Constructing knowledge for the teaching profession

A comparative analysis of policy making, curricula content, and novice teachers' knowledge relations in the cases of Finland and Norway

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Thesis submitted for the degree of Philosophiae Doctor (PhD)

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4th of June 2012

An article based dissertation:

Article 1

Afdal, H. W. (2012): Policy Making Processes with respect to Teacher Education in Finland and Norway. *Higher Education*. Published as Online First 7 April 2012: DOI 10.1007/s10734-012-9527-2

Article 2

Afdal, H. W. (in press): Knowledge in teacher education curricula: examining differences between a research-based program and a general professional program. Manuscript accepted for publication in *Nordic Studies in Education.*

Article 3

Afdal, H.W. and Nerland, M. (2012): Does Teacher Education Matter? An Analysis of Relations to Knowledge among Norwegian and Finnish Novice Teachers. *Scandinavian Journal of Educational Research.* Published as Online First 3 October 2012: DOI:10.1080/00313831.2012.726274

Abstract

In this thesis a study of the *construction of knowledge for the teaching profession* is presented in the format of a collection of three articles and an extended abstract. The thesis shed light on important processes and relations constructing teachers' professional knowledge, and offers an analysis of (1) policy making processes, (2) organization of knowledge in teacher education curricula; and (3) novice teachers' relations to professional knowledge. Teacher education in this thesis is limited to professional programs (four years in Norway, five years in Finland) educating primary school teachers. The three research contexts selected or perspectives taken in this thesis enable to address the questions on how knowledge is made available through policy making, what kind of knowledge is selected and how it is organized, and finally what kind of relations to knowledge may be developed among novice teachers.

The thesis is based on three folded *empirical material*: (1) Interviews with policy makers in Norway and Finland (2) curriculum texts for teacher education at institutional level (Oslo University College and University of Helsinki) and (3) interviews with novice teachers from Finland and Norway educated after the curricula mentioned above. Secondary data such as national policy documents regulations and former research have also informed the analysis. Two different but somehow related theoretical perspectives are integrated in the *analytical framework*, one from political science and one from sociology. The first one is dealing with policy making from an institutional perspective (Gornitzka, 1999) focusing on structures, actors and rules in the policy making processes, the other focusing on the relationship between knowledge structures, actors and action in construction of educational knowledge and pedagogical identities (Bernstein, 2000).

The overall *findings* of this thesis show that construction of knowledge for the teaching profession is embedded in complex socio-historical contexts and processes. The analyses reveals significant differences in the way in which knowledge for the teaching profession is constructed in the two country contexts: The analyses of *policy making processes* show that teacher education policy processes in Norway rely heavily on political actors and changes in political conditions, while Finnish teacher education policy processes rely more on academic expertise and research knowledge. The analysis of *organization of knowledge in curriculum documents* reveals that the Norwegian curriculum emphasizes contextual coherence, connecting conceptually to the logics of practice, while Finnish

curriculum emphasizes conceptual coherence, that is, the curriculum are more conceptually tied to the core of the academic discipline. The analysis of *novice teachers' knowledge relations* revealed many similarities on the surface, but a closer examination of the teachers' use of professional language revealed significant differences. The Finnish teachers describe a field of knowledge in which conceptual coherence is given more emphasis, while the Norwegian teachers' stories are dominated by contextual coherence. Knowledge relations brought to the fore by the Finnish teachers may allow for clearer definitions of professional challenges than those identified among the Norwegian teachers. This means that the epistemic profile of the teacher education curricula was reflected in the novice teacher knowledge relations. In sum, the findings suggest that transforming teacher education policy involves changing and developing deep and complex epistemic structures which involves a far more comprehensive and time-consuming processes than merely changing policy- and curricula texts.

Sammendrag

Denne artikkelbaserte avhandlingen tar for seg *hvordan kunnskap konstrueres for lærerprofesjonen*. Hovedfokuset er prosesser og relasjoner involvert i utviklingen av læreres profesjonelle kunnskap. Avhandlingen gjør en analyse av (1) policy prosesser, (2) hvordan kunnskap er organisert i læreplaner for lærerutdanningen, og (3) hvilke relasjoner nyutdannede lærere har til profesjonell kunnskap i Finland og Norge. Lærerutdanning er i denne avhandlingen avgrenset til profesjonsutdanninger (fire års utdanningsløp i Norge og femårig Master utdanning i Finland) for grunnskolelærere. Analysene sikter mot å kunne besvare spørsmålene om *hvordan kunnskap er regulert gjennom policy prosesser, hva slags kunnskap som er valgt ut og hvordan den er organisert, og til slutt hva slags relasjoner til kunnskap som kan utvikles blant nyutdannede lærere*.

Avhandlingen baserer seg på et *tredelt empirisk materiale*: (1) intervjuer med aktører involvert i policy utvikling for lærerutdanningene i Finland og Norge, (2) læreplaner fra lærerutdanningene ved henholdsvis Universitetet i Helsinki og Høgskolen i Oslo, og (3) intervjuer med nyutdannede lærere fra Finland og Norge, utdannet etter de overnevnte læreplaner. To forskjellige, men også i noen grad beslektede teoretiske perspektiver utgjør det *analytiske rammeverket* i denne avhandlingen, hentet henholdsvis fra statsvitenskap og kunnskapssosiologi. Det første perspektivet fokuserer på policy prosesser i et institusjonelt perspektiv (Gornitzka, 1999), og legger vekt på aktører, relasjoner og strukturer som påvirker policy prosesser. Det andre teoretiske perspektivet fokuserer på forholdet mellom strukturer, aktører og handlinger i kunnskapskonstruksjoner knyttet til utdanning og utvikling av pedagogiske identiteter (Bernstein, 2000).

Resultatene fra denne avhandlingen viser at prosesser involvert i konstruksjon av kunnskap for lærerprofesjonen er kontekstuelt og sosial fundamentert, og at en rekke strukturer og relasjoner er involvert i utviklingsprosessen. Analysen av policy prosesser i de to landene viser en akademisk (staten har en veiledende rolle) versus en politisk styrt policy (staten har en styrende rolle) prosess i henholdsvis Finland og Norge. Analysen av læreplanene viser at i den finske planen er kunnskapsorganiseringen basert på vitenskapelige begreper og strukturer (conceptual coherence), mens den i den norske planen er basert på kunnskapsstrukturer knyttet nært til logikken for kunnskap i praksisfellesskapet (contextual coherence). Når det gjelder nyutdannede lærere, viser de finske lærerne en sterkere

tilknytning til en vitenskapelig basert kunnskapskultur, mens de norske lærerne knytter seg tetter opp mot kunnskapskulturen i praksisfeltet. Det betyr at den epistemiske profilen på lærerutdanningsprogrammene er reflektert i hvordan lærerne uttrykker sin kunnskapstilknytning. Forøvrig viser også funnene i denne avhandlingen at det å endre læreplaner for lærerutdanningen involverer dype epistemiske strukturer; det dreier seg om langt mer omfattende og tidkrevende endringer enn å forandre teksten og strukturen i læreplaner og policy dokumenter.

Acknowledgements

To my exceptional supervisors Peter Maassen and Monika Nerland
I am truly grateful for your dedication, generosity and engagement!
You have both challenged and supported me in unique and rewarding ways!

To my inspiring interviewees and to Katriina Maaranen and Riitta Jyrhämä
Thank you for the time, effort and engagement in sharing your stories and knowledge
This thesis would not be possible without you!

To all my colleagues in NATED, Track 4
Thank you for a unique fellowship, both personally and professionally
Thank you for all the laughs and good travelling memories!

To my fellow PhD students and other colleagues at Østfold University College
I could not have done this without your friendship,
our personal and professional discussions, and your pep talks!

To my wonderful friends, my sisters and their families
Thanks for support, good memories, discussions and a lot of laughs
and for giving meaning to life!

To my fantastic parents and parents-in-law
Thank you first and foremost for being warm and caring grandparents and parents!
I do not know what I should have done without your overall support!
(including dinners, dog walking, ironing, yard work, taxi-driving, baking cakes, being soccer supporters etc.)

To Sondre, Aleksander and Geir
Thank you for making my life fun and good!
Real life is together with you! I love you!

Halden 1st of June 2012   Hilde Wågsås Afdal

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1 Introduction

In this thesis, a comparative study of the *construction of knowledge for the teaching profession* is presented in the format of a collection of three articles and an extended abstract. Teacher education in this thesis is limited to professional programs (four years in Norway, five years in Finland) that educate primary school teachers. This thesis sheds light on important processes and relations involved in constructing teachers' professional knowledge in Finland and Norway, and offer an analysis of (1) policy making processes, (2) organization of knowledge in teacher education curricula; and (3) novice teachers' relationship with professional knowledge. In this thesis, it is argued that policy making processes and the organization of knowledge in teacher education curricula are important elements in developing novice teachers' knowledge relations. By using the concept of *construction*, this thesis understands policy making in teacher education an important process that sets the agenda for who is allowed to shape the content of teacher education policy, what kinds of experts are consulted, and what kinds of policies and educational ideologies are given space. Policy making in teacher education also implies taking a position on what counts as important knowledge for teachers and the best way of organizing it. Curricular documents initiate knowledge structures and the organization of teacher education programs, while they also describe the structure and organization of what is considered important knowledge for future teachers. Implicit in such texts is an image of what a knowledgeable teacher ought to know. The three empirical studies selected for this thesis enable to address questions of how knowledge is made available through the selection of actors and the construction of policy making processes, what kind of knowledge is selected and how it is organized, and, finally, what kind of relations to knowledge may be developed among novice teachers.

The 1990s have been characterized as a time of major policy change in education. The quality and accountability of primary education have relied heavily on teachers' professional knowledge and skills (see e.g. Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Wayne & Youngs, 2003). With the advent of the 21st century, international testing of students' learning outcomes has increased. The differences revealed by these tests are one of the main underlying factors for the placement of teacher education and teacher education policy on the international and national policy agendas. Within the European context, OECD and the

Bologna process have played an important role in this teacher education policy reform movement.

The societal debate on education, knowledge, learning, teaching, teachers, and teacher education has been extensive in Norway as well. The center of attention has been on how primary and secondary education can be improved to better secure students' learning outcomes. Politicians, the media, the teachers' unions, the teachers, academics, parents, and the public in general all have an opinion on how to improve the schools and the educational system. This debate also concerns the profession and the professional knowledge basis of teachers. These are discussions regarding the need to educate more competent and knowledgeable teachers to increase the quality of teacher education and improve the quality of teaching itself. Statements such as "we need more professional teachers" are commonly repeated. The OECD has, for example, emphasized that teaching quality is decisive in students' learning outcomes (OECD, 2005). Norwegian teachers have been criticized for not being knowledgeable enough. This calls for a profound study of how and what kind of knowledge is constructed for the teaching profession.

In this chapter, I will first account for my research interests and motivations for conducting this thesis. Second, the aims, the main research problem, and four research questions will be presented and explained, followed by a brief introduction to the analytical framework and empirical grounding developed for this thesis. Finally, an overview of the three articles included in this thesis *and* of the thesis as a whole is given.

1.1   Development of motivation and research interests

My initial point of departure was to examine and try to understand what resources teachers draw on in their professional work, and how they conceptualize their professional knowledge basis. Quite early in the process, I recognized that to be able to approach teachers' professional knowledge more extensively, I needed to extend my empirical focus and add context to how teachers themselves reflect on professional knowledge. Teacher knowledge cannot be examined in a vacuum. Knowledge itself is contextual, and teachers stand in the intersection between teacher education and teaching practice, as well as societal demands and political debates. The teaching profession has close ties to the state. It is one of the most

important welfare professions and is also crucial for societal development. The teaching profession is historically, socially, and politically embedded. While preparing to explore how teachers understand their professional knowledge, questions emerged about where these understandings come from and how they are constructed and developed. Important questions initially raised when starting this PhD project were: Who are the actors and stakeholders developing teacher education policies and curricula? How are the different levels and actors in the policy processes and their negotiations influencing knowledge for the teaching profession? How do the development and selection of knowledge in (professional education such as) teacher education take place? Is it possible to identify relationships between policy making and teachers' relationship with knowledge, and if so, in what way(s)?

The construction of knowledge for the teaching profession is wide-ranging phenomenon that can be investigated with many possible approaches. I had to be selective, which implies that there will be important issues that must be left to others; there will also be important empirical and theoretical gaps. I have been forced to make some choices in my search to provide new knowledge about important processes and relations. In most European countries, teachers have to attend studies at the level of higher education and participate in preparatory teaching in their studies before being allowed to practice as a teacher. At a time in which teachers and teacher education are extensively debated, policy making and curriculum came to the forefront of my interests. As the literature review in Chapter 3 shows, there is a range of studies on policy-formation processes in higher education, but not much research has been undertaken when it comes to policy formation for the professions and teacher education in particular. There is an extensive body of research on different aspects of teacher education, but there is a lack of studies that shed light on connections between different actors and institutions involved in constructing knowledge for the teaching profession. Another aspect already mentioned is that teacher education is highly debated internationally. Questions of structures, content, and the effects of teacher education in different countries are on the agenda, both in national and international policy arenas. An emerging interest in policy learning while reforming teacher education has also been salient in Europe lately. Comparing different models of how to develop and carry out teacher education was, in my case, a natural consequence of the curiosity raised by social and political debates.

However, the motivation for conducting this study does not come only from the current heated political and academic debates referred to above. Having worked for about

fifteen years as a teacher, my experience is that discussions and development projects within and about the teaching profession very often end up as concrete and tangible organizational, functional, and methodological discussions. The aim is to solve daily challenges in practice. The more transcendent and impenetrable sphere of 'professional knowledge' seems, at best, abstract and diffuse. I have often felt a need for discussions about professional knowledge, but have rarely experienced them. I have had similar experiences both as a student and as a lecturer of teacher education. In my view, one important reason is that school administrations, teachers, teacher educators, and student teachers do not know where to start in addressing the more abstract elements of professional teacher knowledge. The existing 'common language' enables discussions of the concrete and everyday practical. What is underdeveloped is a language that opens up transcending and abstract perspectives on teachers' professional practice, such as, for instance, questions concerning professional knowledge. From this perspective, my intention is that this thesis can contribute to a consciousness among educational actors about the importance of developing a more explicit professional language for teachers. Moreover, by revealing differences in knowledge discourses and organizing principles in teacher education curricula, and by bringing differences in teacher knowledge relations and conceptualizations of their work forward, I hope to contribute to a conceptualization of teacher knowledge.

To study the construction of knowledge for the teaching profession, I chose to conduct studies in two national contexts. Norway has recently (2010) taken the first step towards developing a research-based professional teacher education program, quite openly inspired by the Finnish model, which has been active since the early1970s. It is argued that Finnish teachers are better qualified than their Norwegian counterparts. Finnish teachers are required to have a five-year Master's degree, while the requirement in Norway is four years (Bachelor's degree plus one year). Applicants for teacher education in Finland are interviewed personally, and only 10 percent of the candidates are accepted for class teacher education (Sahlberg, 2007). In Norway, almost all of the qualified candidates who apply are accepted. A final argument is that in the Norwegian debate following the PISA results, Finland is seen as the most relevant basis for comparison in Europe. Finnish students figure at the top of the list on international tests, while Norwegian students hold a far more moderate position.

1.2 Aims and research questions

The aim of this PhD project is to expand our understanding of the construction of knowledge for the teaching profession, with a focus on the processes and relations involved in developing teachers' professional knowledge. More specifically, this means that the thesis should contribute to a better understanding of: (1) how policy making processes constitute a basis for selection of knowledge for teacher education, (2) how knowledge is organized in different teacher education programs, (3) how novice teachers relate to shared knowledge in their profession, *and* (4) possible relations between the issues above, with a special interest in the interplay between institutional structures, the actors involved, and the different agencies that are encouraged. Since education here is conceived as a culturally constituted, developed through historically and contextually embedded dynamic processes involving institutions and individuals, it became necessary to follow and focus on several contexts in the educational system. Out of this, the thesis's *overall research problem* was formulated:

How is knowledge for the teaching profession constructed?

From this overall research problem, four research questions emerged. Throughout the entire research process, empirical analysis and theory have continuously informed each other. The research questions are, thus, both empirically and conceptually generated:

a) What kinds of actors, relationships and structures are involved in policy making processes for teacher education in Finland and Norway?

b) What characterizes a 'research-based teacher education program' versus a 'general professional teacher education program,' in terms of knowledge structures and knowledge relations in curricula?

c) What characterizes the relations to knowledge among Finnish and Norwegian novice teachers?

d) How can differences in teachers' knowledge relations be related to the epistemic profile of their teacher education programs?

