of South-Eastern Norway examines several aspects related to Master's thesis work. Especially relevant to our mandate is the choice of data collection methods for the theses, by which the evaluation shows a predominance (76%) of students acquiring data at the school. The majority of these students interview teachers. Interviews by students and observations are also methods often mentioned, and a combination of all three approaches is not uncommon. The evaluation also shows that several teachers are concerned about the quality of thesis content. This is primarily due to structural factors of the work in teacher education programmes. Uncertainty about the concepts of professionally oriented and practice-oriented is also mentioned. This concern is shared by teacher educators and students alike. The researchers theorise that Master's theses can help clarify the results of previous research and perhaps even fill in the research gaps in existing research. They also state that it is "important that students see that their contributions can become part of a larger research boost if the quality of their work is good, and that teacher educators at the university, in practice studies, institutes with primary and lower secondary teacher education in their portfolio and programme management are able to see the research potential here (section 4.1)".

This type of view of research associated with Master's theses can serve to motivate both students and supervisors (Maagerø, Rye & Simonsen 2022).

All in all, these studies suggest that thesis work is generally of vital importance for student knowledge development, concept understanding, in-depth knowledge and professional qualification. They also show that thesis work is important for student teachers' understanding of and future work in kindergartens and schools. However, several of the studies point out that the benefits of thesis work are first and foremost dependent on the work having a solid foundation in and relevance to the field of practice. It is also interesting to note that the studies show that thesis work appears to strengthen coherence between the practice-oriented, professionally relevant and research-based aspects of the education. When it comes to more recent evaluations of the first cohort to earn a Master's degree in primary and secondary teacher education, it is worth noting that a limited number of methods are used in the theses and that this is both problematic for the field and profession and burdensome when large numbers of student teachers interview teachers at schools.

3.2. Scoping study and case studies

The Council commissioned the Centre for the Study of Professions (SPS) at OsloMet to carry out a scoping study of work on Bachelor's and Master's theses in teacher education nationwide. The results were to provide information and knowledge for the first part of the Council's mandate concerning student qualification through theses and partnerships with the field of practice. In this report, the Council briefly discusses the main results of the SPS scoping study. The report is included as an appendix as part of the Council's commissioned work for the Ministry of Education and Research and National Forum for Teacher Education and Professional Development (NFLP), and can be read in its entirety in Appendix 2.

In the scoping study, SPS focused on four main topics: organisational frameworks in the education programmes, student involvement, supervision and involvement of the field of practice. SPS carried out case studies at four teacher education programmes based on the first, broader scoping study. Below are a number of the findings in the report:

- The scoping study and case studies show that there is considerable variation in how thesis work is organised in teacher education programmes. Various stakeholders and arenas are involved, ranging from the education programme to collaborating faculties and institutes. Collaboration takes place across all levels and responsibility for thesis work varies. At some institutions, this is the responsibility of individuals, such as a course coordinator or the head of the programme. Others put together a group of interdisciplinary or specific subject experts for this purpose. Local adaptations appear to create different conditions for the extent and manner in which Bachelor's and Master's theses contribute to the qualification of student teachers.
- How and the degree to which the field of practice is involved in thesis work also varies. This involvement mainly consists of procedures for proposing thesis topics. Their involvement in data collection by students primarily entails providing information or facilitating observation. Few indicate that the teacher education programmes have procedures in place for applying the thesis results in the field of practice.
- Students appear to have considerable influence on the choice of topic, method and theory for their own theses. They are only allowed to participate in ongoing research projects to a limited degree. In the report, the researchers point out that a closer link between thesis work and teacher education research requires organisational structures in the degree programmes for introducing students to such projects.

- The choice of supervisor is a matter of both capacity and expertise. Supervision takes place either individually, both individually and in groups, as well as in pairs. Many have developed arenas that students can utilise and/or receive feedback on the work as it progresses, such as problem discussion seminars, writing seminars and method seminars.
- In terms of the function and purpose of the theses, SPS found a distinction between how a Bachelor's thesis and a Master's thesis are described by the stakeholders interviewed during the second phase of the study. Master's degree programmes tend to emphasise research-based knowledge in the theses, while Bachelor's degree programmes focus largely on professionally oriented knowledge.
- There is a difference in how the concept of research-based is interpreted and the report indicates that it can be problematic if the notion of professional orientation is based on a limited selection of research methods.

3.3. Dialogue conferences

In order to obtain up-to-date and relevant information about, knowledge of and experiences with how students and those working closely with them on their thesis work view the process, the Council organised four parallel dialogue conferences in the spring of 2022 (see Appendix 3). Conferences were held in Tromsø, Trondheim, Bergen and Oslo for specially invited student teachers, kindergarten and school teachers, kindergarten and school administrators and owners, as well as the staff and leaders of teacher education programmes. Apart from the value of the conferences themselves to the Council in carrying out the mandate, they also contributed to knowledge development and sharing between the participants on student qualification for the teaching profession through thesis writing, conditions that impact the qualification process and how knowledge developed through thesis work can benefit teacher education programmes, the profession and research.

The conferences opened with a joint digital lecture in which the results of the previous scoping study on Bachelor's and Master's thesis work were presented. The participants at each conference location were then invited to engage in dialogue in groups of 6-10 individuals at each table. The dialogue was structured into four blocks and was based on the following questions:

The process prior to the thesis work:

- *How are teachers, administrators/leaders and owners in kindergartens and schools involved in the prioritisation of topics for Bachelor's and Master's thesis work at your institution? Which stakeholders contribute to this work and what kinds of arenas are available to support students in their thesis work?*
- *Are kindergarten and school teachers, administrators/leaders and owners also involved in planning the work? How?*
- *Do you have any preferences/input on how this could be done differently?*

The process during thesis work:

- *Are kindergarten and school teachers, administrators/leaders and owners involved in the actual Bachelor's and Master's thesis work? What role and responsibilities do they have during the thesis work and what kinds of arenas do they contribute to?*
- *Should kindergarten and school teachers, administrators/leaders and owners contribute more to this work? How do you think they can contribute to the actual thesis work and why?*

The process after the thesis work:

- *Are the theses submitted and knowledge developed made available to teacher education programmes or kindergartens and schools? How?*
- *Are there any stakeholders who might benefit more from this knowledge than others? If so, which ones and how do you think the knowledge can or should be made available to them?*

Professional qualification and connection to the rest of the study programme:

- *How have you experienced a connection between Bachelor's and Master's thesis work and the rest of the study programme on campus and during practice training?*
- *How do you think these can be brought closer together?*
- *How does Bachelor's and Master's thesis work contribute to qualification for professional practice?*

The conferences gave the Council useful insight into and knowledge about thesis work and experiences in teacher education programmes. In summarising the input in this report, the Council has chosen to focus on a few select areas. A more detailed summary can be found in Appendix 3 *Summary of Dialogue Conferences in April 2022*.