As shown above, the two cases selected are Finland and Norway. Policy making processes are studied at the national level in both cases (article 1), while the studies of curriculum texts and novice teachers are carried out at the program level (one conventional program in each country) with two teacher education institutions (articles 2 and 3) and at the

level of professional practice (article 3). The three research contexts or perspectives selected for the underlying study for this thesis can easily be interpreted as three different objects of analysis. However, "the change is one of perspective not of the object in view" (Becher & Trowler, 2001, p. 75). Indeed, these can be illustrated as three nodes in a triangle (figure 1). The object in view is the construction of teacher knowledge, which is studied from three different angles—, policy making, curricula content, and novice teachers' stories— representing three perspectives on or contexts involved in the construction of teachers' professional knowledge. Figure 1 illustrates the relationships between the three selected perspectives (each represented by one article) and the main research problem:

Figure 1: Main research problem and the three empirical investigations
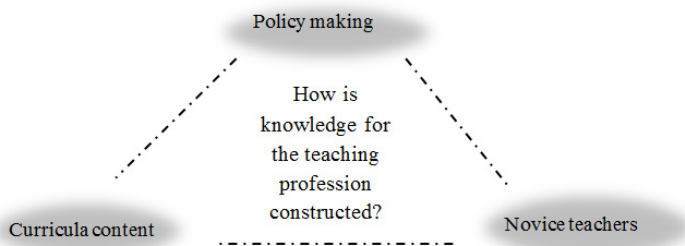
It can be rightfully argued that this thesis aims to cover rather vast and different research fields. It would have been easier and more consistent to, e.g., focus only on teacher education policy and policy processes or on the practice of teacher education and teacher educators. However, since structures and particular relationships and processes are at stake, choosing a more comprehensive approach was seen as necessity. In this thesis, policy making and curricula content are viewed as two of the most decisive elements in the process of constructing knowledge for the teaching profession. Policy making processes open and close for participants to be involved and are laying the ground for how the societal intentions for how to educate teachers, teacher education curricula give prominence to some professional qualities and not to others. In the field of practice, policies and curriculum intentions are recreated, not just passively received (Bowe, Ball, & Gold, 1992). Unlike most studies, which tend to treat the three corners of the triangle shown in Figure 1 separately, this thesis aims to analyze structures and relations *between* the three perspectives. Thus, one major limitation of

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the study is a relative lack of attention paid to the constructions of knowledge within the actual context of teacher education practice and among teacher educators. This does not mean that this is regarded as less important. To the contrary, it is valued as an area that needs to be studied so extensively that it is beyond the scope and time limits of this thesis, as it deserves a study of its own. The educational context in this thesis includes and is delimited to novice teachers' experiences.

1.3   Analytical framework

As I will discuss in chapter 3, studies on policy making for the teaching profession are practically absent in research; few studies have been conducted on the organization of knowledge in teacher education curricula or on teachers' knowledge relations. The main contribution of this thesis lies in the effort to include analyses from three perspectives (policy making, curricula texts, and teachers' stories) in one project, as well as in its contribution to new knowledge within each perspective studied through the selection and composition of 'fresh' analytical lenses.

The analytical framework for this thesis has developed along with my emerging empirical interest in teachers' professional knowledge. To begin with, construction of knowledge for the teaching profession, whether the focus is on the policy making, curriculum content, or professional practice, is viewed to hold certain overall premises in this thesis. First, construction of knowledge for the teaching profession is seen as *processual*, meaning that it is dealt with by approaching how processes are organized and how actors, content, and responsibilities are dealt with and distributed. Second, the processes are *relational*, meaning that several processes and actors (political, professional, educational program, professional practice) are connected and related to each other in a complex way. Finally, the construction of knowledge for the teaching profession is viewed as *contextual*, meaning that it is embedded in wider cultural, institutional, and historical contexts that need to be understood if we want to understand the construction of knowledge for the teaching profession.

Two different, but somehow related, theoretical perspectives are integrated in this analytical framework, one from political science and the other from sociology. The former deals with policy making from an institutional perspective (Gornitzka, 1999) and focuses on actors, relationships, and rules in policy making processes, while the latter focuses on the

relationship between knowledge structures, actors, and action in the construction of educational knowledge and pedagogical identities (Bernstein, 2000).

To identify a common language and a structured theoretical approach to an analysis of *policy making* processes in Finland and Norway, parts of Gornitzka's (1999) framework for comparative studies of higher education policies are deployed. She suggests taking an institutional perspective on policy making. This means that policy processes are viewed as situated in historical and institutional structures and must be understood contextually. According to this framework, policy making is also viewed as a process that is open to multitudes of influences that also change and develop the process itself. Such an approach demands that various factors affecting the outcomes of the policy making process, such as institutional structures, actors involved, the role of the state, and the distribution of authority and 'rules' in the processes, are taken into account in the analysis.

To explore the relations between selection and organization of knowledge for teacher education *and* novice teachers' knowledge relations, I employ parts of Basil Bernstein's conceptual framework (Bernstein, 1999, 2000). In addition, I also apply some concepts from his followers' work. Bernstein's basic assumption of the relationship between structure, actors, and actions has much in common with basic ideas in institutional theory. He emphasized how knowledge systems become part of consciousness and that pedagogical discourse becomes a carrier of something more than itself. Like policy making, educational knowledge is developed by rules and taken-for-granted assumptions. Educational knowledge is embedded in structures, habits, and routines carried out in practices at different levels in the educational system. For theorizing knowledge and knowledge relations in and between different levels in the educational system and constitutions of different pedagogical discourses, Bernstein's conceptualization of the *pedagogical device* is particularly fruitful. His conceptual framework is further used to explore different forms of knowledge in intellectual fields (hierarchical and horizontal knowledge structures) or different forms of knowledge discourse, as well as how knowledge is organized for educational purposes (classification and framing of knowledge) and the ways in which both knowledge and knowers become specialized through the organizing principles in play. Bernstein's concepts are used in this thesis to account for (1) teacher education as a site for introducing prospective teachers to particular knowledge worlds, (2) differences in novice teachers' knowledge relations, and (3) teaching practice as a site for knowledge enactments.

Taking as a point of departure the fact that the construction of knowledge for the teaching profession has a processual, relational, and contextual character, this analytical framework is productive for focusing on policy making processes, actors in policy making and rules structuring policy making within institutional structures. Policy making processes are seen to constitute the basis upon which the selection of knowledge for teacher education is conducted. Therefore, this analytical framework opens the door to the examination of the production and reconstruction of pedagogical discourses in and between different contexts within the educational system. It also provides an opportunity to identify different forms of knowledge curriculum texts and teachers' stories, and to identify how knowledge is organized for educational purposes and in pedagogical settings. Finally, this analytical framework allows for the identification of structural features of knowledge and their social implications.

Three aspects integrate the two main theoretical perspectives. *Structures* are carriers of taken-for-granted and embedded values, norms, and rules, whether it is for policy processes or processes where knowledge 'moves' between different levels or contexts in the educational system. Such structures shape and re-shape goals, content, and power configurations and are historically and contextually embedded. *Actors* are those who bring structures and processes to life through mutual interaction, and who bring about the social implications of structures concerning both policy processes and knowledge structures. Finally, *rules* open and close, include and exclude, and giving and take authority and power, whether it is through policy making processes, knowledge to be included in curricula, or novice teachers' knowledge relations.

1.4   Empirical grounding and overview of the articles

This is an independent study, meaning that it is not founded or steered by anyone else, and it was fully designed from my own research interests. The thesis is based on empirical material from three sources: (1) interviews with policymakers in Finland and Norway; (2) curriculum texts for teacher education at institutional level (Oslo University College and University of Helsinki); and (3) interviews with novice teachers (interviewed twice during their first year as teachers) from Finland and Norway. Secondary data, such as national policy documents, regulations, and former research, have also informed the analysis. Semi-structured in-depth interviews with the policy makers (active both in the latest and former teacher

education reforms) and the teachers (graduated in the 2008–2009 academic year) were conducted. The curricula analyzed were effective in the period during which the novice teachers attended teacher education and part of the latest reform in which the policy makers had been involved. The three sources of empirical material are each reported on in a separate article, although the findings from article 2 are also included in the discussion in article 3.

An overview of the distribution of empirical material, title, and research questions for each article is provided in table 1. The research questions for each article are developed as sub-questions of the four main research questions presented above. The overview also points out the issues discussed in each article. The discussions in each article relate the three articles to each other and are meant to align with the main research problem.

Table 1: Overview of the three articles

	Article 1	**Article 2**	**Article 3**
Title	Policy Making Processes with respect to Teacher Education in Finland and Norway	Knowledge in teacher education curricula: examining differences between a research-based program and a general professional program	Does Teacher Education Matter? An Analysis of Relations to Knowledge among Norwegian and Finnish Novice Teachers
Sub-questions	What kinds of actors can be identified in the teacher education policy making processes in Finland and Norway? How can the relationship between the actors involved in these teacher education policy making processes be understood? *Discussing:* What kinds of structures and frames for the knowledge basis in teacher education policy making can be identified?	What characterizes the two programs in terms of knowledge structures and knowledge relations? What are their implications when it comes to the construction of the knowledgeable teacher? *Discussing:* What challenges can be imagined when it comes to transforming teacher education from one model to the other.	What characterize relations to knowledge among Finnish and Norwegian novice teachers? In this article we are searching for how the teachers describe their work and articulate their concerns, and what epistemic resources they draw upon in this respect *Discussing:* – Implication for professional identity – How teachers' relations to knowledge are related to the epistemic profile of their teacher education programs.
Empirical material	Interviews with policy makers in Finland and Norway	Curricula documents	Interviews with novice teachers in Finland and Norway

1.5   Outline of the thesis

The thesis is organized in two parts. The purpose of the first part is to clarify the overall aim and contributions of the study, as well as to describe the research approach more fully (Extended abstract). The second part is composed of three articles, which consist of the empirical studies included in the thesis. In part I, following the introduction, *chapter 2* gives a brief historical and contextual review of the national policy frames in the two cases. The emphasis is put on coherence, consistency, and linkage over time, as well as to breaches and confrontations in the development of teacher education, and important and influential contextual features. In *chapter 3*, a review of relevant and related research is given. First, some trends in research on teaching and teacher education are presented. Then, the second and third parts of the review focus on what has been going on in Finland and Norway, respectively, with respect to research trends. Finally, the review zooms in on research on policy and teacher education curriculum or programs, particularly in the context of teaching practice and of constructing knowledge for the teaching profession. In *chapter 4,* an analytical framework is laid out, connecting and integrating the theoretical perspectives presented in the three articles. C*hapter 5* presents an account of the methodological approach in the thesis. In this chapter, the research approach and strategies are dealt with; the research tools, my role as a researcher, the analytical approach, and the trustworthiness of the research are discussed. Finally, in *chapter 6*, summaries of the three articles are given. *Chapter 7* contains a discussion of the findings across the articles and presents the main contributions of the thesis. After a summary of the findings across the three articles, the discussion will offer new insights and implications for policy development, teacher education, and further research on related topics. The concluding remarks will reflect retrospectively and prospectively on this research. In the second part of the thesis, the three articles are included in the order in which they were written. These three articles contribute to the understanding of the construction of professional knowledge for and in the teaching profession.

2 Development of teacher education within national contexts

Finland and Norway have separate histories as far as the institutional affiliation, structure, and content of teacher education is concerned. A historical review is a way to trace "the patterns of educational ideology" (Becher & Trowler, 2001, p. 24) and display the contextual features of education and educational policies (Gornitzka, 1999, p. 22). Despite the complexity of the history of teacher education in both countries, this chapter can only function as a brief introduction. The section about Norway is considerably longer than the one about Finland due to the complexity of the former's history. I am well aware of the fact that multiple societal and cultural factors influence history; thus, steering structures and actors involved in the development of teacher education, as well as policy structures, are emphasized in the following reviews. A brief introduction on *dominant policy ideology* and a rough sketch from the early 1970s on are provided for both cases. This introduction focuses on *coherence*, *consistency*, and *linkage over time*, as well as on *breaches and confrontations* in the development of teacher education and teacher education policy (Gornitzka, 1999).

2.1 Norway

Teacher education in Norway (like in Sweden and Denmark) has historical roots in the 'seminarium tradition' (Rasmussen, 2008). It is characterized by its close proximity to the field of practice and its distance from scientific activities (Kvalbein, 2003; Skagen, 2006). In the seminarium culture, emphasis is placed on the social environment of education, and the teacher is responsible for the students, as well as for the school subjects (Kvalbein, 2003). The educational ideology of the seminarium tradition can be connected to a collectivist mindset, coupled with the socio-political and historical perspectives of a social democracy and a pietistic Christianity (Kvalbein, 1999). The function of the educational system has historically been formative and fostering, with a focus on upbringing and teaching, and it shall provide the upcoming generation with knowledge and competencies of personal and societal importance and value (Rasmussen, 2008, p. 329). In Norway, teacher education has been part of the higher education system since 1973, when it was incorporated into a college structure, but evaluations and studies have shown that the seminarium tradition still plays a significant role (Kvalbein, 2006; Rasmussen, 2008). One example is that 'the general professional

program' has been strongly valued as an exemplary model for how teaching should be conducted in primary education and what methods prospective teachers ought to know and use as teachers in schools. This is mentioned in the curricula of 1980, 1992, and 1998, but can be traced as far back as in documents regulating teacher seminariums in 1869 (Kvalbein, 1999). The seminarium tradition still plays this significant role in Norwegian (as well as Swedish and Danish) teacher education programs (Rasmussen, 2008), even though teacher education programs have been developed toward research-based programs in both Norway and Sweden.

It is reasonable to use the early 1970s as the starting point in this historical review because this is the period in which the first White Paper and curriculum of 'a general professional program' for teacher education were developed in Norway[1]. White Papers have been important political tools for making changes in educational policies. Some important White Papers concerning teacher education are: 1973, 1974, 1989, 1991, 1997, 2001, 2002, and 2009, as well as Green Papers (Official Norwegian Report: NOU): 1974, two in 1988, 1993, 1995, 1996, 2000, 2003, 2006, and 2008. In the report Comparative Study of Nordic Teacher-Training Programs (Nordic Council of Ministers, 2009), Norwegian teacher education is characterized as the most regulated one. Norwegian teacher education has, since the early 1970s, gone through five official policy reforms and six different national curricula (1973, 1980, 1992, 1999, 2003, and 2010). Historically, educational policy processes in Norway are broad processes with multiple working groups handing in reports to the Ministry of Education. These processes have usually included several hearings and reference/advisory groups with strong representation from teacher education and professional organizations. The usual procedure is that the Ministry of Education appoints the groups, develops guidelines and a White Paper, initiates hearings, and selects committees. A curriculum document is sent out for hearing and the results of the hearing are discussed, but the final curriculum document is prepared, voted on, and decided by the government. Changes in government have usually meant changes in teacher education and in higher education in general (Karlsen, 2005). Reforms in compulsory education, reforms in higher education in general, and international trends have also influenced the development of curricula for teacher education (Hauge, 1995).

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[1] Another ongoing extensive debate in this period regarding teacher education worth mentioning, but which is not elaborated on, is the discussion on whether teachers should be educated as subject teachers or general practitioners. Until 2010, Norway educated general practitioners, qualified to teach 1st to 10th grades, in the four-year professional programs.

The evaluation of different aspects of teacher education has been almost absent, with two exceptions: "Evaluation of teacher education at five teacher colleges" (Norgesnettråd [The Network Norway Council], 2002) and an overall evaluation of all four-year teacher education programs at the university colleges (Nasjonalt organ for kvalitet i utdanningen (NOKUT) [Norwegian Agency for Quality Assurance in Education], 2006).

Teacher education was, from the 19th century until the early 1970s, regulated in detail by the state. It was carefully steered through structural frames, curricula, and class schedules for each subject (Skagen, 2006). In 1973, teacher education became part of higher education. Different government-appointed advisory bodies and public hearings were part of the policy processes (Halvorsen, Jordheim, & Kjosavik, 1999). Educationalists occupied central positions in politics, bureaucracy, and advisory bodies. District political interests and strong political ideas about the decentralization of higher education were influential aspects at the time. Norway reached a 'world record' in higher education institutions per citizen (Halvorsen et al., 1999). The arguments for decentralization were several, and they will not be discussed here. My argument here is that this process likely inflicted the need for steering, communications between institutions, and the lack of coherence and consistency between institutions.

In the 1980s, the allocation of money for teacher education varied extensively, due to changing and insufficient prognoses of the need for teachers. This resulted in a need for continual reorganization of resources and personnel in each teacher education program. It was the beginning of an era of closure of professional advisory bodies, with an emphasis on goal- and results-oriented education and with a decreased role for educational studies in teacher education. In 1973, one-third of the credit points in the teacher education program were pedagogy, while in the late 1980s, this constituted only one-eighth of the total teacher education program (Halvorsen et al., 1999). The 1980 curriculum was criticized for being vague, weak, and too general (Kvalbein, 1999), and the plan had many aims and goals with equal status, which gave the idea of a "professional hedge" (Bergem, 1994).

The characteristics of educational politics in Norway in the 1990s were the centralization of goals and control, while the selection of the means was decentralized (Karlsen, 2005, p. 410). The most decisive factor for teacher education in this decade was The Norwegian State College Reform (1994). A total of 98 smaller public colleges were merged into 26 larger units, and these were subjected to similar structures as the universities. In 1996,

the government passed a new law that included the colleges and universities under the same legal structures. For the organization of teacher education, this reform marked its transition from a regional to a national affair. The content of teacher education still remained practice–oriented, but it was also an academic affair (Norges forskningsråd [The Research Council of Norway], 1999). Moreover, it was part of an initiative towards the relative standardization of the form and content of teacher education. The reform was politically initiated, based on the arguments of strengthening academic integration, cooperation, and administrative functions through the creation of larger units (Norgård & Skodvin, 2002) to save public funds. The Norwegian State College Reform created a 'steering-dilemma' regarding teacher education, with a conflict of interest arising between what should be decided locally versus nationally, and what should be decided politically versus academically. A common component of teacher education was prescribed by the Ministry of Education, and teacher education was expanded from three to four years in order to educate more knowledgeable teachers. During this decade, educational expertise lost its central position in bureaucratic and political arenas; economists and business administrators took control over a substantial number of positions in committees, in the ministry of education, and among educational politicians.

Related to the beginning of the new millennium, I will put forward four important factors. First of all, this is again an epoch of extensive reform. Secondly, this happened partly because in 2006, NOKUT (Norwegian Agency for Quality Assurance in Education) conducted an evaluation (Nasjonalt organ for kvalitet i utdanningen (NOKUT) [Norwegian Agency for Quality Assurance in Education], 2006) of all twenty teacher education institutions and found that the quality of the educations varied widely. The committee also found that there was a lack of connections between pedagogy and didactics versus subject didactics, as well as a lack of connections between theory and practice in the educational programs. Thirdly, there has been a comprehensive focus on basic competencies (mathematics, reading and writing, oral and ICT skills) for students and teachers. Finally, international influence on teacher education is evident. For instance, the Quality Reform in Higher Education (2003) was a restructuring of the entire higher education sector and an adjustment to the standards set in the Bologna declaration in 1999 (meaning the three-cycle system, with Bachelor's, Master's, and PhD). Recently, there has been extensive discussion among politicians, policy makers, and in teacher education institutions of whether or not teacher education should be expanded to a five-year Master's Degree program. There is no political will yet to make such an expansion compulsory. The new curricula (effective from

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August 2010) are formulated in the structure of the Norwegian Qualification Framework for Higher Education (2009), defining what kind of knowledge, skills, and general competencies students should accomplish in all modules and subjects of education. Mobility for students in their educational situation, a research-based education, and a focus on key competencies are also emphasized. The traditional way of developing spacious curricula documents describing both content and process was put to the test, and a narrower, more concise text was demanded.

From an overall perspective for the last three decades (until 2010), Norwegian teacher education has been aiming at educating broad, professional, and multidisciplinarily competent teachers. However, teachers in Norway have increasingly begun to experience professional legitimacy problems. They have been widely criticized for not "satisfying societal demands" (Karseth & Sivesind, 2010, p. 104). This has increased, especially after the international testing of pupils started in the 1990s. Norwegian pupils' results are moderate in a Western European context. The responsibility has been heavily loaded on the teachers by politicians, academics, media, and parents. The PISA results have resulted in a national evaluation of teacher education (Nasjonalt organ for kvalitet i utdanningen (NOKUT) [Norwegian Agency for Quality Assurance in Education], 2006) and stirred the debate on teacher qualifications, knowledge, and skills. Students with less-than-average academic results have been admitted into the programs due to the need for teachers in schools and the funding system for university colleges.

2.2   Finland

Finland has had few major reforms in teacher education. These reforms have mostly attended to overall educational, structural, and organizational factors and less to educational content and detailed steering models. Changes to the organization and content of Finnish teacher education over the last two decades have mostly happened within academic institutions, and not through official national policy documents (Jakku-Sihvonen & Niemi, 2006a). Key reforms in Finnish teacher education were carried out in the 1970s (Simola, 2005). An influential reform was the 1971 Teacher Education Act (Kansanen, 2003), followed by the transfer of teacher education from the seminars or colleges to universities. Interestingly enough, different references offer three different years for when teacher education was transferred to the university sector: 1971(Niemi & Jakku-Sihvonen, 2006),

1974 (Kansanen, 2003), and 1979 (Maaranen, 2009; Simola, 2005). My first thought was that this may indicate that the research on teacher education policy is focused more on what changes were made and less on how and when. After an inquiry among the authors mentioned above, however, this can be explained: In 1971, the legislation began, meaning that the law was decided. In 1974, the implementation of the law began and the transfer started, but this was allowed to take several years. In 1979, the transfer was complete. Thus, this is an example of how changes are allowed to take time and develop. The 1970s were the era in which the idea of a 'the research-based teacher education program' was born and shaped. Maaranen (2009, pp. 11-12) argues that the Finnish research-based teacher education has its ideological roots in humanistic psychology, which was the first foundation of the new academic teacher education. In the 1980s and 1990s, the research on teacher thinking, phenomenological perspectives, and qualitative research gained popularity and "teacher educators saw the need to direct teacher education in a more academic direction, and away from a simple 'how to' focus" (Maaranen, 2009, p. 12). Dominant themes in the 1990s became teachers' pedagogical thinking and research-based teacher education.

The purpose of transferring teacher education to universities was to raise the academic level, to unify different teacher categories into one system, and to give teachers common and broad qualifications (Niemi & Jakku-Sihvonen, 2006, p. 32). Since that moment, Finnish teacher education has been incorporated into university culture, both when it comes to steering, as well as with academic work. In 1979, a reform of the entire higher education system influenced the degree system in teacher education, and it became equivalent to other higher education degrees. All teachers had to complete a five-year Master's degree (Kansanen, 2003), either as a class teacher (grades 1-6) or as a subject teacher (grades 7-9). The shift towards a research-based teacher education began (Maaranen, 2009). Faculties of education were established with departments of education and a department of teacher education (Kansanen, 2003). Teacher education was, in the 1970s and 1980s, influenced by a fairly strict core curriculum set by the Ministry of Education to standardize teacher education at all universities (Niemi & Jakku-Sihvonen, 2006).

The transition to a university culture and the struggle between academic disciplines and pedagogical studies were central challenges in the 1980s and 1990s. The 1990s were characterized by a shift, and the decentralization of the governance of higher education was carried out. Universities were given more freedom to profile their own programs, and teacher

education was placed in a better position to take care of local needs and strengths (Hansén, 1999). An increasing number of professorships in subject didactics at the universities also influenced the academic environment considerably.

The systematic evaluation of a variety of aspects concerning teacher education is salient in Finland. Evaluations concerning teacher education were conducted in 1989, 1993-94, 1995-1998, 1998-1999, 1999, and 2001-2002 (Niemi & Jakku-Sihvonen, 2006). Evaluations are initiated and conducted on assignment from the Ministry of Education. The changes made in Finnish teacher education based on the requirements of the Bologna process initiated a project called "National-Level Coordination of Degree Program Development in Teacher Education in the Sciences of Education" (VOKKE). VOKKE concluded with national recommendations for teacher education, developed by the educational institutions themselves. Since teacher education in Finland has been explicitly research-based and has consisted of a Master's degree since the 1970s, the Finnish commitment to be part of a common European Higher Education Area in 2005 did not affect the structure of teacher education extensively. Transition to a two-cycle degree system (Bachelor's degree 180 ECT and Master's degree 120 ECT) went rather smoothly (Niemi & Jakku-Sihvonen, 2006). It also means that Finland, with regard to teacher education policy, had a head start in adapting and taking a very active part in the Bologna process. In the context of Finnish teacher education, it was important to hold onto a structure that had been proven to work and to keep the continuity of the education. In the Bologna process, the national network decided to focus on only three central demands from the common European framework: 1) Research-based education 2) Mobility and 3) Comparability (Niemi & Jakku-Sihvonen, 2006).

Teaching and teachers are highly regarded in Finnish society. Teaching as a profession still ranks as the most desired occupation of high school graduates (Sahlberg, 2007). Applicants need to have high academic scores, and only 10-15 % of applicants are accepted (Ostinelli, 2009). It is characterized by "trust based professionalism" (Sahlberg, 2007, p. 152), in the sense that national testing is limited, few standardized tests exist, and there are no school inspections, which has resulted in extensive autonomy for schools and teachers.

2.3 Significant differences highlighted

Having provided this relatively brief historical review, a number of features appear. Norway is characterized in its teacher education policy processes by a dominance of national reforms and formal policy documents, while Finland's teacher education policy processes are far less guided by governmental reform initiatives and national policy documents. Increased political steering of teacher education seems important in Norway, while in Finland, the academic sector of teachers has been given more responsibility and autonomy in policy processes lately. Finland has evaluated many aspects of teacher education over the last few decades, while Norway has undertaken very few formal evaluations. In Finland, teacher education has been part of the university structure and has been organized in the form of a Master's degree program since the early 1970s, while teacher education in Norway has remained a four-year program in university colleges. This implies, among other things, a greater distance to the field of research in Norwegian teacher education. Finally, Finland adjusted early and quickly to the European framework for teacher education, while Norway is still in the process of finding a way to adjust.

As this historical review shows, rather different policy trajectories appear in Finland and Norway. The differences make it rather interesting to ask the question of how knowledge for the teaching profession is constructed with regard to policy making, curricula content, and teachers' perceptions. In the next section, relevant and related research is reviewed to expand on how different strands of research understand the construction of knowledge for the teaching profession to be able to discuss findings from the three perspectives emphasized in this thesis: policy making, curricula content, and novice teachers.

3 Reviewing relevant and related research

The main research problem in this thesis is how knowledge is constructed for the teaching profession. In this chapter, I will review relevant and related research. As stated earlier, this is a complex and manifold field, and the aim of this chapter is not to give a broad and exhaustive overview. Instead, I will delimit and structure the review according to two considerations. *Firstly,* I include the perspectives that I find important and relevant for positioning the present thesis. *Secondly,* I include the perspectives that can provide a solid foundation for discussing the findings from my research and explicating the contributions of the present research. The overall aim of this literature review is to expand on how different strands of research understand the construction of knowledge for the teaching profession in order to be able to discuss findings from the three research contects: policy making, curricula content, and novice teachers.

This chapter is structured as follows: In section 3.1, I give a brief overview of what has been considered important knowledge for teachers and how this has been investigated internationally. This is done in order to introduce key perspectives taken in research on teachers, teaching, and teacher education. In section 3.2, an overview of research trends in research on teachers, teaching, and teacher education in Finland and Norway is given. These trends are, in different ways, related to international trends, and they provide a basis for the discussion of my findings in chapter 7. In section 3.3, I zoom in on research related to the three empirical foci in this thesis. Focusing on structures and relations involved in constructing knowledge for the teaching profession involves discussing research contributions concerning policy making, curricula content, and teachers' professional knowledge. Finally, the need for further research is identified.

3.1   Important knowledge for teachers, - a contested terrain

Teacher education has consistently been a significant site of social and political debate in many countries. A number of evaluations of different types of programs indicate varying results in terms of teacher quality. Research on and evaluations of the 'effectiveness' of

different models of teacher education are inconclusive (Cochran-Smith & Fries, 2005). A study of teacher education curricula in the European Union carried out by the Finnish Institute for Educational Research (2009) found great variation between countries in the skills and key competences required for the teaching profession. Research efforts and results on 'what works' are also highly diversified (Cochran-Smith & Zeichner, 2005). Key questions in such evaluations and discussions are: What constitutes a professional teacher? What is important knowledge for teachers? How do we educate a knowledgeable teacher?

Different researchers have tried to investigate these questions in many ways. Research on teachers, teaching, and teacher education has been conducted from different angles and perspectives over the last 30–40 years, and has focused on different elements of teaching and teachers' work (Søreide, 2007b). Søreide (2007b) suggests three broad international strands. Before the 1970s, the main research interests were *teachers' behavior, skills, and attitudes*. These were often large-scale, quantitative studies. They displayed a strong belief in the ability of research to identify contingent relationships within teaching and to offer predictions (Søreide, 2007b). Such studies were based on the possibility of finding some sort of ideal practice 'out there.' Voices critical of this behavioral focus on teaching questioned what is actually accessed through studies on attitudes and behaviors (Zeichner, 1993). This debate led to an awareness among researchers of how limited the knowledge was about the way teachers think (Søreide, 2007b), and this led to a turn towards more cognitive aspects of teaching. One consequence for research methods was an increased emphasis on qualitative approaches, such as *teacher thinking and the teacher in context* (Søreide, 2007b, p. 10). Starting back in the 1970s, a movement emphasizing culture, context, relations, participation, and involvement is salient in educational research (Søreide, 2007b). Not accounting satisfactorily for relationships and context was a major critique waged at the more cognitive approaches. An incipient focus on teachers as part of a community can be found in a craft-approach, which emphasized teaching as apprenticeship. Knowledge for teaching was seen as situated in and indexed by experience. Most work that relies on these perspectives takes Lave and Wenger's (Lave & Wenger, 1991; Wenger, 1998) work on communities of practice as point of departure. The emerging interest in qualitative and narrative research on teachers, teaching, and teacher education also fostered an interest in *teacher identity*. Studies focusing on teacher identity have been widely published. However, the conception of identity varies, ranging from something that is stable and rooted to a more relational and processual phenomenon (Søreide, 2007b).

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In addition to Søreide's three strands, I will add that the paradigmatic shift toward qualitative research on teachers, teaching, and teacher education brought *interpretive perspectives* along. In the *inquiry-oriented* or *research-based* perspectives, teachers are seen as professionals who undertake systematic inquiry in their own classrooms. Teachers' inquiry reflects context, participants, and relevant theoretical perspectives, and is done in order to develop their practice and share insights with other professionals. Many different definitions of and contributions to inquiry-oriented perspectives have been developed over the last few decades (e.g. Altrichter, Posch, & Somekh, 2006; Cochran-Smith & Lytle, 1993, 2009; Kansanen, 2007; Zeichner, 2003). These contributions, however, do not necessarily agree on definitions and conceptions (Maaranen, 2009).

In this section, I have briefly presented some trends in international research on teachers, teaching, and teacher education that have been influential on teacher education policy over the last four to five decades. In the next sections, I will focus more particularly on trends in research on teachers, teaching, and teacher education in Finland and Norway.

3.2   Research trends in Finland and Norway

The aim of focusing more closely on research that has been conducted *within* Finland and Norway is to illuminate what kind of role research on and within teacher education has played in constructing knowledge for the teaching profession. Another aim of the next two sections is to examine how research conducted in Finland and Norway can be connected to international research trends.

3.2.1   Dominant research trends in Finland

In Finnish research on teaching, teachers, and teacher education, many of the perspectives found internationally are also salient here. Bergem, Björkqvist, Hansén, Carlgren, and Hauge (1997) report that in the 1970s, when teacher education was struggling to find its place within the university structure, a great need for models based on research resulted in the adoption of foreign research-based models. Typically, foreign models were adjusted to specific national circumstances. Subsequently, as teacher education became stabilized within the university structure, goal-oriented, systematic, and nationally focused research traditions developed. Maaranen (2009) identifies influential research for Finnish

teacher education, namely humanistic psychology, teachers' pedagogical thinking (e.g. Kansanen, 1991; Kansanen et al., 2000b), teacher thinking and reflection in and on action (e.g. Krokfors, 2007), teachers' subject knowledge and pedagogical content knowledge (e.g. Johnston & Ahtee, 2006; Tirri & Puolimatka, 2000), and an inquiry-oriented teacher approach (Jyrhämä et al., 2008a; Kansanen, 2006; Kosunen & Mikkola, 2002; Niemi & Jakku-Sihvonen, 2006). Agreeing with Kansanen (2006), she argues that these are all still important aspects of the current Finnish research-based teacher education. Bergem et al. (1997) adds that research on professionalism focusing on the shortcomings of teacher education, as well as studies on curriculum theory and curriculum renewal, were also prioritized (e.g. Hökkä, Eteläpelto, & Rasku-Puttonen, 2010; Jakku-Sihvonen & Niemi, 2006a). More research areas can be mentioned, namely general didactics (e.g. Kansanen, 2002, 2006; Kansanen & Meri, 1999; Kansanen & Uljens, 1997; Simola, 1998; Simola, Kivinen, & Rinne, 1997) subject didactics (e.g. Kansanen, 2009; Meisalo, 2007), as well as different aspects of teacher education, such as its connection to society (e.g. Sahlberg, 2007; Simola, 2005), its educational philosophy or ideology (e.g. Jyrhämä et al., 2008a; Kansanen, 1991, 2003, 2006; Kansanen et al., 2000a; Krokfors, 2007), and history (Kansanen & Uljens, 1997; Simola, 1998).

Simola (1998) argues that didactics has been the solid core of Finnish pedagogical discourse. Historically, since the early 1800s, German didactics has been an essential part of the teacher education tradition (Kansanen & Uljens, 1997). The first professorship in didactics in a Finnish university was established in 1852, and didactics was the main subject in teacher training from 1863 (Kansanen, 2006). Three large national research projects on didactics were conducted from the Second World War until the 1970s. Furthermore, during the extensive reform of teacher education in the 1970s, didactics was strengthened (Kansanen & Uljens, 1997). In 1997, two-thirds of the more than one hundred professorships in education were linked to didactics. This led to a considerable body of research in didactics, predominantly in the 'teachers thinking tradition.' Two main areas have been of particular interest: first, the theory of didactics, particularly pedagogical reflection, with a focus on the teachers and the act of teaching; and second, students' learning, coupled with educational psychology (Kansanen & Uljens, 1997). There has been a close relationship between research and didactics researchers, on the one hand, and national committees and The National Board of Education, on the other, and curricula have been developed with the latest research (Kansanen & Uljens, 1997; Simola et al., 1997). Simola et al. (1997) criticizes such science-legitimated

didactical knowledge for being strongly intertwined with the official state curriculum *and* for being a decontextualized science of teaching in that is abstract, universal, and non-historical (Simola, 1998). Kansanen (2006) responds to this critique by arguing that didactics can be both descriptive and normative. Systematic research helps to avoid strong normative perspectives and provides didactics that go beyond the experience of teachers and supervisors.