Systematics and structure in collaboration: Through the dialogue conferences, the Council has found good examples of partnerships in certain areas. Yet we see that the field of practice is scarcely involved in thesis work. Several of the participants would like to collaborate more and would also like more systematics in collaboration.

Roles and responsibilities: The dialogue conferences indicate that insofar as kindergartens and schools are involved in choosing thesis topics, their role primarily involves suggesting topics. When the field of practice contributes to the actual thesis work, this mainly entails assisting with data collection. There seems to be a positive attitude towards collaboration, but at the same time the question arises as to what kindergarten and schools should contribute.

Relevance: The relevance of the theses is an issue that was brought up on several occasions during the conferences. When it comes to relevance for students, several felt it was important that students choose their own topic and that this can benefit their thesis work considerably. In terms of arenas that can support students in choosing a topic, these are available to some degree, such as in the form of a 'Master's Square'⁴. Relevance for kindergartens and schools was also discussed. Several brought up linking students' thesis work to issues faced by kindergartens and schools, such as postgraduate and continuing education and other local development initiatives like subsidy schemes for local competence development. It was also pointed out that the theses should have relevance for research and be used more in teacher education, for example as sample texts.

Arenas for sharing knowledge and experience: The dialogues also showed that completed Master's theses are made available in open publication databases run by the institutions at teacher education institutions. Bachelor's theses are only made available to a limited degree. However, according to several participants, there appears to be potential for the further spread of knowledge and the results of thesis work, such as at conferences and seminars, through easily accessible publishing platforms like podcasts and so on.

Qualification: Several pointed out the importance of defining the purpose of the thesis to ensure a greater degree of connection to the rest of the study programme and placement. A number of participants stated that it was not the thesis itself that qualified the student, but the process. One

⁴ The 'Master's Square' is intended as an arena where the staff and owners of teacher education, kindergartens and schools can share information about research activities and project ideas.

teacher said: *The study programme is an education journey. (...) There is a need for time and maturity in order to grow into my profession.*

Some students who took part in the dialogues pointed out that they experience the Master's thesis work as giving a sense of being removed from the profession. According to the participants, one important focal area should be the connection between practice training and thesis work.

4. Discussion of key issues

The literature review, scoping study and dialogue meetings confirm and stress that thesis work in teacher education is of vital importance for student qualification, development and future professional practice. All the same, there are challenges in thesis work in terms of systematics, coordination, organisation and collaboration.

Through the Council's work, a few key issues emerged in relation to Bachelor's and Master's thesis work that are discussed in section 5.1 below. The Council has identified five areas based on these issues that may offer potential for future thesis work. These five areas are:

- Purpose of the thesis
- What the field of practice can and should contribute
- Format, topic and accessibility of the thesis
- Supervision
- Role of thesis in teacher education

These areas are discussed in sections 5.2 to 5.6.

4.1. Key issues

Variation in organisation

Perhaps the most prominent finding of the scoping study and dialogue meetings is the *variation* in thesis work, both *between* the different teacher education programmes and *within* the teacher education institutions. This variation relates in part to the organisational frameworks, such as who is responsible for theses in teacher education, how the concepts of research basis and professional orientation are interpreted, student involvement and supervision and feedback activities and arenas. An important question by extension is whether variation in itself is a problem. In the partnership reports⁵, the Council made a case for the importance of autonomy and local flexibility in teacher education programmes to ensure local development work. Given the different conditions and characteristics of teacher education programmes, it is not certain whether variation in itself is problematic, but rather that it is a natural and necessary characteristic of teacher education in Norway.

Variation in concept use and understanding

The scoping study points to variation in understandings of the concepts of *professional orientation* and *practice relevance*, ranging from relatively limited to a broader understanding. A *too* limited interpretation of the concepts can narrow the thematic orientation: theoretic and analytical orientation as well as the use of research methods. For example, this can be seen in more recent evaluations of thesis work in primary and secondary teacher education (Maagerø, et al., 2022) and in the evaluation of the secondary school teacher education (2022). The latter report shows a number of similarities, but also local variation in descriptions of the concept of professional orientation. The evaluation shows divided opinions on the meaning of the concepts among secondary school teacher education programmes, but also internally within study programmes. All in all, it appears that a professionally oriented teacher education can involve interdisciplinary work, creating a comprehensive view of what it means to be a teacher, a balance between discipline and didactics

⁵ Partnerships in Teacher Education – a knowledge base and Partnerships for Quality in Teacher Education – recommendations from the Advisory Council for Teacher Education in Norway 2025, both reports from 2020.

and close contact between the education programme and the school as an institution (NOKUT, 2022, p. 53).

During a meeting with the Council, the national network for Master's supervisors in teacher education expressed a desire for a professionally based understanding of professionally relevant problems and empirical evidence (see Appendix 4). APT's recommendations also support this desire. The Council believes there is a need for a more in-depth evaluation of how the key concepts of professional orientation and practice relevance can be understood and how this affects thesis work.

Variation in collaboration

Variation in collaboration and, to some extent, the absence of collaboration between teacher education programmes and kindergartens/schools with regard to Bachelor's and Master's theses prompts the question of *what* kindergartens and schools *can and should* contribute to this work. In the scoping study, the concepts of *facilitation* or mutual *cooperation partner* are used about possible roles played by the field of practice in this work. In addition to the question about *what*, the Council is also interested in *why* this kind of partnership is important and *when* or *where in the work process* such a partnership provides added value to the work. Moreover, the degree of collaboration and challenges involved vary among the different teacher education programmes. For example, the dialogue conferences show that vocational teacher education programmes have an added dimension to their partnerships with sectors for the various vocational subjects.

Thesis form and relevance

The question about relevance in thesis work was discussed by the Council several times, especially in terms of how the theses are or can be perceived as relevant for both students and the field of practice. In connection with this, the Council discussed the extent to which the thesis *form* makes it less accessible and interesting to the field of practice. Another topic discussed by the Council was the degree to which the theses should have the form most commonly used at present. The dialogue meetings indicated that despite research showing that theses are an important part of qualification, there are some students and a few teacher educators who do not consider thesis work to be equally important for student qualification. This suggests that it can be difficult for students to understand the importance of the thesis in their own professional qualification.

Variation in supervision

Supervision is a topic discussed in the scoping study and dialogue meetings. This refers partly to arenas for and the organisation of supervision, partly supervisor expertise and partly how the supervisors are used. In terms of arenas and organisation, the scoping study shows that the possibilities for students vary from institution to institution. This pertains to, for example, individual supervision versus both individual and supervision in groups and pairs, the use of arenas where students supervise each other, possibilities to attend different writing seminars, etc. The requirements in terms of supervisor expertise also vary according to the SPS report. The scoping study shows that the students' problem definition and topic primarily determine who is assigned as supervisor, but staff availability also plays a major role. The question is how this can affect the student qualification process. Are there other and better ways to ensure good student supervision? The APT recommended that supervision as part of partnership thinking should be considered. They also pointed out the need for teacher education programmes and the field of practice to agree on supervision structures and practice, with the teacher education programmes maintaining primary responsibility for supervision. The panel also recommended that financial and logistical support be offered to support long-term research collaboration. As part of this, they recommended developing a joint research agenda that includes plans for co-supervision of Master's theses.

Function of thesis in teacher education

Another issue that the Council would like to address is the question of the function of theses in teacher education. The intention in *Teacher Education 2025* to strengthen research competence in teacher education focuses in part on Master's thesis structure, which according to the strategy, offers potential for close cooperation between research, education and practice. In the knowledge base, the Council finds examples of theses linked to larger research projects, to other R&D work and to competence and quality development initiatives at kindergartens and schools. However, it is difficult to find more common structures that facilitate such affiliations and that can ensure more systematic thesis work in teacher education in general. In this report, the Council wants to highlight the significance that Bachelor's and Master's thesis can have for the further development of teacher education.

4.2. Purpose of the thesis

The purpose of Bachelor's and Master's theses in teacher education is to produce professional practitioners who can help achieve the broader social mandate of kindergartens and schools. As shown in Chapter 3, the general content and formal structures of the education are regulated in laws and regulations. These regulations are important for understanding the purpose of theses. Additional guidelines are found in the institutions' own plans. The scoping study shows that study and programme plans in teacher education have different thesis descriptions and expectations, but, with few exceptions, the descriptions are closely linked to formulations in framework plans and national guidelines. A few programme plans contain descriptions of how theses are to be carried out, for example whether they are to be written individually or can be written in a group or pairs, about supervision, work requirements and, for instance, whether they can be linked to research projects at institutions and the faculty.

Through student-active learning, which brings together research and experience-based knowledge, a process takes place in which students are held accountable, qualified and certified. Bachelor's and Master's thesis work is one of these academic elements and the function of the thesis can therefore not be viewed separately from the rest of the study programme. The academic elements of the study programme must therefore have a progression and be related. During the dialogue conferences, it was emphasised that *it is not the thesis itself that qualifies, but the process leading to the finished thesis*. The process itself of writing a thesis is considered by several to be more important for the professional qualification of students than any topic the students write about.

In carrying out its mandate, the Council has asked itself what exactly the role is that theses play in teacher education. Are they only intended for student qualification or also knowledge development? And is the knowledge developed intended to be shared with others than the students themselves? If so, who? *Teacher Education 2025* points out that Master's theses in primary and secondary teacher education *offer greater opportunities for more and better research in teacher education*.

The literature review, dialogue conferences and scoping study show that, put simply, student qualification through thesis work plays an especially important role for the individual student, but this work also serves to strengthen the profession when the students join the professional ranks, in teacher education and in relation to the field of practice. These roles overlap, yet are different. In the Council's opinion, although the main function of theses is to qualify students for the teaching profession, they can also contribute to further developing professional and academic activities in

teacher education and in cooperation with the field of practice in relation to relevant and key topics and needs.

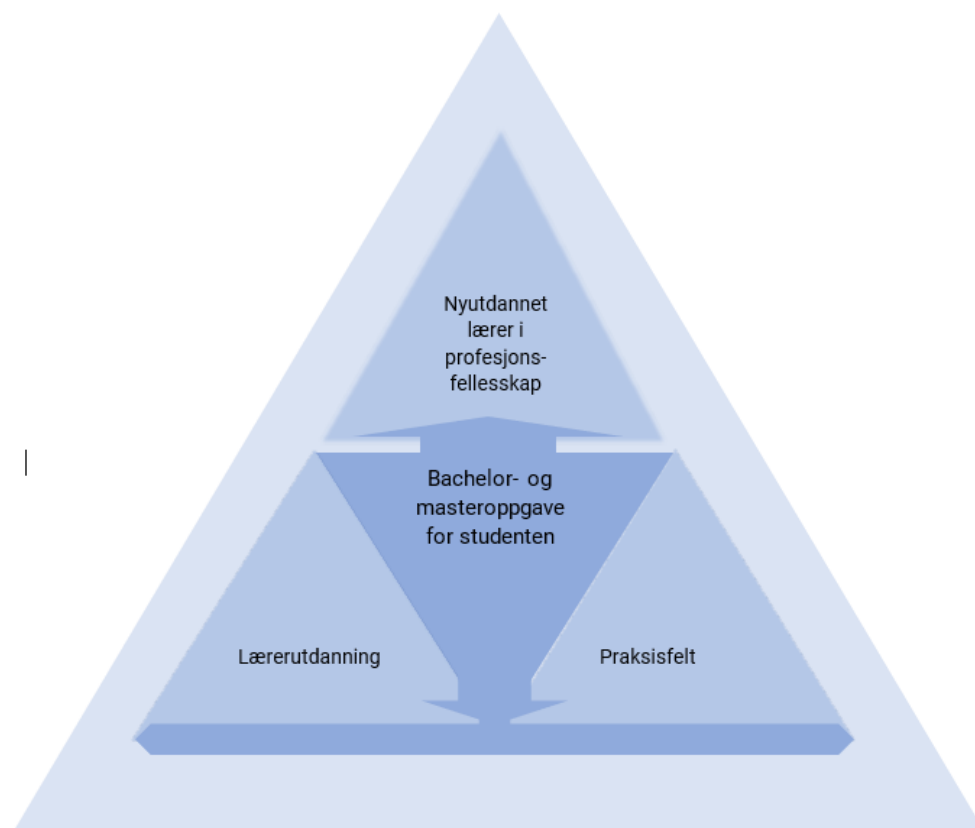


Figure 2: Thesis function

The figure illustrates how the Council believes theses qualify students for professional practice. For students, thesis work first and foremost involves qualification for the teaching profession. They learn to work independently and to practice analytical and critical thinking. They also develop and demonstrate the ability to reflect on and justify professional choices. In that respect, theses can be considered a synthesis of acquired knowledge, by which the degree programme enables students to practice and become familiar with systematic knowledge development.

The arrow pointing from student thesis work to newly qualified teacher illustrates that theses also play a direct role in the profession. Thesis work results in qualified teachers who are exploratory and understand theory and can find and apply knowledge and critically analyse information that can be used in professional practice. In that sense, the work equips students to face the complexity of kindergartens and schools and to contribute to the development of their profession. Thesis work can also strengthen the profession through the development of a knowledge base, both in the form of the numerous topics that are illustrated, and the experiences gained through supervision. The expertise developed by students is necessary for professional practice. For example, the framework plan for kindergartens states that kindergartens are learning organisations, that all staff should reflect on professional and ethical issues and should keep their knowledge up to date. In terms of the core curriculum for primary and lower secondary education, teachers are required, both individually and jointly with colleagues, to develop their pedagogical judgement by reflecting on and further developing their professional practice in order to meet the needs of individual students and

student group as best as possible. More specifically, this work is to be carried out based on both the knowledge base for the profession and the core values of primary and lower secondary education.