3.2.2   Dominant research trends in Norway

Compared to Finland, the Norwegian body of research on teachers, teaching, and teacher education is, I would argue, more fragmented and less related to international trends and theoretical paradigms. Bergem et al. (1997) claim that one can find an international orientation in Norwegian research on teaching, teachers, and teacher education in the second part of the 1900s. This international orientation is, however, neither very explicit nor systematic. Many of the studies from this period had an exploratory nature, and few were followed by more intensive, theoretically grounded research. This is consistent with the findings of an evaluation on Norwegian educational research in the 2000s (Norges forskningsråd [The Research Council of Norway], 2004). Karlsen (2003, p. 21) argues that in the Norwegian context, "despite the long tradition of teacher education, it has rarely been researched." Bergem et al. (1997) confirm in their review of research on teachers, teaching, and teacher education from after the Second World War to the beginning of the 1990s, there is a substantial number of studies related to teachers and teaching, and rather few on teacher education.

Nonetheless, some research on the history of teacher education has been conducted (Brekke, 2000; Dahl, 1959; Harbo, 1969; Karlsen, 2005), as well as some studies on the effectiveness of teacher education. In the mid-1990s, Bergem (1994) argued that the effort to unfold significant teacher characteristics and predict teacher efficiency so far had failed. The failure "may be explained both by the prevalent conception of teaching and the use of overly simplistic research models" (Bergem et al., 1997, p. 445). The effects of teacher education are also researched in a few studies (e.g. Bergem, 1992, 1994). In these studies, both teacher education students and teacher education itself were studied to see what happened with teacher education students during their education. Other perspectives in Norwegian research include socialization into the teaching profession (Jordell, 1986; Strømnes, 1980), and teachers' working conditions and well-being in schools (Blichfeldt, 1985). Bergem et al.

(1997) also review research topics such as curriculum reforms and teachers' practice, teacher-oriented classroom research, teaching specific topics, and the role of the teacher in society. However, in re-reviewing Bergem et al.'s references, I found that the substantial part of this research is published as Master's theses, reports, historical accounts, non-academic publications, or textbooks. The research quality of these contributions cannot be taken for granted.

In her review of Norwegian research on teacher education, Ottesen (2006) found that more profound research (doctoral dissertations) on different aspects of teacher education has been conducted rather recently. Worth mentioning are Brekke (2000) on teacher education in the northern areas, Sundli (2001) study on counseling practice in student teachers' practicum, Allern (2005) on portfolio assessment and collective learning in teacher education, and Ottesen (2006) on being and becoming teachers during practicum in teacher education. This trend continues after 2006, with Søreide (2007a) on discourses of teacher identity, Jahreie (2010) on student teachers' activities of learning, and Tolo (2011) on how teacher competencies are constructed.

One particularly relevant contribution for this thesis is Kvalbein (1999) research on teacher education culture and knowledge development. She conducted a qualitative study based on a historical analysis, document analysis, interviews with teacher educators, and a field study with one teacher education institution in Norway. She argues that teacher education culture can be conceptualized through questioning what is regarded as normal, right, and valuable in an educational context. The answers are then connected to a web of historical and political aspects, as well as to traditions and the material situation. Kvalbein also conceives of teacher education as an institution that produces and reproduces cultures and knowledge. She found that traditions in teacher education in Norway emphasize school subjects. Furthermore, teacher education was characterized by (1) an emphasis on personal growth and development, (2) valuing the teacher–student relationship, (3) being engaged with personal attitudes and human maturity, and (4) learning through social practice. She interprets the underlying ideology as rooted in reform pedagogy, with an emphasis on learning in a caring, safe, and socially focused learning environment. Education is an 'upbringing and formative project.' Exemplary teaching is important; teacher education has been developed with the idea of model learning. Furthermore, teacher education students should experience and be exposed to teaching methods for use later in schools. Kvalbein's thesis concludes by

questioning whether Norwegian teacher education has been more occupied with the knowledge that should be acquired and reproduced than with organizing teaching and knowledge in a way that emphasizes the production of knowledge. In a later work, she connects this to a historically strong focus on the German didactical tradition in Norwegian teacher education. Both Kvalbein (2006) and Strømnes, Rørvik, and Eilertsen (1997) argue that there is a lack of theoretically common ground for conceptualizing didactics in Norwegian research on teaching and teacher education, other than the recognition that it should be closely related to practical and methodical issues. In a review, Strømnes and his colleagues (Strømnes et al., 1997) also found that Norwegian didactical research represents a wide range of interests and efforts that are not necessarily related to each other. Theoretically founded projects are lacking, and the scarce didactical research has, to a great extent, been motivated by national reforms and governmental needs.

In the previous three sections, I have tried to sum up and briefly discuss some major trends in research on teachers, teaching, and teacher education both internationally and in Finland and Norway in particular. The review shows that, in the Finnish case, a more systematic, structured, and internationally oriented body of research has been developed when compared to Norway, where research has been more exploratory and less systematic. The review also shows that research on different aspects of teachers, teaching, and teacher education have been developed to improve both teaching and teacher education more deliberately in Finland than in Norway.

3.3 Zooming in…

There are very few studies directly comparable to the present one. Therefore, I have identified three areas to review that are related to the three research contexts investigated in this thesis: 'the context of influence,' 'the context of text production,' and 'the context of practice.' I have borrowed and changed somewhat these concepts as presented in Bowe et al. (1992), where they are talking about "policy contexts." Here, however, these concepts are not used in relation to Bowe et al.'s specific analytical framework. Here, 'the context of influence' is limited to the sphere in which stakeholders and groups close to the government develop policies through networking. This is the sphere in which public policies are initiated and policy discourses are constructed. 'The context of text production' includes both policy documents and other texts closely related to the official documents" (Furlong, Whitty,

Whiting, Miles, & Barton, 2000, p. 7). 'The context of practice' is where policies are implemented, including how policies are "responded to, accepted, challenged, bypassed and in some cases transformed" (Furlong et al., 2000, p. 8) . I would argue that the three perspectives in this thesis address core questions in each of these contexts. It is important to add that within each 'context' there are several arenas. In this review, 'the context of practice' deals with the effects of teacher education on prospective teachers.

3.3.1   The context of influence

Relatively little empirical research has been conducted in Europe on the process of policy making in teacher education, and comparative approaches are almost absent. In the US, however, some systematic research and conceptualizations on teacher education policy issues have been produced, particularly the research conducted by Marilyn Cochran-Smith and her associates. Empirical studies conducted in the US are not always relevant to research on teacher education in a European context. However, I have found some of the conceptualizations related to policy making in teacher education useful for discussing the perspectives and findings of the present study. Cochran-Smith (2001) argues that certain questions have been driving teacher education development and reforms during the last half of the twentieth century and the beginning of this century. She analyzes how these questions have been constructed through the use of research literature in the policy arena and in the media. The *attributes question* (roughly 1950s and 1960s) asked what the attributes and qualities of good teachers and good teacher education were. The *effectiveness question* (late 1960s to mid-1980s) posed the issue: What teaching strategies are used by the most effective teachers, and what teacher education processes are most effective in that respect? The *knowledge question* (early 1980 to late 1990s) raised the questions: What should a teacher know and be able to do? What is the knowledge basis for teacher education? This was related to research on teacher thinking and subject matter teaching. The question driving the field in the late 1990s to today is what Cochran-Smith calls the *outcomes question*. The outcomes question asks for evidence that teacher education programs and procedures are accountable, effective, and have value-added when it comes to students' achievements.

In a later work, Cochran-Smith (2005) takes as a point of departure that politics per se involve contested notions of public and private interests. She argues that teacher education politics are particular challenging for two reasons. The first concerns the role of rhetoric in

teacher education reforms. Rhetoric concerns the central ways in which groups, individuals, and government agencies frame and define "the problems and solutions of teacher education" (Cochran-Smith, 2005, p. 182). She argues that metaphors usually guide such debates. Metaphors frame important questions. For instance, teacher education in the US is characterized as "a wasteland," "a decoupled train," and "a broken system." Cochran-Smith argues that such metaphors are intended to conjure a hopeless situation and can only end with the pursuit of radically different solutions (Cochran-Smith, 2005, p. 183). Teacher education policy is challenging for a second reason, namely, "the curse of complexity" (Cochran-Smith, 2005, p. 183). There is a broad consensus that teacher quality makes a significant difference in pupils' learning and in an overall school effectiveness. At the same time, there is strong disagreement on the conception of 'teacher quality' (Cochran-Smith, 2005, p. 183). Cochran-Smith divides the conceptions of 'teacher quality' into two major groups. The first consists of linear and causal explanations, where teacher quality is defined in terms of pupils' performances. The second group is characterized by a more complex, nuanced, and contingent conception of teacher quality. It draws on "differences in definitions of learning," and it has "sorted out the psychological, logical, and moral aspects of teaching" (Cochran-Smith, 2005, p. 184). These two critical issues, which make teacher education policies particularly challenging, are relevant for the discussion of the findings of the present thesis.

Another important perspective to pursue is international trends and structures that frame and influence national policies. As stated earlier in this review, teacher education has been the subject of extensive national reforms over the past thirty years all over the world. Before the 1990s, teacher education was rarely an issue of European and/or international cooperation in (higher) education (Hudson & Zgaga, 2008, p. 8). However, in a European context, a transnational focus on higher education policy has emerged in the last decade or so (Gornitzka, 2010; Maassen & Olsen, 2007), and teacher education is an integral part of this (Hudson & Zgaga, 2008). The Europeanization of higher education has led to arguments for a convergence in reform focus and intended reform outcomes (Gornitzka & Maassen, 2011). Grek et al. (2009) addressed these issues in a study on policymakers in England, Finland, Scotland and Sweden, in the field of education. They question the ways in which policymakers understand governance of education in the intersection between the national and the European policy space. They found that the relations between the national and the European educational policy space are complex in many ways. Policymaking is still very much a national concern. However, global agendas of competitiveness, such as PISA, are

vital across nations. Their findings also suggest that European networks and data flows shape and influence education policy in a number of countries, depending upon the countries' relative openness or the receptiveness of these systems to the combined effects of data production and transnational networking in promoting new forms of governance of education (Grek et al., 2009, p. 19).

Discussing policy trends in teacher education from an English perspective, Furlong et al. (2000) suggest four important *voices* influencing policy debates of teacher education. The first is the *neo-liberal* voice, emphasizing efficiency, allocation of resources, and the need for teacher education to be responsive to the field (e.g. Graham, 1998). The second is the *neo-conservative voice*, arguing for the preservation of a refined cultural heritage to be transmitted to the younger generations and a school-based and apprenticeship-based teacher education. The third voice mentioned by Furlong and colleagues is the *voice of the profession*. The problem with this voice, they claim, is that the profession can be identified as many things. The voice may be blurred because it is a combination of teachers, teacher educators, the teacher unions, and researchers and experts in the field. The fourth and final voice is the *voice of the state*, the authors claim. One of the major issues for the state has been establishing a national framework for accountability and, thereby, the possibility to question the quality of teacher education at any time.

Sahlberg (2011) elaborates on what Furlong and his colleagues identify as the neo-liberal voice. Salberg points to how the improvement of education systems is treated as a global phenomenon in professional literature, and argues that "there is no reliable, recent comparative analysis about how education reforms in different countries have been designed and implemented" (Sahlberg, 2011, p. 175). He identifies a shift in focus from programatic structural reforms to improving the quality and relevance of education: "[C]urriculum development, student assessment, teacher development, technology-assisted teaching and learning, and proficiency in basic competencies (i.e., reading, mathematical, and scientific literacy) have become common priorities around the world" (Sahlberg, 2011, p. 176). He calls this the Global Education Reform Movement (GERM). Sahlberg continues by identifying six global features of education reform principles, which he identifies as an "evidence-based policy agenda." This agenda has been employed to improve the quality of education, especially in terms of raising students' results and teachers' performance. He argues that this shift in policy agenda has significant consequences for how teaching and learning are

conceived. Standardization in education has led to a political (not scientific) understanding of teaching and learning as a linear, causal process. Consequently, there is an increased focus on literacy and numeracy (and a reduced focus on other subjects), teaching for predetermined results, the transfer of ideas from the corporate to the educational world (which distances the teachers from the moral purpose of teaching), test-based accountability policies for schools, and increased control of schools (increased teaching to the tests) (Sahlberg, 2011, pp. 177-180). Overall, his argument is that this political understanding implies a standardization of education and pedagogical processes, with assessment in the form of standardized testing: "GERM assumes that external performance standards, describing what teachers should teach and what students should do and learn, leads to better learning for all" (Sahlberg, 2011, p. 179). Hence, the market-like logic and procedures in education are strengthened. Competition between schools, teachers, and students is seen as the most productive way of raising the quality of education.

Gornitzka and Maassen (2011) explore and discuss the arguments concerning the existence of such 'global reform scripts' in higher education policy making. In teacher education policy reforms, European frameworks such as the Bologna Declaration (1999) and The European qualification framework (2008) from the European Commission have prevailed in many of the national reforms, in the Nordic countries as well (Rasmussen, 2008). Following the logic of 'global reform scripts,' an obvious argument could be that national policy making within the field of teacher education will follow such scripts. If so, policy changes follow a pattern, possibly resulting in some sort of global isomorphism in teacher education policy. Gornitzka and Maassen (2011) are discussing the validity of the "global script" assumption in an analysis of policy changes in higher education in Nordic countries, i.e., Denmark, Finland and Norway. They found that, despite certain similarities in policy making traditions and in underlying cultural, institutional and socio-economic factors, there are important differences between the three countries in reform instrumentation. This means that these countries are, to some extent, following the same global trends in reform, but are choosing different policy instruments to carry the reforms out. As a result of this, the policy outcomes in these countries diverge, and "the Nordic countries increasingly diverge on specific core governance issues with respect to universities" (Gornitzka & Maassen, 2011, p. 32).

Retuning to Sahlberg (2011), his argument is that Finland has taken a quite different route and prioritized its policy agenda quite differently than the GERM. He argues that neither of the criteria relating to the GERM has been adopted by Finland. Finnish educational policies have had significant confidence in teachers and principals as professionals, encouraging teachers and students to be creative and try new ideas. The policy has been that teaching in schools should aim for cultivating renewal. Furthermore, Finnish educational policies are the result of three decades of systematic, intentional development that has created a culture of diversity, trust, and respect within the educational system and the society (Sahlberg, 2011, p. 182). Finnish educational policy also brings together government policy and professional involvement. Sahlberg also points to a cross-comparison of data from the OECD. The results of the PISA testing in countries such as the US, UK, Canada; Australia, Japan, and New Zealand, which have adopted many elements from GERM, have declined considerably from 2000 to 2006 (Sahlberg, 2011, p. 181). Such a comparison, however, does not allow us to draw any causal conclusions, due to a number of other influencing factors. However, the comparison points to the fact that important questions and empirical evidence about the influence of GERM must be addressed in the future.

In this review of research concerning the 'context of influence,' a few distinct features appear. Certain questions become decisive for policy outcomes: which actors are involved, which 'voices' are heard and emphasized, what kind of questions are allowed to be asked, what is put forward in the policy rhetoric/discourse, and what educational ideology is put at the forefront?

3.3.2   The context of text production

There is an extensive body of research that addresses teacher education and questions about how professional knowledge for the teaching profession is organized in different models of teacher education. Zeichner and Conklin (2008) reviewed empirical research on teacher education programs in a North American context. While they identified different conceptions of teacher education, they also concluded that this research mainly addresses structural features at the surface level and fails to grasp the details of how knowledge and learning activities are organized. McEneaney and Meyer (2000, p. 8) argue, in a similar vein, that analyses of educational curricula in general often focus more on the way in which variations in educational content affect social stratification, inequalities, and variation in

student achievement, than on the actual cultural content built into the curriculum. Hence, knowledge is discussed more from the angle of its political implications than from the question of how it constitutes distinct routes for professional formation. McEneaney and Meyer (2000) also argue that such studies mainly concern applied or performed curricula (what is going on in educational settings) and experienced curricula (perceptions of different dimensions of teaching and learning).

Another strand of research concerns the effectiveness and relevance of different forms of knowledge included in teacher education programs. The studies in this strand differ in the advice that they offer. Walsh, Glaser, and Wilcox (2006), for example, argue for preparing teachers to follow research-based teaching scripts rather than developing teachers' abilities to make informed choices regarding the methods for specific situations. Others have argued that to prepare teachers for the complexity of their work, teacher students have to meet a high level of rigorous intellectual and academic challenges (Goodlad & Inkster, 1990; Howey & Zimpher, 1989). Others, again, argue for the necessity of focusing extensively on development psychology, theories about learning, cognition, motivation, and subject matter issues (Darling-Hammond & Fickel, 2006; Darling-Hammond et al., 2000). In this respect, Zeichner and Conklin (2008) discuss how teacher education programs differ in their conceptual orientations, for instance, whether the overall idea is to 'teach for social justice' or 'teaching as principled practice.' The review of the research in an US context reveals diverse argumentations about what is regarded as important and what constitutes effectiveness in teacher education programs. These positions also hold different conceptions of the character of teachers' knowledge relations and how such affiliations ought to be structured.