The arrows at the bottom of the pyramid show that thesis work not only plays a direct role in student qualification and professional practice, but also has the potential to play a role in kindergartens, schools and teacher education programmes. Its role in kindergartens and schools is discussed in section 5.3 about the field of practice and in section 5.4 about thesis format and relevance. Its role in teacher education is dealt with in section 5.6.

4.3. What can and should the field of practice contribute?

According to the framework plans, a thesis must be professionally oriented and/or practice-oriented. The national guidelines contain additional requirements, such as that it must be useful for future professional practice, oriented towards working in the classroom or based on problems in schools/working life, which the Council believes requires the involvement of the field of practice in thesis work. In the partnership reports, the Council discusses partnership initiatives in teacher education, a component of which is thesis cooperation. The Council found that there are currently no specific laws or regulations stipulating partnerships between teacher education institutions and kindergarten and school owners. The regulations that exist for individual teacher education programmes and in the Kindergarten Act and Education Act pertain to basic education placements. The Council recommended in the partnership reports that the authorities set general expectations for partnership formations for both teacher education programmes and kindergarten and school owners. In connection with this, the Council also explained the added value that partnerships can offer to both teacher education and the field of practice through 'third space' collaboration in which Bachelor's and Master's thesis work can play an important role.

Research and the professional knowledge and practice of teachers have the potential to enrich one another. Still, it is a well-known fact that finding good ways to utilise this potential in teacher education in a comprehensive manner can be challenging. Qualification through thesis work entails tension between a research basis and practice orientation/professional relevance. The Council has previously shown that this is not surprising and largely confirms a general characteristic of teacher education. Yet it is precisely in this tension that the competence necessary for professional practice is found. According to the Council, this tension should not be confused with the relationship between the academic and experience-based knowledge that is also important in teacher education. The involvement of the field of practice is not only a matter of contributing to professional relevance in theses, but also developing overall professional competence in which a research based and practice orientated/professional relevant complement one another. In the scoping study report, SPS/OsloMet (2022) also advocate the involvement of the field of practice in the discussion on the various dimensions associated with the notion of 'research-based' (p. 120). The Council believes that cooperation and involvement in thesis work is an important and central arena for precisely these types of discussions.

The scoping study of Bachelor's and Master's thesis work revealed considerable variation in how cooperation with the field of practice takes place. The question as to whether such variation negatively effects student qualification is related to how they collaborate and the quality of that collaboration. To the extent that there is collaboration on thesis work, the scoping study shows that this primarily takes place during the preliminary phase of thesis work. Cooperation during the process mainly revolves around data collection. Consequently, there is strong evidence that the role of the field of practice is often limited to serving as a sort of a proposal maker and door opener. The dialogue meetings also support these results. The Council also learned during the dialogue meetings that much of the collaboration depends on the initiative of individuals and personal networks.

The significant variation and partly limited cooperation do not appear to be due to the lack of a *desire* to collaborate. This may indicate that those who responded believe there is potential for increased cooperation. The Council intends to take a closer look at the contexts in which such cooperation can provide added value and who should be involved. The teacher education programmes are the 'owners' of the study programme and determine its formal structure. They have formal supervision competence and insight into literature and research that can be useful for students. Kindergarten and school *owners* can give cooperation further legitimacy through their own (internal) plans/objectives, develop and follow up on partnership initiatives, allocate resources for concrete collaborations and manage (municipal and often regional) competence development measures. These constitute prerequisites for possibly linking thesis work to the subsidy schemes discussed below. They can also contribute by making data available that may be of interest to various parties. Kindergarten and school teachers in turn have professional and first-hand knowledge of children and pupils. This makes them important discussion partners for making these professionally based and relevant. Ensuring a common goal and mutual understanding of the added value the various stakeholders can expect from cooperation requires relational expertise and role clarification.

One source of untapped potential in *thesis relevance for the field of practice* can be unlocked with a closer link during the preliminary phase of thesis work. Owners and administrators can contribute, for example, by highlighting prioritised focal areas and development initiatives in kindergartens and schools, while kindergarten and school teachers can be a resource in terms of making problems more professionally relevant. This in turn can also help students personally experience their thesis work as more relevant for future professional practice, which the dialogue meetings indicated is perceived by more teacher educators and teachers than students. The scoping study shows that around half of respondents mention systematics and procedures for obtaining proposals for topics and problems through, for example, the 'Master's Square', university schools, their own coordinators, etc. The other respondents indicated more randomness in committing to a topic, such as through informal conversations and tips from practice training supervisors.

Linking student thesis work to *kindergarten and school development initiatives and postgraduate and continuing education activities* is a measure that was emphasised in both the scoping study and dialogue meetings. Subsidy schemes for local competence development are mentioned in particular because they have a dual objective: to develop competence at not only kindergartens and schools, but also teacher education programmes. Cooperation in these schemes entails arenas and collective spaces where Bachelor's and Master's work can be integrated and provide added value to both students and teachers. Regardless of the type of competence development scheme or measure that is associated with the thesis work, the goal is to create a good link between student problem definitions in theses and problems facing the field of practice and that the teacher education programme can support and contribute to this through academic methods and knowledge.

When it comes to student *access to data*, there is a risk of the field of practice becoming overwhelmed by a considerable increase in the number of students who will be writing a thesis. There is also the question of whether the role they currently appear to play in this work is the best possible use of staff time in kindergartens and schools. The scoping study reveals an imbalance in the cooperation relationship between teacher education and the field of practice and that using the field of practice as a door opener can affect equity in partnerships. By extension, the question arises as to whether methods are available for thesis writing that do not require *new* data collection. Perhaps kindergartens and schools have data from other contexts that can be used and what kind of data does the municipality already have? Perhaps an equally effective way to collect data may be to have the municipality provide an overview of resources that are already available and in this way, steer students towards a topic and thesis perspective that does not require new data collection. It

emerged during the dialogue conferences that a number of study programmes use different arenas during the preliminary phase of thesis work, such as collaboration meetings on the Subsidy Scheme for Local Competence Development in Kindergartens and Primary School Education (*Tilskuddsordning for lokal kompetanseutvikling i barnehage og grunnsopplæring*)⁶, the ‘Master’s Square’ or websites to show which types of topics are relevant and desired for the field of practice. Incorporating information on access to existing data into such arenas can boost effectiveness by both enabling students to save time in acquiring new data and allowing kindergartens and schools to avoid being used for data collection that does not offer them added value. There is also a question of whether some students can be steered towards thesis writing methods that require approaches other than traditional data collection. Possibilities include more use of document analyses, literature reviews, analyses of registry data and other available statistics and re-analyses of previous research.

In terms of cooperation during thesis work, the Council has found examples of individuals from the field of practice contributing to student supervision. The scoping study shows a few examples of attempts to have kindergarten teachers/school teachers act as co-supervisors for thesis work. During the dialogue meetings, there was a discussion on whether teachers should play a larger role in this work, a desire expressed by several participants. Collaboration with owners is not desired to the same degree during this phase of thesis work. Examples given are that teachers can provide practical teaching experience or help with supervision. In earlier reports, the Council also stated that dual positions and staff exchanges can be a form of cooperation, which is also referred to in *Teacher Education 2025* as being relevant. A more detailed discussion of these forms of collaboration can be found in section 5.5.

There is also the matter of better utilising the ‘space’ found in the *connection between practice studies and thesis writing* in order to qualify for professional practice. Each time students carry out practice training, there is a potential opportunity for them to acquire knowledge and skills that can be used in connection with thesis writing. A closer link between existing work requirements in the study programme, especially during placements, and thesis work, data collection, etc. can contribute to the self-understanding of the education programme in terms of what it means to offer a professional education. During the dialogue conferences, possible development areas that were mentioned were the last practice period, access to placements and when students should start thinking about their thesis. It was suggested, for example, to place students at the same practice school during the last two years in order to allow them to better prepare for thesis work. During the dialogue conferences, a desire was also expressed for providing information to placement locations about theses and practice periods to enable them to help initiate thought processes. By extension, the Council also wishes to point out that administrators/leaders and owners in both teacher education and the field of practice should share responsibility for minimising the risk of silo thinking in development work and develop structures and systems that can benefit both students and kindergartens/schools (see previous recommendation for regulating expectations of partnership collaboration). This entails both identifying areas that offer mutual benefits from the work and clarifying expectations to one another to ensure that everyone knows what they can and should contribute.

4.4. Thesis format, topic and accessibility

The knowledge base also shows that there are variations in Bachelor’s and Master’s thesis format, topic and the degree to which the theses are available to others. This affects thesis relevance, which

⁶ Former Regional Scheme for Competence Development in Kindergartens – *ReKomp* and Decentralised Scheme for Competence Development in Schools – *DeKomp*.

in turn can affect the students' learning process and motivation. It also affects future use of theses by students, the field of practice and teacher education programmes⁷.

Thesis form

Master's theses have traditionally followed a well-established thesis form, often referred to as IMRAD (*Introduction – Method – Results – and – Discussion*). In recent years, article-based Master's theses with a summary abstract have become more common in various disciplines, including the field of education and the kindergarten field. The Council has also found teacher education programmes with a thesis form with a primarily practical approach, such as subject teacher education in practical and aesthetic subjects, for which the guidelines state that the thesis must include an *element of practical creative and/or occupational activities* (National Guidelines for Teacher Education in Practical and Aesthetic Subjects Grades 1-13).

Bachelor's theses traditionally have the same structure as the Master's thesis (IMRAD), but with the requirements adapted to the Bachelor's level, as described in the Norwegian qualifications framework for lifelong learning. By working on a Bachelor's thesis, students are to further develop their knowledge about academic writing, as well as develop their budding knowledge about scientific theory, research ethics and method.

A question that the Council has explored is the extent to which thesis form can affect student teachers' motivation and learning process, and whether alternative approaches to thesis format can make theses more practice-based and relevant. There is also the question of whether alternative thesis forms or supplementary presentation/sharing forms can make theses more accessible for future use.

The Council has discussed whether 'flexibility' in terms of thesis form and content can and should be expanded, not to mention taking advantage of the opportunities found in the technological development and use of multimodal technology, such as podcasts, videos and virtual simulations. A pertinent question here is how, for example, academic requirements can best be met while at the same time using a thesis format that is perceived as more relevant and accessible to both students and the outside world. It may be possible, for instance, to consider the more extensive use of creative and practical work or using more multimodal documentation forms in thesis work. On the other hand, the current format can be maintained, but adapted in order to challenge students to find ways to make the work more accessible. The Council believes that a research focus in thesis work benefits future professional practice. If the thesis format is to be adapted and changed, it is important to maintain the academic approach and research orientation. But the Council also believes there is equally untapped potential in how theses are made available.

Thesis topic

Participants in the dialogue conferences emphasised the importance of students determining their own thesis topic and problem definition. One reason is that it enhances the student's ownership of and motivation for the thesis work. But it was also pointed out during the dialogue conferences that the thesis topic should be related to the needs, challenges and prioritised initiatives of kindergartens and schools. Forsbakk (2020) found that students who write a Bachelor's thesis on relevant topics from the framework plan are in a better position to meet the requirements and challenges of kindergartens. It was suggested during the dialogue conferences that teacher education programmes facilitate the topic-choosing process by arranging meetings where stakeholders from the field of practice in particular, though also representatives of research communities, can present

⁷ The Council is aware of extensive international research on thesis format, although studies within a Norwegian context are limited. Discussions on these issues are first and foremost based on the collected material and members' own experiences and knowledge.

proposals for topics. The scoping study shows that a number of teacher education programmes have successfully organised such gatherings, but it can also be difficult to get the field of practice to participate in such arrangements.

It became evident during the dialogue meetings that student motivation to choose a thesis topic varies. Some point out that they choose a topic based on their specialisation, which is also a requirement in some of the study programmes' framework plans, while others state that topics are chosen based on issues that have received little previous attention in teacher education. The reason for the latter is that the students want to be better prepared for professional life. Also mentioned is a student desire to receive input on which topic to choose from their supervisors, since the supervisors have a better understanding of current issues. The scoping study also shows that meetings are organised at various locations between researchers and Master's students, where students can become affiliated with ongoing research projects at the institutions. In view of the Council's opinion on thesis purpose, the choice of topic should be based on student qualification. It is also important that problem definitions address those topics to which kindergartens and schools need to draw attention. But there is also the matter of student thesis work being systematically linked to ongoing and future R&D work in teacher education programmes. The Council believes there are various possibilities to better coordinate student teacher thesis work and R&D work in teacher education programmes. Students can be a resource in R&D work, but the Council also recognises that it can be labour and resource-intensive to include students in research and development work.

Communication and access

According to the scoping study and dialogue meetings, few theses are read or presented in the field of practice. The survey also finds few arenas for providing feedback on results to the practice field (SPS/OsloMet, 2022). There may be different reasons for this, such as that the field of practice is not familiar with the theses or does not consider the content or topic sufficiently relevant for kindergarten or school quality and competence development initiatives. The dialogue conferences indicate that Master's theses are usually published in the institutions' own databases and that there is slightly more variation in terms of publishing Bachelor's theses in a similar way.