Research on teacher education in the Nordic context is broad, but a few researchers have discussed what kind of knowledge is included in teacher education curricula and how knowledge is organized. Ostinelli (2009) analyzes the structure and objectives in teacher education curricula in Finland and Sweden, amongst others, and argues that there seems to be a distinctive Nordic model of teacher education that emphasizes "the professionality of the teacher within a rigorous but flexible framework" (Ostinelli, 2009, p. 304). Other studies reach a different conclusion and argue that there are profound differences between the models and programs in the Nordic countries. A comparative study of Nordic teacher-training programs (Nordic Council of Ministers, 2009) concludes that Nordic teacher education programs are rather different with regard to their volume, structure, and content. Rasmussen

and Bayer (2010) analyze the different disciplines represented in teacher education, comparing teacher education programs in Canada, Singapore, Finland, and Denmark. The first three countries are among the top-performing nations on international student assessment tests and have university-based teacher education programs. The study shows that teacher education programs in all of these countries comprise a significant proportion of what the authors call professional knowledge, that is, knowledge that is produced within the educational system, about the educational system, and for the educational system (Rasmussen & Bayer, 2010). Finland stands out with a program in which scientific knowledge (produced outside the educational system in a scientific mode) is most predominant, and the Danish program as the one in which philosophically oriented professional knowledge (reflection on educational theory, normatively oriented) is at the forefront (Rasmussen & Bayer, 2010, p. 2).

The focus on scientific knowledge in Finnish teacher education is widely confirmed by an extensive body of research (e.g. Jyrhämä et al., 2008b; Sahlberg, 2007; Westbury, Hansén, Kansanen, & Björkvist, 2005). The following principles have been accepted as guidelines for the present research-based teacher education in Finland:

- Teachers need a profound knowledge of the most recent advances in research in the subjects they teach. In addition, they need to be familiar with research on how something can be thought and learnt. Interdisciplinary research on subject content knowledge and pedagogical content knowledge provide the foundation for developing teaching methods that can be adapted to different learners.

- Teacher education in itself should also be object of study and research. This research should provide knowledge about the effectiveness and quality of teacher education, implemented by various means and in different cultural contexts.

- The aim is that teachers internalize a research-oriented attitude towards their work. This means that teachers learn to take an analytical and open-minded approach to their work, and that they develop their teaching and learning environment in a systematical way. (Niemi & Jakku-Sihvonen, 2006, pp. 40-41)

In other words, a research-based teacher education in the Finnish context refers to both the design of the program, as well as to a specific way of developing teachers' thinking (Maaranen, 2009).

Paula Ensor (2004, 2006) provides general contributions to the understanding of curricula content through her discussions of contesting discourses on higher education

curriculum. She argues that different discourses "privileges particular modes of knowledge and their forms of organisation". While her typology distinguishes between professional discourses, it does not examine these varieties in the selection and organizion of knowledge for professional programs as such. Muller (2009) takes this issue further and argues that there is an important relationship between the forms of knowledge selected to be included in curricula and how the knowledge is organized for educational purposes in the curricula. He distinguishes analytically between "curricula which have *conceptual coherence* and those which have *contextual coherence*" (Muller, 2009, p. 216) in order to grasp the types of relations that are given primacy. Conceptual coherence increases as the curricula are more conceptually tied to the core of the academic discipline. This holds a high level of codification and presumes a hierarchy of abstractions and conceptual difficulty. Hence, conceptual coherence also implies a sequential and vertical organization of knowledge, meaning that later elements depend on earlier elements having been grasped. According to Muller, "the more that conceptual coherence matters, the clearer must be the knowledge signposts, both illustratively and evaluative." This means that knowledge is structured in such way that it will "act as a visible corrective" (Muller, 2009, p. 216). Such knowledge is regulated in terms of adequacy according to scientific criteria. Contextual coherence evolves when the curricula content is tied to the professional context. Knowledge is segmentally connected, and the segments are adequate in a context and sufficient for a purpose. Muller underlines that professional curricula will typically include both types of relations, but they might differ in their emphasis. The distinction can be interpreted more as a continuum than as a dichotomy (Muller, 2009).

Rasmussen (2008) discusses the implication of transforming teacher education from holding a seminarium tradition, e.g., the Norwegian general professional program, to a research-based program, and he makes a distinction that resembles Muller's. Rasmussen argues that the seminarium tradition in teacher education that is salient in some of the Nordic countries seems to be a hindrance for the development of teacher education into research-based programs. He argues that programs with strong historical roots in the seminar tradition and research-based programs hold two rather different logics when it comes to how professional knowledge is perceived. Professional knowledge in the two cases holds different premises, relates to different systems with different preferences and criteria (Rasmussen, 2008, p. 331). Rasmussen continues by arguing that professional knowledge in the seminarium tradition holds the same logic as the theories of "praxis," while professional

knowledge in a research-based teacher education program holds a logic closer to that found in the science of education. Professional knowledge according to the seminarium tradition can therefore be viewed as formative and fostering, and it focuses on upbringing and teaching. Professional knowledge is meant to provide the upcoming generation with knowledge and competencies of personal and societal importance and value (Rasmussen, 2008, p. 329), and holds quite normative implications. Professional knowledge is, to a great extent, about "what works" and "best practice," and is evaluated on the basis of "its ability to solve context related problems" (Rasmussen, 2008, p. 330). Research-based professional knowledge holds the logic of scientific theory, aiming to explain phenomena, and not necessarily answering questions of how to intervene. Such knowledge has theoretical anchoring, is developed according to specific methodological criteria, utilizes an unambiguous set of concepts, and is evaluated based on validity and reliability. The two 'logics of professional knowledge' differ substantially, and the transformation to a research-based teacher education cannot be reduced to a simple question of academization. The change has to be built on deeper and more fundamental transformative processes (Rasmussen, 2008).

In sum, research within the context of text production has focused on the organization and effectiveness of different teacher education programs. Furthermore, the findings from the Nordic countries show a diverse picture, with rather different epistemic profiles of teacher education programs. Finally, there is a lack of empirical studies focusing on curriculum discourses, especially when it comes to professional knowledge.

3.3.3   The context of practice

Interestingly enough, when I did a literature search for teacher education, teachers, and policy effects, I found studies focusing mostly on how policy for primary and secondary education affected teachers' work and teacher education indirectly. Examples include researchers such as Day, Flores, and Viana (2007), who work on the effects of national policies on teachers' sense of professionalism (England and Portugal), and Hardy and Lindgard (2008), who research the effects of policy on teachers' professional development (Queensland, Australia). Grimmett and Chinnery (2009) are, in a similar vein, reviewing research with a focus on bridging policy and professional pedagogy in teaching and teacher education, but they include teacher education by arguing for the need to educate teachers as

curriculum makers to narrow the gap between policy and practice in teacher education and in teaching practice.

However, there are also some studies that in different ways are focusing on the effects of different teacher education programs on teachers. The seminal work by Zeichner and Tabachnick (1981) three decades ago pointed to how the professional knowledge developed in pre-service teacher education seemed to be "washed out" by the experiences from practice when novice teachers entered schools. In more recent times, however, researchers have identified different ways in which education matters. Brouwer and Korthagen (2005) conducted a longitudinal study of the development of teaching competence among students from 24 teacher education programs. Although they found that school practice had a strong influence on teachers' professional development, they also found that program characteristics in teacher education matter. This seemed, however, to be dependent upon the integration of practical experience and theoretical study in the teacher education curriculum. Rots and Aelterman (2009) investigated how teacher education influenced graduates' entrance into the teaching profession. They found that the contribution of teacher education on graduates' decisions to enter teaching was slightly, but still significantly, stronger than other factors influencing intentions to enter the profession.

Less is known about the effects particular types of teacher education programs have upon prospective teachers and their knowledge orientations. In the US, larger studies and syntheses have been carried out that have sought to identify success factors and models that can best prepare teachers for work. Here, it is suggested that 'exemplary programs' focus extensively on developmental psychology and theories about learning, cognition, and motivation (Darling-Hammond & Bransford, 2005; Darling-Hammond et al., 2000), but also that prospective teachers need to enact the principles in practical teaching and be involved in inquiry-oriented activities (Grossman, Hammerness, & McDonald, 2009). At the same time, there is a lack of consistent findings regarding the actual effects of different programs (Zeichner & Conklin, 2008). The research field is still quite fragmented (Zeichner & Conklin, 2008), and causal conclusions are difficult to make, as similar types of programs play out differently in different contexts of education and practice (Borko, Whitcomb, & Byrnes, 2008).

In Europe, Osborn et al. (2003) have analyzed teachers' professional perceptions in UK, Denmark, and France. Their focus is primarily on the influence of policy processes upon

teachers in the different national contexts. Of relevance for the current thesis is their finding that, on the one hand, teachers seemed to perceive their work and responsibilities in quite similar ways, despite different policy frameworks and national regulations. On the other hand, however, they approached their work in quite different ways. While the French teachers enacted a more specialized, subject matter-based discourse, the Danish teachers were oriented towards a broader spectrum of social and professional concerns. This calls for more in-depth analysis not only of teachers' ways of understanding their work, but of the epistemic orientation and framing that constitute their understanding and enactment.

In the Nordic context, researchers have in the last decade shown interest in the Finnish model of teacher education, which is a five-year research-based master program. Findings from a web-based study reported by Jyrhämä et al. (2008a) show that students in the research-based program appreciate the research-based approach as the main organizing theme of teacher education, and they find it detectable in every part of their studies. Finnish teacher educators' views on research-based teacher education are elaborated in a mixed-method study (Krokfors et al., 2011). The study emphasizes the significance and relevance of a research-based teacher education model to teaching practice because it opens the door to an inquiry-oriented approach while practicing as teachers. Other studies show that the involvement of students in research in terms of writing a Master's thesis provides them with analytical tools and skills that have benefits for practice (Maaranen, 2009; Westbury et al., 2005). This was also recognized by Maaranen (2010) in a report of a study with primary school teachers. By learning to engage in research on teaching during teacher education, they were able to think analytically about teaching. Furthermore, the research-based approach enabled them to reflect both individually and collectively. In Norway, analyses conducted in the ProLearn project (Jensen, Lahn, & Nerland, 2012; Klette & Carlsten, 2012; Nerland, 2012) showed that beginning teachers had problems conceptualizing the challenges they faced in professional language terms, which led to difficulties in connecting problems of practice with wider knowledge worlds and knowledge reservoirs. Compared with other groups, like nurses and engineers, the teachers' knowledge culture was more oriented towards experience-based knowledge that was developed and shared within the boundaries of the local community. Teachers' knowledge culture was marked by a shortage of systematized knowledge and materialized support structures.

Of special interest for this thesis are the findings of Smeby (2007); (Smeby, 2012). He has investigated the influence of professional education on Norwegian students' and novice professionals' relations to knowledge, including teachers. By analyzing data from a larger, longitudinal survey study, he found that professional education plays an important role not only in introducing students to a body of knowledge, but also in connecting them to professional knowledge in the sense of establishing social and emotional relations to a professional knowledge world. Moreover, Smeby (2012) argues that professional education is a prime context for developing epistemic strategies, i.e., ways of approaching, accessing, and making use of literature and other types of knowledge sources. The strategies developed during education seem to continue after several years in working life.

In sum, some research has been conducted on the effects on different models of teacher education. Less research has reported on the effects of epistemic profiles of teacher education programs on prospective teachers and their professional approach.

3.4   Further research needs

The brief overview above of some trends in the research on teachers, teaching, and teacher education shows a field with diverse, broad, and manifold perspectives. It shows a movement and a paradigmatic shift from an emphasis on quantitative to qualitative research. It also displays a move from a focus on behavioral perspectives to more relational, contextual, and interpretive research. The research overview of the Finnish case gives an image of a systematically developed and structured research effort on teachers, teaching, and teacher education, which is closely related to trends in international research. There is a significant body of research on didactical issues, especially on the processes around teachers' thinking and students' learning. In the Norwegian case, more exploratory studies have been conducted, but there are fewer contributions to a systematized, scientifically developed body of research. However, it seems that there was an increase in profound research on teacher education in the 2000s.

The review of *relevant research for approaching the context of influence in and for teacher education*, first and foremost, confirms a lack of conceptual, empirical, and comparative research on policy formation and policy makers in the area of teacher education.

Work reviewed from the US shows, first, that the development of teacher education in not only happening in the official policy arena, but also in research and in the media. All of these arenas are asking diverse questions that influence teacher education, ranging from the attributes of teacher education and effectiveness to the knowledge basis and the outcomes. Secondly, the work of Cochran-Smith shows that rhetoric in politics is important for the development of teacher education, and that the development process of teacher education is particularly complex. Two main arguments are given in this review. First, there are many voices and perspectives that contribute to the national discussions and developments, and, second, there are strong international influences as well. This calls for further research that focuses particularly on the area of teacher education policy making. It also shows a need for comparative studies, where both national and international influences are made visible.

The review of *research in the context of text production for teacher education* shows that specific forms of curricula in higher education create different discourses in curricula. The review also describes different argumentations concerning what is regarded as important for the effectiveness of teacher education programs. The review also accounts for different conceptions of teachers' relationships to knowledge, and of how these relationships ought to be understood. In sum, the review shows that the composition and organization of knowledge in teacher education curricula is complex and manifold, and that it varies greatly among different teacher education models. Comparative studies involving some of the Nordic countries show that different approaches, levels of analyses, and selection of cases for comparison provide different results and information about teacher education curricula content. It also shows that different teacher education programs hold different knowledge structures and legitimate knowledge in different ways. This review also indicates that there may be considerable differences in the selection and organization of knowledge in teacher education curricula internationally. The inclusion and construction of knowledge in teacher education curricula are not straightforward processes. In fact, the selection and organization of knowledge construct rather different teacher education curricula content, and, to some extent, different professional knowledge bases for teachers as well. To increase our understanding of teacher education, there is a need for more focused and detailed studies on specific aspects, such as the knowledge dimension, in teacher education curricula. Therefore, this thesis takes a closer look at curricula content, searching for differences in the composition and organization of knowledge. McEneaney and Meyer (2000) have, from an institutional perspective, developed an argument for global isomorphism in higher education curricula

form and content. This thesis, however, argues that there may be significant and important differences in how knowledge is organized in different types of teacher education programs.

The review of *research on how teacher education matters in the context of teaching practice* reveals some elements that are important for the effectiveness of teacher education. The review also reflects an increased interest in the knowledge dimension of teacher education. However, little research has been conducted that examines how differences in conceptual and epistemic orientations of teacher education programs actually manifest themselves in novice teachers' professional orientations. Moreover, as the research on different types of educational programs and their implications is dominated by studies conducted in the US, it is not clear how they relate to a Nordic context or what a research-based or a general professional program would mean. What types of knowledge discourses actually emerge and guide novice teachers' orientations at work remains an empirical question. The present thesis aims to contribute to filling this gap by examining how knowledge relations come to the fore in novice teachers' stories and by discussing teachers' knowledge affiliations in relation to differences in the epistemic profiles of their teacher education programs.

From this review, I will summarize three needs to which my research responds: (1) the need for more research on policy making for teacher education; (2) the need for more extensive research on epistemic relations and the organization of knowledge in teacher education programs and the effects of such, and (3) the need to study structures and relations and to include different perspectives of the educational system, influencing the process and content of constructing knowledge for the teaching profession. I also aim, in this thesis, to look into the complex mutual relationships between three specific contexts in the construction of knowledge for the teaching profession: between 'the context of influence,' 'the context of text production,' and 'the context of practice.'

4 Analytical framework

The analytical framework in this study is developed with the aim of being able to account for both policy processes *and* the organization of knowledge in curricula and novice teachers' relations to knowledge. The structure of this chapter is as follows. First, the ground for the analytical framework is prepared and delimited. Second, analytical concepts concerning structures, actors, and rules in policy making (the basis for the analyses in article 1) will be elaborated. Third, the framework for approaching the organization of knowledge in teacher education curricula and novice teachers' knowledge affiliation is provided (the basis for the analyses in articles 2 and 3). Fourth and finally, some cautious links are drawn between the different elements of the framework, focusing on the processual, relational, and contextual character of structures, actors, and rules in developing knowledge for the teaching profession.

4.1 Preparing and delimiting the ground for the analytical framework

Structures and relations in developing knowledge for the teaching profession are complex and manifold, and this complexity makes the construction of knowledge for the teaching profession theoretically challenging to study. In this section, I will prepare the ground for the analytical framework by outlining possible relations and structures involved in developing knowledge for the teaching profession.