By extension, the question arises as to whether there is a need for more arenas to facilitate communication and access. What would it take for the knowledge to be perceived as useful for kindergartens and schools in general and for those who contributed in particular? Although the primary function of theses is related to student qualification, the Council believes there is potential to spread the knowledge further. The various teacher education programmes currently have databases that store and facilitate the sharing of Bachelor's and Master's theses. However, the level of accessibility of theses varies and there is a need to make theses available in these databases to all education programmes and the field of practice. The Council also believes that a stronger culture for knowledge sharing in the field can gradually develop through a more systematic approach to R&D work in teacher education and partnerships with kindergartens, schools and owners.

4.5. Supervision

Bachelor's and Master's thesis work involves not only students, but also other individuals, both on campus and at placement locations. As discussed in Chapter 4, there are a number of challenges associated with this complex scenario. The supervisor's expertise and guidance provided during Bachelor's and Master's thesis work should therefore be explored further in teacher education. Issues that are addressed in this chapter are *who* can supervise, *how* supervision can take place and in what *form*.

Qualifications, competence and capacity

Supervision requires certain qualifications. Most institutions specify in their regulations that students have the right to supervision while working on both their Bachelor's and Master's thesis. Some restrict the requirement to a Master's thesis. There is also variation in ethical guidelines for supervision that apply to academic supervisors and students of Bachelor's and Master's degree programmes. At some institutions, responsibility is on the organisational level, which means that the faculty or institute must ensure supervision quality through training and/or raising awareness of what it means to provide supervision. Others place responsibility with the individual, by which it is expected that the supervisor/supervising team has sufficient competence and continuously acquires knowledge, skills and qualifications in order to fulfil the obligation to provide the best possible academic support to students. Some universities and university colleges have not defined any requirements for qualifications, competence or training in their ethical guidelines for supervision.

Responsibility for supervision lies with the teacher education institutions. The scoping study report from OsloMet/SPS shows that the competence requirement for supervisors is primarily a Master's degree, with the exception of secondary school teacher education, which requires a PhD. All the same, the respondents point out that even though there is a specific competence requirement, it is not always enforced for capacity reasons. If the competence requirement in the study programme cannot be met, it is possible, for example, to be part of a supervision team headed by an experienced supervisor who *does* fulfil the qualification requirements.

The report also shows that supervisor training takes place through participation in a supervisor network or through voluntary courses/seminars. Yet many also report that no specific training is provided to supervisors. Several add that more supervisor training is desirable and needed in their degree programme.

The need for supervisor training corresponds to other findings that show that the considerable increase in the number of students requiring supervision is not consistent with the number of qualified supervisors available. Jakhelln and Lund (2019) point out, for example, that Master's degree supervision in primary and secondary teacher education is challenging for many teacher educators, which is reflected in both individual and collective uncertainty. This uncertainty is due to the different experiences and backgrounds of teacher educators, as well as the absence of a common knowledge base on Master's degree supervision in primary and secondary teacher education.

When it comes to the choice of supervisor, the scoping study shows that the students' problem definition/topic is the most important factor in the selection process. The second consideration is staff capacity, followed by the students' choice of theory and method. The report shows that most supervisors are affiliated with the student's degree programme, while around one third are affiliated with a collaborating faculty/institute. The majority of institutions use external supervisors due to capacity problems. Also pointed out is that capacity can form an obstacle that limits students' possibilities to write an individual thesis or that the theses are often associated with the field in which the supervisor conducts research.

A lack of qualified supervisors can negatively affect thesis quality and student qualifications. As mentioned above, the APT also addresses these problems in its report. They recommend reaching consensus on structural issues concerning supervisor capacity, as well as supporting the academic development of supervisors by acknowledging supervision as a distinct professional skills (NOKUT, 2020).

Supervision process and others who assist with supervision

The scoping study report from OsloMet/SPS shows that it is not particularly common to use supervisors from the field of practice for student theses. According to the feedback from the dialogue conferences, practice training supervisors and others in the field of practice can be used as co-supervisors for students while writing their theses. One reason mentioned is that this can strengthen the partnership between the field of practice and teacher education and make theses more practice-based. But this requires both time and resources that are not currently available. This potential is also supported by the findings of the scoping study. One way to utilise the potential found in the field of practice, for example, is to explore the possibilities of dual/combined positions.

Added value may also be gained from the use of co-supervisors from the field of practice because this would make supervision a meeting opportunity between staff on campus and in the field of practice. This is supported by feedback from the dialogue meetings. A co-supervisor from the field of practice, such as a practice training supervisor, can offer a fresh perspective on the thesis work and, consequently, provide added value to the primary task of the main supervisor. The dialogue meetings also provided examples of university kindergartens functioning better when co-supervisors from the field of practice are involved. A teacher education programme leader outlined interesting supervision possibilities in teacher education schools that offer potential for school development:

“We need to think bigger and more comprehensively when it comes to Master’s theses and linking Master’s students to R&D collaboration with the university/university college sector and view this within the context of school development and enhanced competence. R&D collaboration with universities/university colleges takes place at teacher education schools. Subject teachers/research communities, practice training supervisors and students work together on research focusing on the school’s challenges and solutions. It is important to include Master’s students in this work. This allows the students to be part of a professional research community and something bigger (a community of practice). The students then have access to data material and the possibility to receive help, support, input and supervision from fellow students, practice training supervisors and various subject teachers, not only their assigned supervisor. School administrators are already involved in R&D projects and would therefore be interested in Master’s students and their theses, which is perhaps not currently the norm. Since research communities collaborate with Master’s students, they acknowledge the Master’s thesis as a relevant and important contribution to research (...). This in turn raises the status of the Master’s thesis, which is not particularly high at present. This may explain the lack of interest on the part of school administrators and owners. Not all practice schools are teacher education schools (only a few!!), but another possibility may be to involve Master’s students in DeKomp partnerships. If all practice schools were involved in R&D collaborations with the university/university college sector, there would be a more comprehensive approach to R&D collaborations with schools. Research partnerships with universities/university colleges (including Master’s students) revolve around competence development and the development of professional communities at schools and should be integrated into the school system.”

Consistent with this view, several participants pointed out during the dialogue conferences that there is untapped potential in partnerships to improve student supervision. The APT report also recognises this potential and, as mentioned earlier, provides recommendations on achieving consensus on supervision in partnerships, especially as regards the importance of ‘professionally oriented’ and ‘practice-oriented’ research. The panel also pointed out the importance of utilising the expertise of teachers from teacher education institutions and practice schools.

These recommendations are consistent with the Council's perspective on supervision, which focuses on a division of roles and responsibilities, both in kindergartens and schools, as well as at teacher education institutions. Roles and responsibilities should be defined based on professional strengths and complementary competencies that both teacher educators and practice training supervisors at kindergartens and schools contribute to student thesis work.

However, the Council believes there should be a distinction between the concepts of supervisor and supervision process. During the supervision process, various professionals with different qualifications and relevant knowledge and experience can contribute. The Council believes there is a difference between being qualified as a professional supervisor for thesis work and involving different types of competencies and experiences in thesis work. For example, there is a difference between students giving each other feedback in group supervision or practice training supervisors or reference groups providing feedback on thesis work and academic staff supervisors providing supervision. To ensure the best possible quality of supervision, it is important to clarify roles in the supervision process that support students' thesis writing and completion.

Supervision format and arenas for supervision

The scoping study shows that several education programmes describe requirements and guidelines for supervision, and the extent to which theses are written individually or in groups, in their programme plans. Many programmes have a combination of group supervision and individual supervision of students, although some offer only individual supervision.

As to how individual supervision takes place, students state that supervisor expertise has been a challenge and many students have been dissatisfied with the individual supervision received.

The scoping study shows that many teacher education programmes offer a form of group supervision in which the students themselves provide feedback and input. But the results offer little information on student and academic staff experiences with this type of supervision and whether or not it is considered useful. The report also shows that the intention of group supervision is to discuss general problems associated with writing a qualifying thesis.

The scoping study shows that institutions offer students different types of support structures in connection with thesis work, such as by having students join research groups or projects with teachers as co-supervisors. There are also other arenas for receiving feedback, which are based on active student participation in which the students give each other feedback. One of these is a thesis seminar, where students receive feedback from both students and supervisors on various aspects of their theses. In several of the degree programmes, participation in such seminars appears to be mandatory, for example by including it as a work requirement. The untapped potential that lies in well thought-out group supervision and the value of collective supervision in which students have the opportunity to supervise each other were also stressed during the dialogue conferences. One teacher education programme leader stated that *"students should work together on their theses in the same way as researchers work together. In such a process, everyone learns more and gains broader knowledge. It's a win-win for everyone"*. The value of different approaches to supervision is also emphasised by the APT in its report.

Regardless of the supervision format, the scoping study shows that arenas for supervision where students can receive or give feedback are equally as important as arenas for presenting theses.

4.6. Thesis function in teacher education

As shown in section 5.2, the thesis fulfils a function for both the individual student and the profession. In the Council's view, Bachelor's and Master's thesis work also offers potential for the

further development of teacher education. This is in line with the strategy in *Teacher Education 2025*, which states that Master's theses can help strengthen education and research. Thesis work in teacher education can help strengthen both the education and research on the individual level through the individual staff members' work with and development of the supervisor role and on the degree programme and subject level through a systematic use of theses and thesis work as a common element of these degree programmes. Sharing experiences with and the results of thesis work can also be useful for the further development of teacher education programmes and in R&D work. On the institutional level, thesis work can be a concrete and useful element for collaboration with, for example, kindergartens and schools.

In the scoping study and during the dialogue conferences, the Council asked about experiences with coherence within degree programmes. The questions addressed experiences from the current situation to how participants believe coherence within degree programmes can be improved. The responses showed great variation in how this potential is realised, from experiences with good coherence within programmes and theses being well integrated to thesis work being too fragmented and the various elements not being adequately consolidated. A strong desire was expressed for a better link between practice periods and Bachelor's and Master's thesis work, as well as better coherence with the rest of the study programme. The feedback shows that good coherence has been achieved in degree programmes in which theses are well integrated, while other programmes have less coherence. In view of the Council's model and vision for professional practice, a challenge arises when the various activities in a degree programme are not properly synchronised.

In some programmes, thesis work is linked to ongoing research activities at the institution. This is supported by both the scoping study and dialogue conferences. All the same, both the scoping study and dialogue conferences show that students have much freedom of choice when it comes to topic, problem definition and method in their theses. Considering the results of the scoping study in terms of weak links between student thesis work and other research activities in teacher education programmes, there is the question of whether the opportunities found in linking student thesis work and research in teacher education programmes are adequately utilised. Questions arise as to the *extent* and *ways in which* students can be involved more closely in research work in teacher education programmes. The Council believes there is untapped potential in linking thesis work to ongoing research activities and/or competence and quality development initiatives related to kindergartens or schools. This is partly about opportunities to benefit from existing knowledge and data available in the institutions and the systematic inclusion of individual students and/or groups of students in ongoing R&D projects or initiatives. Another approach may be to have a closer look at possibilities offered by the practice periods in the form of fieldwork, data collection, as well as the basis for determining topics, issues/problem definitions and research overviews based on students' practice experiences and any reflection work. However, there are few results in the knowledge base that indicate widespread systematics in teacher education in these areas. Another reason to work more systematically with linking thesis work to R&D work is that it can help to strengthen the link between researchers and the field of practice within relevant areas. In the long term, it can help improve connections between experience-based and research-based knowledge in study programmes. But it is also important to acknowledge that not all R&D work that is linked to teacher education will be of direct interest for students or considered relevant. Systematic thesis work in terms of both practice training and R&D work at institutions will require changes and resources during the development phase at many locations.

When it comes to knowledge and experience sharing from thesis work in teacher education, systematic measures are in place on the national level. A national network for supervising Master's

students established by the Norwegian University of Science and Technology (NTNU) in partnership with UiT The Arctic University of Norway addresses current issues, such as requirements and expectations for various types of Master's thesis work, empirical evidence and methodology, supervision and exam grading⁸. The Council believes that this network meets a national need to strengthen relevant expertise for Master's thesis work in teacher education. The Council is not aware of any comparable network for Bachelor's degree programmes.

4.7. Summary

All in all, teacher education programmes feature a variety of initiatives and arrangements aimed at ensuring good thesis work. A few programmes have succeeded in achieving good coherence within programmes in which thesis work is well integrated. All the same, the Council found that a better link between the various elements of programmes is warranted.

A difficult challenge appears to be that cooperation on thesis work with the field of practice is characterised by a certain fragmentation and lacks a systematic approach. There seems to be an imbalance in the cooperation relationship between teacher education and the field of practice. It is not clear if in fact cooperation on theses is mutually beneficial. In those cases in which kindergartens and schools participate in thesis work, their role is primarily to suggest topics and help with data collection without any plan for how anyone will learn from this.

Another impression from the Council's material is that teacher education theses are expected to help overcome many of the challenges facing teacher education. However, the question arises as to whether there is a well-established sense of the purpose of theses as a central part of teacher education. The general impression is that there is significant potential in both firmly rooting thesis work in the profession and strengthening the academic foundation for thesis work in all teacher education programmes.