Policy processes for teacher education are initiated by the state in the two countries. Who the state decides to involve, how such processes are steered, and by what kind of 'rules' such processes are conducted varies from country to country. Policy making in teacher education sets the agenda for who is allowed to shape the content of teacher education policy, what kinds of experts are consulted, and what kinds of policies and educational ideologies are given space. How policy is developed and formulated, also, to some extent at least, regulates the degree of professional autonomy in teacher education institutions. Policy documents can vary from loose frames to prescriptive and detailed descriptions of program structure and content. Policy making on teacher education (through the structure, actors, and rules in the process) implies taking a position on what counts as important knowledge for teachers and what is the best way of organizing it. In both cases, *curricula content* at the institutional level

in the two cases is developed in close congruence with whatever policies for teacher education initiate. Curricula documents initiate the structures and organization of teacher education programs, while they also describe the structure and organization of what is considered important knowledge for future teachers. Implicit in such texts is an image of what a knowledgeable teacher ought to know. The *novice teachers'* knowledge relations are connected to teacher education and its curriculum. In what way they are connected is an empirical question. At the educational level, the teachers experience an encounter with a more or less common ground or basis for further development of professional knowledge. Novice teachers' work in practice is partly steered, framed, and organized by initiatives from the state, as well as by frames and references within the professional practice. Professional practice is here delimited to how knowledge is operationalized and organized in teacher education programs and how it manifests itself in novice teachers' knowledge relations. This creates a complex picture. To add to the complexity, the whole set of possible relations is framed by historical, cultural, and institutional structures.

A focal question concerning the complex picture of relations is: what role and position does the profession have? Does the question of how knowledge for the teaching profession is constructed belong within a professional theoretical discussion? In the time of late modernity, however, Freidson (2001) argues that the concept and function of professions need to be re-conceptualized in order to be sustained in societies that, at that time, developed a new order. Freidson claims that the traditional scholarly discussions about professions are inductive and descriptive, seeking to find existing patterns and key aspects within the professions. This approach is not adequate in a societal order where professions, more than ever, must compete with marked forces and bureaucracy in order to effectively gain control over specialized knowledge and services. The underlying rationale and policies upon which professionalism rests and depends have to be re-examined (Freidson, 2001, p. 11). Freidson makes two claims about professions that are important for this study: 1) Professions have a monopoly over the practice of a defined body of intellectualized knowledge and skills independent of the state, but 2) the profession's activities and frames are to a certain extent controlled by the state. The prime contingency of the professions and professionalism is the state and its policies (Freidson, 2001). The relationship can be described as symbiotic: the state grants the professions their power and status as autonomous societal groups, while the professions provide the state with knowledge, tools, and services society needs. The relationship is contextual and situational, and it depends on actors and structures. This means that the nature

of the relationship between state and policy processes, on the one hand, and professions, on the other, is to a large degree an empirical question. Even the question of who is regarded as an insider or an outsider in a profession (e.g., a researcher on teacher education, an expert in bureaucracy, a teacher educator) remains empirical.

This thesis contributes to an understanding of key processes and relations involved in developing teachers' professional knowledge. The three research contexts and empirical lenses—entrances - policy making processes, curricula content, and novice teachers' knowledge relations—were selected to address the overall research problem: *How is knowledge for the teaching profession constructed?* This study aims to contribute in a unique way by combining the analysis of three different research contexts with a composite way of asking questions. A flexible analytical framework is needed, which can assist in approaching formative structures and processes in and between the three perspectives taken. Two different, but somewhat related theoretical perspectives are integrated. The analytical framework is presented in Figure 2.

Figure 2: Analytical framework
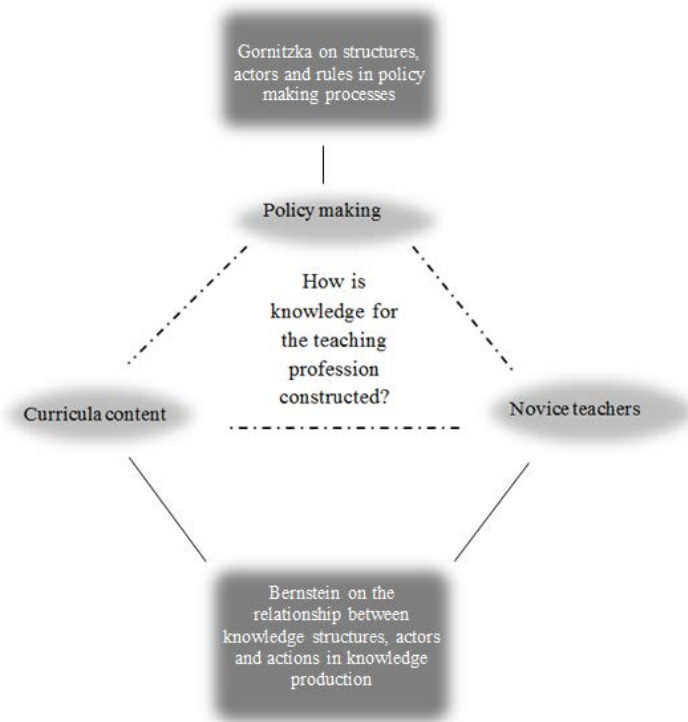
To address policy making processes (structure, actors, and rules) for teacher education, I turn to Gornitzka (1999) and her conceptual framework on comparative policy research in higher education. To approach how knowledge is operationalized and organized in teacher education programs and how this organization of knowledge manifests itself in novice teachers' knowledge relations, I rely upon Bernstein's (1999, 2000) theorizing on the regulation and distribution of knowledge and its transformation into pedagogical discourse and pedagogical settings.

4.2 Policy making: institutional frames, actors, and rules

To identify a common language and a structured theoretical approach to the policy making processes in Finland and Norway, parts of Gornitzka's (1999) framework for comparative studies of higher education policies are deployed. Her theoretical framework for comparing educational policies is extensive, both with regard to policy making processes and

to policy content, but this thesis utilities only the former. Gornitzka's point of departure is organizational theory and the basic idea that all higher educational organizations interact with their environment, though in different ways and to a different extent. This theoretical framework relies on two approaches used in studies of organizational change and stability—resource dependency and neo-institutional perspectives (Gornitzka, 1999, p. 7). In policy making processes in the area of teacher education, this reflects the fact that the higher education institutions responsible for teacher education programs have to play by "rules" that are set by the government *and*, to a certain extent, by internal historical structures. Still, the actors involved in policy processes have the opportunity to negotiate and develop the processes themselves. Employing these perspectives on policy processes for teacher education means looking at teacher education, the relationship between teacher education and the government, and the frames set forth and negotiated in the policy making process. In the following, I will expand on institutional perspectives on higher education policy making, and the role of actors and rules in policy making processes.

4.2.1 Institutionally framed policy making

Policy processes are opportunities that a democracy provides for contesting and making public policies (Considine, 2005, p. 8). The demand for public policies in different areas are grounded in public demand satisfaction, a cumulative expansion of public services, and different public institutions' self-sustainability (Linder & Peters, 1990). In policy making processes, actors and systems are in tension, but they also depend on each other. This study takes an institutional perspective on policy making:

> Institutional perspectives would see policy change as driven by rules as well as taken-for-granted assumptions about appropriate behavior. It would focus on how policy processes attempt to affect the values and beliefs about the nature of higher education and knowledge production and its role in society. (Gornitzka, 1999, p. 15)

Much of policy making is embedded in structures, habits, routines and practices carried out by government and different stakeholders. As described above, policy making is a complex system of relationships and interests that are contextually embedded. Policy making is brought to life by different actors, and a "realm of actors presumes a realm of structures" (Considine, 2005, p. 10). Public policy is developed by actors who are making use of,

shaping, and re-shaping institutional structures and institutions (e.g., teacher education). Simultaneously, public policy actors are being shaped by the institutional structures.

Using institutionalism as an analytical lens for examining policy making has developed out of the need to answer the classical question on whether structure, culture, or individual action best explains social phenomena (Koelble, 1995, p. 232). There are three aspects of this combination that affect the present thesis. Firstly, institutional structures shape the goals that actors pursue and the power relations between the actors (Thelen, 1999). This implies a shift in emphasis from a rational-actor model in which institutions are viewed as independent variables toward a more cultural explanation. An institutional interest is "an interest in properties of supraindividual units of analysis that cannot be reduced to aggregations or direct consequences of individuals attributes or motives" (DiMaggio & Powell, 1991, p. 8). Second, there is also a dynamic interaction between the institutional structures and their contexts. Institutional structures are contextually developed and changed. Third and finally, institutions are relatively persistent over time; teacher education policies change, but not beyond recognition. Many features are rather similar and recognizable over, for instance, the last fifty years. Contextual features are often inherited from the past (Hall & Taylor, 1996): "[…] institutions continue to evolve in response to changing environmental conditions and ongoing political maneuvering but in ways that are constrained by past trajectories" (Thelen, 1999, p. 387). This means that institutions are, to some extent, historically contingent, even in times with rapid changes. Such an understanding of the historicity of institutions must not be confused with a stringent path dependency. The point is to include temporality and the unfolding character of different processes over time (Orren & Skowronek, 1994).

4.2.2 Actors in policy making

Policy processes take place at the intermediate level of institutional structures in society, which "mediate between the behavior of individual political actors and national political outcomes" (Thelen & Steinmo, 1992, p. 11). Policy is developed through negotiations between a wide range of stakeholders who represent different interests. Studies of actors in policy making need to give an account of who is involved, their main ideas, interests, and the resources they carry, as well as the degree and style of policy making conflict (Gornitzka, 1999, p. 16). The constellation and agendas of different actors are in this

study up for empirical question. Policy actors always negotiate a variety of considerations, and these negotiations are often mediated by political and academic interests. In any liberal democratic state, the government, different governmental and non-governmental agencies, experts and interest groups, and individuals play important roles in policy making. As I have tried to argue in the previous section regarding an institutional perspective on policy making, actors are those who bring the process to life. This means that actors in policy making interpret their role. Reflective interpretations enable them to manoeuver and strategize within a structured policy space. Each individual effort helps to adjust, confirm, or re-program important aspects of the larger system of institutions and interests (Considine, 2005, p. 11). This means that *the actors in policy making are being shaped by and are shaping institutional structures.* Policy making is a selective process in which the actors have to relate to the definition of the policy problem, decide what is important and effective, and rank issues and interests (Considine, 2005, p. 23). In addition, institutional and personal norms, values, ideology, political and personal interests, disciplinary priorities, and strategic moves are in play.

In the discussion of different actors in policy making, a crucial issue is the kind of role the *state* plays in policy initiatives. This broader issue includes the question of "the degree to which state institutions are centralized, formally coordinated, and clearly distinguished from the institutions of civil society" (Freidson, 2001, p. 135). Here, Freidson is discussing the degree of steering or the degree of "stateness." A number of scholars argue (Goedegebuure et al., 1994; Gornitzka, 1999; Van Vught, 1989) that it is possible to distinguish between two basic "models" of steering (or similar dichotomies); a *state steering model* and a *state supervision model.* A state steering model implies centralized and direct governmental control, steering and planning. A state supervision model means state monitoring of and feedback to actors and processes of relative autonomous policy making within specific fields.

These perspectives on actors in policy making lead to three sets of questions for this thesis. First, what is the role of the state in policy making? Which agencies and actors are representing the state and can thereby be identified as 'the state'? What are the roles of politicians and bureaucrats?

The second question is what kind of role *the higher education institutions* have in the policy making process. Through policy making, higher education institutions can become partly responsible for negotiating and creating their own environment and content (Gornitzka,

1999). Furthermore, who is representing the institutions? Is it the top management? Is it the research community? How are different disciplines within the institution represented?

Third, what is the role of the *profession*, and who is actually representing 'the profession'? Here, profession means more than just the formal professional associations. Professional associations represent important aspects of an occupational group's interests, but professional influence extends beyond the professional associations. Being defined within a profession often implies having graduated from a certain qualifying higher education program. However, there may be additional conditions, especially in the case of the teaching profession. The complex and compound character of teachers' professional knowledge will necessarily reflect complex and sometimes contradictory disciplinary and policy positions. It also implies actors distributed across a great variety of levels and positions within the educational system. This means that one can be positioned within a profession without necessarily belonging to a professional association. One example concerning the teaching profession is, e.g., faculty of higher education working in the area of educational science, doing research, and maybe even teaching courses that concern different aspects of the educational system. Do they belong to the profession, and are they representing the profession in an encounter with the state? In some cases, yes, in other cases, no. Empirically, a range of different stakeholders can represent 'a profession.'

> They can as well be generated by distinguished members of the profession, by a committee of members of the profession who advice the state and its agencies, or by professional qualified staff in state agencies. (Freidson, 2001, p. 145)

In policy processes, it is therefore not obvious which of the actors belongs to the state, the higher education institutions, or the profession. Roles and representation are contextually and perspectively determined.

In addition to the state, politicians, bureaucrats, representatives for higher education institutions, the profession, different kinds of *experts and expert groups* are represented in policy making. According to Gornitzka and Sverdrup (2008), 'expert groups' will have different roles, depending on how they are viewed and intended. They suggest two useful perspectives on the role of expert groups. One emphasizes the role of choice and design; the other emphasizes routines and institutional factors. In the first perspective, experts are basically viewed as instruments for increasing effectiveness in decision-making and are selected to meet specific tasks. In the latter, perspective experts are seen as agents influenced

by historical developments, path-dependencies, and routines reflecting local rationalities (Gornitzka & Sverdrup, 2008).

Since the policy making process, and specifically the actors involved, are highlighted here, the elements used from Gornitzka's in this analytical framework are: *the actors involved, the role of the government, the character of the communication*, and *the distribution of authority* in the processes. These are elements that enable the display of system-level characteristics of policy making processes, meaning "the scope and room for maneuver" (Gornitzka, 1999, p. 22) for the different actors. This concerns which voices get to be heard, who is able to influence the content of a policy, and in what way.

4.2.3 'Rules' in policy making

To unveil 'rules' in policy making is important, because rules tie the context of policy making to decisions, struggles, and outcomes (Considine, 2005, p. 23). Actors in policy making have to play by rules, and rues in policy making are a "dispersed form of collective intelligence for reducing complex problems to preferred solutions" (Considine, 2005, p. 23). In policy making, the government has the strongest authority in rule-setting. Rules limit and empower human agency, and both grant and limit power (Considine, 2005, p. 24). When analyzing institutional structures in policy making, essential questions about the rules have to be asked:

> On what does the basic order and power of the policy system depend? Who has the mandate to act, and what are the rules establishing this power? What conditions are imposed on those subject to such laws? How do the rules empower these actors to pursue their interest? (Considine, 2005, p. 24)

This concerns which voices get to be heard, who is able to influence the content of a policy, and in what way. Gornitzka (1999) conceptualizes this as *interaction rules. Context rules*, however, refer to the degree of government interference, the distribution of authority, and the dominant policy paradigms at play.

4.3 The formative role of education: knowledge structures and relations

To explore the relationships between the selection and organization of knowledge in teacher education curricula and novice teachers' knowledge relations, an analytical perspective is needed. The analytical framework has to account for (1) teacher education as a device for introducing prospective teachers to knowledge worlds, (2) differences in novice teachers' knowledge relations, and (3) teachers' work as a site for knowledge affiliation. For this I employ concepts and perspectives from Basil Bernstein's analytical framework (Bernstein, 1999, 2000) and the work of some of his followers. Bernstein provides useful theoretical tools to address the constructed and constructing nature of knowledge (Baldwin, 2010).

Bernstein developed an extensive theoretical framework with which one "should be able to describe the organisational, discursive and transmission practices in all pedagogic agencies and show the process whereby selective acquisition takes place" (Bernstein, 2000, p. 3). This is an ambitious and vast aim for a theoretical framework. He criticizes sociological theories in general for only developing metatheory and, to a lesser degree, for providing specific principles of description. Bernstein's framework is an attempt to respond to this criticism. He defines pedagogic practice widely as "a fundamental social context through which cultural reproduction-production takes place" (Bernstein, 2000, p. 3). Bernstein developed his theoretical framework in a 'back-and-forth-movement' between empirical studies and theoretical development. In such theory of cultural reproduction, education is viewed as carrier of power relations, structures, and values *external* to, e.g., the university or the school, such as societal norms. He also argues that if we want to understand how pedagogical processes shape consciousness differently, we need to be more concerned with how a pedagogical text has been put together, the rules of its construction, circulation, contextualization, acquisition, and change (Bernstein, 2000, p. 4).

Bernstein is difficult to place within a single paradigm. His theory and its core concepts have developed over time as Bernstein has engaged with different questions, striving to conceptualize the different aspects and relations concerning mechanisms of production and reproduction of knowledge in education. On the macro level, Bernstein was clearly inspired by Marx and critical theory, in particular Marx' focus on power relations and uneven distribution between classes in society. The present thesis is not a critical study in a political sense. However, the critical aspect of Bernstein's theory is relevant because it ties the thesis to its context and socially specific structures for education. Bernstein himself claimed that his

theory should be understood as a framework that integrates the understanding of meaning-making, causal explanations, and discursive perspectives (C. Beck, 2007; Bernstein, 2000).

A selection of concepts from Bernstein's extensive theoretical framework is employed in the analytical framework of this thesis. First, in theorizing knowledge relations and constitutions of different pedagogical discourses, I will make use of Bernstein's conceptualization of the *pedagogical device.* Second, in order to be able to analyze and discuss different forms of knowledge in intellectual fields, I employ his notion of *horizontal and hierarchical knowledge structures*. Third, in order to be able to approach how knowledge is organized for educational purposes and in novice teachers' stories, Bernstein's concepts of *classification and framing of knowledge* are used. Fourth and finally, resting on the idea that knowledge holds certain structural characteristics that have social implications, Bernstein's perspectives also highlight differences in knowledge and the ways in which both knowledge and knowers become specialized (Maton, 2007). To further expand on this issue, and to relate it to professional knowledge, this thesis employs Bernstein's distinction between what he calls *singulars* and *regions* of knowledge. An overview of the selected concepts and the way they are used is given in Table 2.