The Council believes that the function of the thesis in teacher education is extremely important to achieving high-quality teacher education. There is a need for a clearer infrastructure that can provide guidance and support the contributions of students, academic staff and the field of practice in thesis work. Also needed is good coordination of the various activities and systems in teacher education that can support students, staff of teacher education programmes and those involved from the field of practice during the various phases of thesis work.

Students appear to have considerable influence on the choice of topic, method and theory for their own theses. In view of discussions during the dialogue conferences, the Council has the impression that the methods used in thesis work are dominated by different interview formats and observations, which in turn can have a potential-limiting effect on the choice of topic and angle taken. This impression of method usage in thesis work is confirmed by University of South-Eastern Norway's evaluation of the first cohort of its primary and lower secondary teacher education programme.

Supervisor expertise is considered important. The material contains examples of teachers from the field of practice contributing to supervision. There are also examples of supervision forms in which students contribute to each other's supervision. Nonetheless, more systematic cooperation on supervision is needed, especially concerning collaboration between the field of practice and teacher education institutions. This can be understood as a need for a better clarification of expectations in terms of qualifications, roles and responsibilities.

⁸ https://www.ntnu.no/masternetverk_laerer

When it comes to the link between thesis work and other R&D and/or local development work in individual kindergartens or schools, the potential found in such affiliations does not appear to be fully exploited. The Council has also found that there are currently systems in place at teacher education institutions that provide and ensure internal access to published theses, but there is no joint system or open access to such knowledge bases.

5. Recommendations

There is much at stake for both students and teacher education programmes when students are qualified through Bachelor's and Master's theses. Viewed within a wider context, thesis work can also have consequences for the professional work that is carried out in kindergartens and schools. Theses are a vital part of students' development towards professional practice and are important for meeting and modernising both current and future competence needs in kindergartens and schools. Drawing on the knowledge base presented in this report, the Council believes there is untapped potential in Bachelor's and Master's thesis work. This includes ensuring predictability and structure in thesis work, developing solid theory and methodological knowledge, access to and use of data, thesis form and relevance, supervisor competence and arenas for exploring thesis problems and topics. The Council believes that thesis work in teacher education is a central part of the process towards professional qualification.

Thesis work itself offers potential for knowledge development, not only for the students themselves, but also for teacher education programmes and the profession. Through the qualification process of writing a thesis, students develop competence that can benefit future colleagues. It is also important to recognise that having newly qualified teachers contribute to professional communities does not happen by itself, but must be learned. The knowledge created during thesis work also has the potential to make an important contribution to a common knowledge base that is also of benefit to others.

The Council's previous work on partnerships between students, teacher education programmes and the field of practice has made clear the need for concrete cooperation arenas. The Council has also pointed out that thesis work can be an especially interesting area to develop further in light of partnership thinking in the further development of quality teacher education. Through this kind of cooperation between teacher education programmes, kindergartens/schools and the students themselves, qualifying thesis work can exert pressure on established roles and responsibilities and consequently, not only enhance student qualification, but also help to develop teacher education, kindergartens and schools.

In carrying out its mandate, the Council has shown that students' right to high-quality education must be ensured and that professional development and education quality goals must apply to everyone. The Council has therefore chosen to discuss thesis work in teacher education through its mandate, which hopefully can contribute to supporting teacher education programmes in *their* Bachelor's and Master's thesis work. This is discussed in more detail below.

Students should be guaranteed a teacher education in which the various elements together form a whole. There should be a good and clear link between what is learned on campus, during practice training and when working on a qualifying thesis.

Students should be guaranteed equity and predictability when working on a qualifying thesis. They should also be guaranteed access to arenas for exploration and practice guidance. The roles and responsibilities of the various stakeholders should serve to support students in their work, should be clarified and collaboration between stakeholders should be structured and systematic.

Students should have access to good and relevant supervision provided by qualified supervisors to ensure the theoretical, analytical and methodical quality of their thesis work. The Council also

believes that schemes and arrangements should be developed that facilitate regular meeting opportunities for dialogue and feedback on thesis work from fellow students and representatives from the field of practice (teachers in kindergartens and schools, administrators/leaders and owners).

Thesis work requires the collection of data material. Students should not be expected to acquire new data for their theses. The Council believes there is untapped potential in the existing data material at teacher education institutions and in the field of practice that should be used to a much larger degree than at present. This pertains to, of example, data from ongoing R&D projects, registry data and other information that may be available in kindergartens, schools, municipalities and counties.

Where relevant and possible, students should have the opportunity to participate in larger research projects and local kindergarten and school development work, such as through a subsidy scheme for local competence development. This can help to enhance the quality of students' qualification work, while at the same time making thesis work beneficial to others.

The Council recommends:

Totality and collaboration

- Strengthening professional qualification for student teachers by linking Bachelor's and Master's theses more closely to the needs of the field of practice
- Underscoring the importance and function of practice training in students' thesis work in new framework plans for teacher education
- Strengthening occupational-related learning and a research base in students' thesis work through more systematic collaboration between teacher education programmes and the field of practice
- Incorporating collaboration into thesis work in teacher education partnership agreements

Supervision

- The Ministry of Education and Research should offer incentives to further develop systematic measures to strengthen supervisor competence in teacher education programmes, both on campus and in the field of practice
- Launching a pilot project to explore possibilities for co-supervision from the field of practice, such as reference groups and co-supervisor roles
- Linking collaboration on co-supervision to career development for teachers (see proposal in NOU 2022:13) and arrangements with dual/combined positions in teacher education

Thesis form and topic

- Exploring alternative types of topics that include more creative and/or development and practice-oriented approaches without deviating from academic requirements for theory and method in the regulatory framework for Bachelor's and Master's theses
- Facilitating a link between the theses and current problems or target areas in the field of practice

Student teacher involvement in research

- Enabling student teacher thesis work to be part of R&D projects at the institution
- Granting eligibility-based funding to teacher education programmes for involving student teachers in R&D projects

- Requiring that R&D projects that are funded by, for example, the Norwegian Directorate for Higher Education and Skills or the Research Council of Norway involve student teachers in order to receive support

Sharing data and theses as a knowledge contribution

- Establishing a joint knowledge base with high-quality theses that are available to all teacher education programmes and the field of practice
- Encouraging universities and university colleges to establish systems for the reuse and multiple use of data for thesis work in line with the applicable ethical guidelines for research and privacy regulations

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Appendix

Appendix 1: [Master's and Bachelor's Thesis Work in Teacher Education](#)

Appendix 2: [Bachelor's and Master's Thesis Work in Teacher Education – A scoping study by OSLOMET/SPS](#)

Appendix 3: [Summary of Dialogue Conferences in April 2022](#)

Appendix 4: [National Network for Master's Student Supervisors in Teacher Education – Presentation to the Council on 10 March 2022](#)