Table 2: Selection of Bernstein's analytical concepts and their role in this dissertation

Selected concepts	Role	Used more specifically for
Pedagogical device	Describe the means by which pedagogic discourse is produced	Exploring the conditions for the way in which discourses come in to view in curriculum texts
Hierarchically and horizontally organized knowledge structures	Explore and identify different forms of knowledge in intellectual fields	Identifying and analyzing how knowledge is organized and sequenced
Classification and framing of knowledge	Explore and identify relations *between* and *within* domains of knowledge	Classification: – Exploring the insulation of knowledge domains Framing: – Examining boundaries between knowledge domains and non-school knowledge – Investigating how knowledge is "communicated"; specialized language vs. everyday language – Exploring if knowledge is context-dependent or context-independent
Singular and regions of knowledge (not mutually exclusive)	Identify social implications of framing and classification of knowledge	Identifying how teachers may connect with knowledge and knowledge domains

In this thesis, Bernstein's analytical concepts will be used more specifically to theorize knowledge and knowledge relations, and to trace how knowledge 'moves and transforms' through dynamic processes. In the next section, I will start out by elaborating on the pedagogical device, which conceptualizes how educational knowledge is constructed in the interplay between different levels of the educational system.

4.3.1 Construction of knowledge in the interplay between different levels of the educational system

Since this is a comparison that includes three perspectives or contexts involved in constructing knowledge for the teaching profession, Bernstein's notion of the *pedagogical device* is particularly useful. He elaborated on how educational knowledge becomes constructed in the interplay between what he calls the field of production (e.g., research), where knowledge is constructed and ordered in specific ways for distribution in society, the field of re-contextualization (educational curricula), where knowledge is selected and relocated to be conveyed in educational settings, and the field of reproduction (pedagogical settings), where the educational practice takes place and knowledge become accessible for learners (Bernstein, 2000; Maton & Muller, 2007). These three fields of activity make up what Bernstein calls the *pedagogical device* (Luckett, 2009). Related to this study, it opens up the door to exploring how knowledge is negotiated and instantiated in distinct ways as it 'moves' from research or knowledge production into educational curricula and from educational programs into educational practice. According to Bernstein, "a potential discursive gap" and a site for alternative possibilities and realizations occurs when knowledge is relocated from its original field of production to the field of re-contextualization (Bernstein, 2000, p. 33). Teacher education is composed of many different disciplines, which again allow for a multitude of possible alternatives for selection, composition, ordering, and realization. Bernstein argues that this re-contextualization process is determined by historical and cultural ideas in the educational community, and calls this "re-contextualizing rules." The re-contextualization rules influence the regulation of specific pedagogical discourses (Bernstein, 2000, p. 28). This means that different ways of organizing knowledge in curricula depend on the specific re-contextualization rules and can potentially create different knowledge discourses. These re-contextualization rules shape "how knowledge discourses reappear in curriculum" (Luckett, 2009, p. 443). The rules can potentially lay the ground for rather different educational programs, as well as for different processes for developing educational curricula. How knowledge reappears and what kind of knowledge reappears in curricula are essential questions in the present research, particularly in the exploration of the differences between a research-based program and a general professional program in teacher education.

4.3.2   Knowledge structures

To explore forms of knowledge and identify different modalities of knowledge in curricula, this thesis employs Bernstein's distinction between "horizontal knowledge structures" and "hierarchical knowledge structures" (Bernstein, 1999, p. 162). According to

Bernstein, in *hierarchical knowledge structures*, knowledge is produced through explicit, logical, systematic processes, and it progresses in hierarchical structures. This means that knowledge is accumulated through the integration of codes, which again means an integration of knowledge at lower levels in more general knowledge and theories. Since hierarchical knowledge structures implicitly hold a discrete language, the distribution of knowledge is exclusive. You are either within or outside the circle of communication. A common knowledge basis does not depend on social relations or special interest; the common discourse lies within the discrete language. Learning in an environment is characterized by hierarchical knowledge structure, which is explicit and domain-specific. The learning process is typically unified and distinct for all participants, and the learning outcome is measurable and manageable. Through the learning process, the learner has to plough deeper into the knowledge matter.

Horizontal knowledge structures are based in "projects from the past" (Bernstein, 1999, p. 167), which means that knowledge progresses through the integration of former languages and meanings, and new understandings. Meaning is constructed through serial codes, and knowledge is seen as agglomerative. Knowledge is generated and legitimated in a social mode, which requires a knowledge community. Knowledge communities require a common social discourse or a 'gaze,' which is "a particular mode of recognizing and realizing what counts" (Becher & Trowler, 2001, p. 165). Knowledge is distributed through re-contextualization on a social basis. A horizontal knowledge structure can lead to a more individualized knowledge basis because it depends on the individual's journey in the knowledge community. It is local in character, and it lacks discipline-specific terminology. Many of its elements will appear tacit to the learner. A diverse set of languages, tools, and infrastructures for the learning process is available. It is crucial to recognize and understand what counts as knowledge in order to be able to learn.

Bernstein's conceptualizations of hierarchical and horizontal knowledge structures enable this study, first and foremost, to identify forms of knowledge in curricula. It is asked whether the programs are agglomeratively or accumulatively organized and how knowledge is sequenced in the two teacher education program.

4.3.3   Organization of knowledge for educational purposes

While Bernstein's theorization of the pedagogical device deals with constructions of pedagogical discourses, his discussion of knowledge structures concerns *different forms of knowledge discourses* in the field of re-contextualization. To analyze how knowledge is organized in teacher education curricula, and explore and analyze the character of novice teachers' knowledge relations, Bernstein's (2000) notions on *classification* and *framing* of knowledge in educational knowledge are useful. He describes these as analytical tools for examining relations between and within categories in educational settings.

By *classification*, Bernstein means the extent to which disciplinary knowledge is delineated from the content of other disciplines. Different classifications of knowledge display different understandings of knowledge. Strong classification refers to knowledge domains that are highly insulated from other knowledge domains. An example of strong classification of knowledge is the distinct delimitation between different subjects in teacher education. Weak classification refers to domains that have a low degree of delimitation, as, for instance, in interdisciplinary-focused education. *Framing* of knowledge is commonly described as "the extent to which there is an explicit and agreed content to be transmitted to students and the degree to which this transmission is under the control of academics" (Becher & Trowler, 2001, p. 37). It also deals with how knowledge is communicated, for instance, the use of specialized language versus everyday language: "Classification refers to *what,* framing is concerned with *how* meanings are to be put together, the forms by which they are to be made public, and the nature of the social relationship that goes with it" (Bernstein, 2000, p. 12). Framing regulates relations within the educational context. In an educational or pedagogical setting with a strong framing of knowledge, the pedagogical profile will be visible and distinct, while when it is weak, it will be more implicit, tacit, and articulated in everyday language. The concept of classification provides this thesis with the opportunity to explore the insulation between knowledge domains in curricula texts and in the teachers' stories. The concept of framing provides this thesis with tools to first, explore boundaries between knowledge domains and non-school knowledge, and second, to approach how knowledge is 'communicated' and whether or not specialized language or everyday language is used. Finally, framing opens up the door to the exploration of whether knowledge has a context-dependent or context-independent profile. In this thesis, knowledge elements are in focus. It is worth observing, however, that the concepts may refer to the distribution of roles

and spatio-temporal organization as well. These aspects appear to be relevant as soon as levels other than the context or the organization of curriculum are introduced into the discussion, such as the levels of interpreted or experienced curriculum.

4.3.4   Structural features of knowledge and their social implications

The final element of Bernstein's theorizing included in this thesis concerns the tthree modes of social organization of knowledge in pedagogical settings: *singular*, *region*, and *generic*. These concepts are developed to be able to identify the social implications of structuring, framing, and classification of knowledge. *Singular, regions*, and *generics* are modes, or ideal types. In this thesis, they help analyze how the organization of knowledge in pedagogical settings may be understood.

Singulars may be exemplified by pure academic disciplines that form a specialized discourse and that have a related set of "texts, practices, rules of entry, examinations and licenses to practice" (Bernstein, 2000, p. 52). Through their strong classification and framing, singulars may more easily connect individuals with a specific knowledge domain and pave the way for strong epistemic relations. In singular modes of knowledge, the teacher will have a solid inner commitment, strong subject loyalty with a clear and common knowledge basis, and hold an autonomous role "protected by strong boundaries and hierarchies" (Bernstein, 2000, p. 65). This may result in a specialized, clearly delimited, professional identity with strong boundaries towards laymen and other professions.

In professional work, however, the underpinning knowledge structures are more often in the form of *regions*. In one sense, regions are comprised of singulars. They include a collection of singulars that are re-contextualized in a given educational or professional context. Regionalization is "re-contextualizing singulars into larger units" (Bernstein, 2000, p. 65). At the same time, however, this very re-contextualization and the plurality of disciplines imply a weakening of the classification. It involves a shift in orientation from the 'inwardness' of pure disciplines to an 'outwardness' to the field of practice and its various actors, purposes, and concerns (J. Beck & Young, 2005, p. 187). The relative strength and function of singulars in the construction of a professions' knowledge basis is, therefore, an important question that influences practitioners' knowledge relations, as well as the conditions for knowledge-based professionalism. Bernstein's idea was that regions are

becoming increasingly dominated by external forces with regards to content, pace, and direction of change. The result of this is that the teachers' professional identity and authority will appear more fragmented and shaped to a large degree by societal demands. State and/or market achieve increased control over the knowledge basis, which means greater central administrative control.

Generic modes are characterized by "such terms as 'key skills,' 'core skills,' 'thinking skills,' 'problem solving,' and 'team work.' They are assumed to apply to all fields of practice and all levels" (J. Beck & Young, 2005, p. 190). Learning to learn is central, and stable expectations and a common knowledge basis have diminished. Bernstein argues that such a mode may leave the professional with an empty conception of knowledge or at least a short-term connection. The possible result for teacher professionalism is that it becomes unstable and is a "new kind of professionalism with much weaker ties to the acquisition and production of knowledge in universities and much stronger links to practice in the 'real world'" (J. Beck & Young, 2005, p. 192).

4.3.5   A critical gaze on Bernstein's conceptualizations

Bernstein's conceptualization has its limits and problems. One critique is that he attempted to develop an overall framework including organizational and interactional practices in all pedagogic agencies, including both the macro and micro levels of educational structures (Baldwin, 2010; Maton, 2009; Young, 2008). Bernstein articulated these as the "interactional level, institutional level and macro-institutional level" (Bernstein, 2000, p. xvi).

Another line of critique argues that his concepts are too complex, elusive, and abstract to be employed in empirical research (Muller, 2007). Responding to this criticism, Bernstein gives quite a few examples of the use of his framework in the latest edition of his main publication (Bernstein, 2000). Maton (2009) and Young (2008) both take into account that Bernstein was offering theoretically dichotomous ideal types (e.g., strong–weak classification/framing or horizontal vs. hierarchical knowledge structures). The ideal types are not easily deployable on knowledge in curricula, and the dichotomies give an un-nuanced picture of more complex problems. Muller (2007:65) argues that Bernstein's concepts are locked into the early metaphorical stages of discussion and should be viewed as more suggestive than explanatory. This thesis takes this critique of Bernstein's framework into account and deals with it in three ways. First, only a few concepts are carefully selected out of

his overall framework. The selection is done in order to avoid the pitfall of trying to grasp and include more aspects than possible, empirically and analytically. Second, the thesis relies on others' interpretations of Bernstein's concepts. Third and finally, the scope of Bernstein's concept is delimited in the analysis of the empirical material. Through empirical analysis, the intention is to clarify what the concepts offer and do not offer in each particular case.

4.4 Structures, actors, and rules

In this thesis, I argue that Bernstein's basic assumption of the relationship between structure, actors, and actions has much in common with basic ideas in institutional theory. He emphasized how knowledge systems become part of consciousness and that pedagogical discourse becomes a carrier of something more than itself. Like policy making, educational knowledge is developed by rules and taken-for-granted assumptions. Educational knowledge is embedded in structures, habits, and routines carried out in practices on different levels in the educational system. Bernstein's framework also aims at taking into account the *internal* structures of the discourses themselves and offering an explication of the inner logic of pedagogical discourse and its practice. He argues that internal structures are influenced by external structures, and is especially concerned with "how a pedagogic text has been put together, the rules of its construction, circulation, contextualization, acquisition and change" (Bernstein, 2000, p. 4). Therefore, some cautious links can be set up between the two theoretical perspectives in this composite analytical framework by focusing on the concepts of *structure*, actor, and *rule*.

Structures, whether they are institutional structures or knowledge structures, give premises for the way processes unfold. Policy processes or processes where knowledge 'moves' between different levels or contexts in the educational system are carriers of taken-for-granted and embedded values, norms, and rules. Such structures shape and re-shape goals, content, and power structures, and are historically and contextually embedded. The structural aspect emphasizes both cultural production and re-production of consciousness, discourses, and social practices. Structures figure in this framework as an organizing device for internal and external logics in different processes involved in developing knowledge for the teaching profession. *Actors* are those who bring structures and processes to life through mutual interaction. Actors are shaped by and are shaping and negotiating structures in the processes of developing knowledge for the teaching profession. Actors bring about the social

implications both of structures concerning policy processes and of knowledge structures. In this framework, routines, embedded logics, or taken-for-granted assumptions are understood as *rules,* connecting structures, and actors. Rules open and close, include and exclude, and give or take authority and power in all of the processes involved in developing knowledge for the teaching profession. Rules are formative for communication, interaction, and relations. They affect knowledge for the teaching profession in the re-contextualization process from policymaking for teacher education to knowledge affiliation of novice teachers.

5 Methodological approach

In this chapter, I will account for the methodological approach utilized in this thesis. Since the thesis includes three empirical perspectives and focuses on processes and relations involved in the construction of teachers' professional knowledge, a combination of research strategies were selected. The point of departure is that there is no direct access to either individual or institutional constructions. This research represents just one of many different ways of representing the people and phenomena involved. Such a study calls for a well-prepared and consistent research design, and a thoroughly founded and well-combined theoretical framework—for both epistemological and ethical reasons. This is an independent study. It is neither founded nor steered by the parties studied. Hopefully, however, the study is politically and academically interesting for several stakeholders. Topics like policy making in higher education, as well as teacher knowledge, are loaded with political positions and conflicting interests. I have been asked whether I want to participate in such a "game." The risk is that my research will be used for purposes that were not intended. My answer is that all research can and should be used freely. The researcher cannot take responsibility for the use of research in any other way than by following prevailing research protocols, making constant judgment calls in the research process, and participating in the ongoing debate about the findings (Skaerbaek, 2007).

In the following, I will elaborate on the research design, approach, and phenomena, methodical considerations, and analytical strategies, as well as issues concerning research ethics and the scientific quality of the study.

5.1 Research design and phenomena

This thesis holds a qualitative, flexible research design, giving emphasis to the qualities of entities and processes, meaning and interpretation, as well as stressing the socially constructed nature of reality and relations (Denzin & Lincoln, 2005, p. 10). The main research problem, which asks how knowledge is constructed for the teaching profession, is the focal point of departure. The construction of knowledge is approached in (1) the context of policy making, (2) curricula documents, and (3) novice teachers' accounts, and these are identified as the three phenomena studied in this thesis. The three phenomena are mainly represented in

each of the three articles included in this thesis. In Figure 3, the phenomena are placed as three 'cornerstones' of a triangle. The triangle is the main object of analysis. The three phenomena are pictured as loosely connected by broken lines because the main aim of the thesis is to empirically explore important relations and structures of some of the processes involved in constructing knowledge for the teaching profession. Aiming at studying structures and relations means examining structures and relations *within* each phenomenon, but the contribution of this thesis also lies in exploring, analyzing, and discussing possible structures and relations *between* the three phenomena.

Figure 3: Research design: connecting theory and strategies of inquiry.
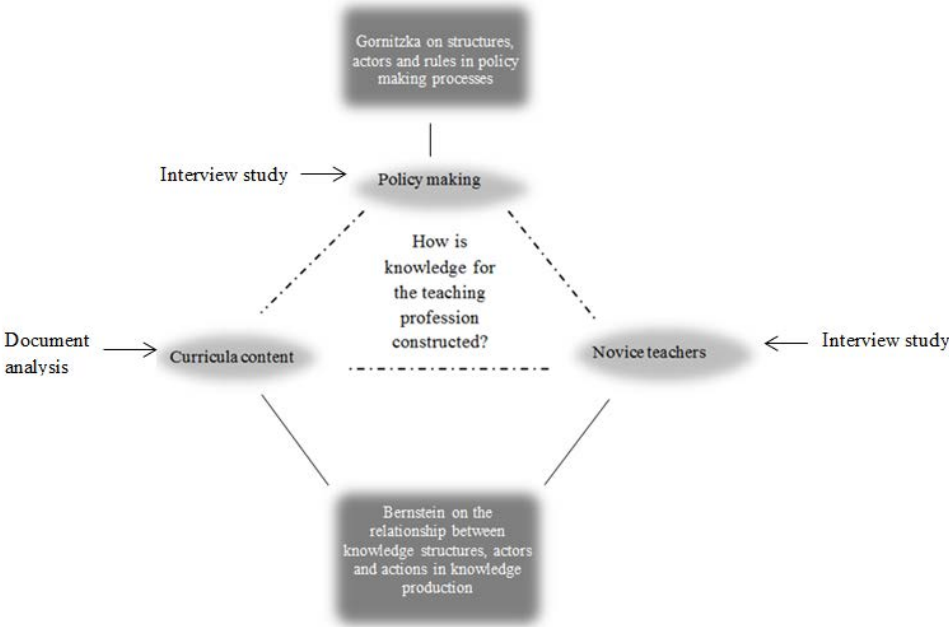
Policy processes can be documented through historical and contemporary document analysis. However, this thesis emphasizes structures and relations involved in policy processes. Insiders have valuable knowledge on these questions, and insider-perspectives are possible to reach only through talking to participants (policy makers). Interviews with teachers were selected for same reasons. The observation of teachers in action could have added important aspects, but insider-perspectives and reflections are brought to the forefront as a source in this study. Curricula documents were selected because such texts make claims

for action (Prior, 2004) in teacher education. In sections to come, I will expand upon what the different sets of empirical data offer in terms of the discussion of the main research problem.

5.2   An interpretive and comparative research approach

Borko and her colleagues (Borko, Liston, & Whitcomb, 2007) distinguish between different genres in research approaches concerning teacher education. Their distinctions can be helpful in identifying the genre of this particular research. Based on an analysis of purpose, intellectual roots, and central features of research on teacher education, they identify four genres. They are: *effects of teacher education research* (examining the relationship between teacher education and student learning, and identifying generalized patterns of relationship), *practitioner research* (research about teacher education that is conducted by those who do the work of teacher education, with the aim of understanding human activity in situ from the perspectives of the participants), *interpretive research* (describing, analyzing, and interpreting features of specific situations, preserving complexity and communicating participants' perspectives), and *design research* (trying out what works in practice) (Borko et al., 2007, pp. 3-7). Even though such a categorization represents simplifications and limitations, it also contributes to the delimitation and understanding of the present research approach. This thesis takes an *interpretive research approach*. Central features of this approach include privileging the insider perspective and participants' voices and discourses, focusing on understanding the socio-cultural processes in natural settings, and recognizing the importance of context. This approach anticipates that persons, the world, and the known are inseparably related through persons' lived experiences, and that meaning is constituted through this relationship: "Meanings are seen to be negotiated between researcher and researched within a particular social context" (Finlay, 2002, p. 531). Borko et al. (2007) continue by underlining that the interpretive research genre has had a great impact on research on teachers and teacher education, and argue that studies within this genre have given "a more nuanced understanding of teacher candidates as learners, and a complex portrait of the impact of teacher education programs and teacher educators' practice on candidates' learning to teach"(Borko et al., 2007, p. 5). They also suggest that broadening the "empirical eye" is important, and suggest a need to include other stakeholders than, e.g., teacher candidates, teacher educators, and school-

based personnel, such as, for instance, legislators and the state departments of education. This thesis aims to meet the need for a broadening of perspective on teachers and teacher education by including processes connected to policymaking and curricula content. One of the major limitations of the interpretive genre mentioned by Borko and her colleagues is a lack of shared conceptual framework and design. This limitation makes it challenging to compare findings with studies of similar phenomena. This thesis partly addresses this limitation by initially employing a comparative research design.

A comparative research approach is also used in this thesis, based on the character of the research questions. As elaborated earlier, this study has developed empirically, theoretically, and methodologically throughout the research process. One factor has remained constant, however, and that is the comparative mode. The contextual character and conceptions of professional knowledge were driving forces in this interest. A brief survey of literature on the comparative mode shows that comparative research in education is used a variety of ways, from a political tool to a politically disengaged research method and frame of analysis (Novoa & Yariv-Mashal, 2003). Several *purposes*, *potentials*, and *goals* for conducting comparative studies in educational research in general (e.g. Alexander, 1999; Broadfoot, 1999, 2000; Crossley & Watson, 2003). First, a comparative research orientation gives us the opportunity to achieve a better understanding of one`s own educational system by contrasting it with another. A more complex picture will appear through the diversity of sources. It gives us a unique opportunity to question the taken-for-granted assumptions in our own educational systems, both theoretically and practically. Second, it can satisfy theoretical and practical curiosity about other cultures' educational systems. Comparison gives us the opportunity to learn something new and different about teachers' professionalism and gives us the chance to improve the science, art, and craft of teaching and learning. Third, it can help us better understand the relationship between education and the wider society. By collecting data in two cultural contexts (nation states, societies), cultural sources of importance to the construction of knowledge for the teaching profession will emerge. The comparative mode is culture- and context-sensitive (Crossley & Watson, 2003). Context is both a social structure and an interpretive construction of the social actors (Holstein & Gubrium, 2003), and taking context as a point of departure is essential in comparative educational research. Fourth, the comparative mode constitutes a perspective that can identify and give insight into similarities and differences. This insight can contribute to both theoretical and practical improvement (Crossley & Watson, 2003). It can expand the conception of the construction of knowledge

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for the teaching profession by questioning prevailing theory, suggesting new paths for investigation, and building new theory. The research will appear more cumulative and directly relevant to society. The more practical dimension is the discovery of what can be learned and/or borrowed from one context to another. Not all transfer of knowledge or borrowing is externally or negatively imposed, especially when it is allowed to develop and transform in its new context. Finally, a comparative study of the construction of knowledge for the teaching profession will contribute to an understanding of international processes by providing broad and nuanced data on the effects of globalization in different educational contexts. In an era in which rapid globalization and internationalization is on the horizon of all human development, education is no exception. There are forces working for global uniformity, as well as for local diversity. In the case of educational development, the comparative mode can initiate and contribute to a re-examination of the goals of education. Comparison can help identify intercultural and cross-cultural bindings, provide a critique of the international transfer of educational theory and policies, and investigate learning-needs in multicultural settings. Broadfoot sums up advantages of the comparative mode like this:

> …the goal for comparative education is to build on systematic studies of common educational issues, needs or practices as these are realized in diverse cultural settings in order to enhance awareness of possibilities, clarify contextual constrains and contribute to the development of a comprehensive socio-cultural perspective. (Broadfoot, 1999, p. 26)

In this dissertation, the comparative mode is employed in three different contexts, each of which is focused on one article respectively. Policy making processes are compared at the national level, curricula content is compared at the program level (two teacher education programs developed according to national standards and recommendations), and novice teachers' knowledge affiliation is compared also to some extent at the program level, in the sense that the teachers graduated from two different programs. An important issue to address in order to avoid misunderstandings and misinterpretations in this cross-national study has been the identification of concepts and the selection of terminology and research tools that are suitable for both cases, the three perspectives studied, and all of the research questions combined. The concepts and terminology have to match the perspectives studied in both contexts. The criteria for selection of informants and material has to be well-prepared and the information has to be processed and interpreted in a consistent way (Métais, 2001). The comparative perspective is used here as a research strategy. This strategy seeks to illuminate

variation in developing knowledge for the teaching profession, how this is related to structures, actors, and rules within the wider society, and the context in which it exists. Comparative research is employed as a process of making the familiar strange through a contrasting mode. It makes hidden national and contextual characteristics more visible. The relationship between policy, research, and practice is context-dependent. This means that the field of education is viewed as "a place where national sovereignty can still be exercised" (Novoa & Yariv-Mashal, 2003, p. 426), even though global and European structures are clearly visible in higher education policies today (Grek et al., 2009; Hökkä et al., 2010). This is highly relevant for the development of teacher education, since the European dimension has been a strong driving force during the last decade. The aim of this thesis is to analyze similarities and differences, not to suggest or prescribe general solutions or policy transfer (Rui, 2007). This is also a basic premise underlying an interpretive approach. The approach implies describing, analyzing, and interpreting features of specific situations and preserving the complexity and insider perspectives. Meaning is understood as historically and contemporary negotiated, not established.

5.3 Selecting cases and collecting data: interviews and curricula documents

This thesis is based on a threefold empirical material: (1) interviews with policy makers, (2) curriculum texts for teacher education, and (3) interviews novice teachers. The policy makers had all participated in the latest as well as former national reforms of teacher education in their respective countries. The novice teachers had graduated from Oslo University College and University of Helsinki, respectively, in the 2009–2010 academic year. They had been educated according to the curriculum for general professional teacher education program at Oslo University College (2005) and for class teacher education at the University of Helsinki (2005). These are the two curricula documents analyzed in this study. The reason for this selection was twofold. First, comparability in time and across two different types of teacher education programs was ensured. Second, the selection enabled a discussion of the findings across articles in this dissertation.

5.3.1 Policy makers

Semi-structured in-depth interviews (See Appendix 1) were conducted with the policy makers during the fall of 2009 and early 2010, recorded digitally, and transcribed verbatim. There is a methodological debate on expert interviews (e.g. Bogner & Menz, 2009; Meuser & Nagel, 2009; Pfadenhauer, 2009), which is useful for discussing the selection and role of the policy makers as interviewees in this study. On the one hand, I regard an expert interview within the same rationale as other qualitative research interviews, and such interviews are further elaborated on in section 5.5. On the other hand, the debate on interviewing experts raises questions like: Who counts as an expert? What is an expert interview? What is expert knowledge? These questions are relevant in the discussion of the selection of policy makers, their role as interviewees, and what kind of knowledge possible to generate from interviews with policy makers.

According to Bogner and Menz (2009), there are several ways to conceptualize an expert. They vary from the viewpoint that everybody is an expert on their own reality to some extent (no division between expert knowledge and lay knowledge) to seeing an expert as a scientist who acts on the basis of certain, unambiguous knowledge (strict division between expert knowledge and lay knowledge). This study, however, relies broadly on what Bogner and Menz (2009, pp. 49-50) conceptualize as a "constructivist definition," which focuses on the mechanisms involved in ascribing the role of the expert. First of all, the expert is, to some extent, a construct of the researcher's interests. By selecting the expert, the researcher assumes possession of relevant knowledge. Secondly, an expert is a person who is made into an expert by a societal process. This means that the policy makers as experts are "defined via specific research interests and simultaneously through the social representativity of the expert" (Bogner & Menz, 2009, p. 50).

The specific criteria for selecting policy makers in this study were that they should be regarded as profiled and experienced in the area of teacher education policy making in academic as well as bureaucratic circles, and that they had participated over time in policy making for teacher education. The policy makers were selected on the basis of suggestions from academics and government employees from the educational field. Four policy makers from Norway and three from Finland were interviewed. All of the policy makers I contacted agreed to participate in my study. The seven policy makers selected are or have been officially involved in the development of teacher education policy in their respective country for an extensive period of time. In Norway, their affiliation was either academic (affiliated

with a higher education institution) or bureaucratic (employee of the government); in the Finnish case, the interviewees had a mix of affiliations and experiences from both spheres. The Finnish policy makers had a long-term commitment to policy making in the area of teacher education, while the Norwegian policy makers had a more ad hoc 'on-off' relationship to policy making concerning teacher education.

Bogner and Menz (2009) also identify three typologies of expert interviews, each based on a specific methodological foundation: expert interviews as an exploratory tool, the systematizing expert interview, and the theory-generating interview. My interviews with the policy makers are of exploratory character, with elements of systematization. Expert interview as an exploratory tool can serve to establish an initial orientation in a field, which is substantively new or poorly researched. It may structure the area of investigation (Bogner & Menz, 2009). An insider perspective gives unique knowledge. According to Bogner and Menz (2009, pp. 46-47), a systematizing expert interview "is oriented towards gaining access to exclusive knowledge possessed by the expert […], knowledge of action and experience which has been derived from practice, is reflexively accessible and can be spontaneously communicated."

To get a closer and in-depth understanding of policy making processes in teacher education, i.e., to get an understanding of the 'who,' 'how,' and 'why' of the decisions made in the policy processes with respect to teacher education, participants in the processes were interviewed. The policy makers were asked to describe actors involved in policy processes, their own role over time, power relations in policy processes for teacher education, historical influences, and the most recent reforms and processes; they were also asked to comment on the relationship between professional knowledge and policy processes.

5.3.2 Curricula documents

The two curricula documents analyzed in article 2 in this thesis are 'the general professional program' from Oslo University College (2005) and 'the research-based program' from the University of Helsinki (2005). The latter curriculum is identical to the curriculum at University of Helsinki, effective from 2008–2011. The two curricula represent two distinct programs for initial teacher education: the research-based programs and the general professional programs. To ensure the best comparability possible, the teacher education programs from Oslo University College and University of Helsinki were selected because

they both represent the largest teacher education institutions and both are located in the capital cities of their respective countries. The two curricula are also developed in close congruence with national curriculum (Norway) and national recommendations (Finland). The national documents figure as secondary data, along with different evaluations and former research.

5.3.3 Novice teachers

Novice teachers, as opposed to more experienced teachers, were selected first because they had the educational setting fresh in their minds and could easily discuss the relationship between professional education and work. Secondly, they were selected out of the argument "the fish can't see the water." In a transition and adjustment phase, it is easier to become aware of and reflect upon the professional context and particularities in professional work than when routines and daily challenges become a matter of course. I was able to make contact with and get access to twelve novice teachers (six from Finland and six from Norway) through teacher educators in both contexts, as well as through 'snowball sampling.' In Finland, teacher educators at University of Helsinki did send out invitations, by mail, to new graduates recommending that they participate in my study. The ones who responded agreed to give me access to their e-mail addresses, and I contacted them directly. It is, of course, possible that the teachers felt some kind of obligation to a former professor to participate, but it seemed like the ones responding found the topic interesting and motivating. In Norway, I followed the same procedure, but went through the mentor program for novice teachers at Oslo University College in order to reach participants. Here, also, those interested and motivated responded to my request. Other than the selection criteria listed above, the novice teachers were selected randomly. It was rather difficult to get novice teachers to participate, mostly because of their already swamped workday. Four female and one male novice teacher participated from each context, which was good because it broadly reflects the distribution of gender in primary schools in both countries. The Finnish interviews were conducted in English. The Finnish novice teachers were impressively fluent in English, and language did not seem to restrict their expressivity. However, it must, of course, be taken into consideration that some of the nuances can disappear when speaking in a foreign language. Language skills probably impacted the composition of the Finnish group of teachers.

A pilot interview with a Norwegian novice teacher (meeting the selection criteria) was conducted before the main study began. Based on how the teacher in the pilot reacted to the

questions, what kind of topics he/she brought forward and how he/she felt regarding the clarity and relevance of the questions after the interview, some questions were removed, adjusted, and added. The reason for this was to try out the interview guide and discuss the experience with a candidate quite similar to the main interviewees. The interview guide was adjusted and developed further for the main study. The novice teachers were interviewed twice during their first year working, first in the fall and then approximately six months later, to create an environment of trust and to ensure empirical validity over time. The pilot interview is not included in the main study. The interviews were recorded digitally and transcribed verbatim. The interview guides are attached as Appendices 2 and 3. When I listen to and compare the two interviews afterwards, it is noticeable that the teachers speak much more freely, with more detail and depth in the second interview.

The main themes for the interviews with the novice teachers were their teacher education and their own development during the studies; the teachers' present work and challenges; how they approach and access knowledge on a daily basis; and particular challenges in the transition from education to work. They were also asked about what they regard as important knowledge for teachers. The questions were mostly formulated in such way that it would open the door for reflection on professional action, rather than meta-reflections on knowledge in professional work. For example: What do you do when…? What happens when…? How would you react to…? Tell about or give example of how …? The interviews resulted in about 500 pages of transcribed text encompassing novice teachers' narratives about their first year as teachers.

5.4   Interviewing as ethical craftsmanship

Four issues concerning interviewing that were discussed by Kvale and Brinkman (2008) have been particularly important for this thesis. Viewing interview as a *craft* implies that personal and practical issues are resolved before, during, and after interviewing. Kvale and Brinkman also point out that craftsmanship only can be obtained through practicing interviewing. In my experience, a good emotional environment, well-informed interviewees, a well-prepared interviewer, open questions and, an actively listening interviewer were all important factors. In the interview situation, I draw directly on my many years of experience as a school counselor for adults with Norwegian as a second language. Secondly, the interview is a *conversation* with structure and purpose (Kvale & Brinkmann, 2008, p. 3). It is

a conversation whose aim is to collect systematic knowledge on certain phenomena. During the interviews, I was quite focused on following up on leads that the interviewees gave in their stories, that is, to open up themes and structures beyond the interview guide. The relationship between the interviewer and the interviewees is asymmetric. The interviewer defines the topics, the questions, and how they are followed up. The aim is both to get close to the interviewees and to keep a necessary professional distance to extract knowledge constructions. The goal was to create an environment in which the interviewees' stories, not my questions, were the center of attention. Another strategy to create an emotionally balanced interview environment was to let the interviewees choose the time and place of the interviews. The interviews were, therefore, conducted at government offices, classrooms, in staffrooms, in private homes, and at cafés. Third, the interview is *co-construction.* The interviewer and the interviewees construct new knowledge in a dialogical process. Finally, the knowledge constructed in interviews is *contextual*. The interviews take place in an local "interpersonal context" (Kvale & Brinkmann, 2008, p. 54), which again is related to the wider context. The knowledge produced in the interviews has been transcribed and is regarded as text. This offers the opportunity to go beyond the here and now of the interview situation.

In this thesis, interviewing is also viewed as an 'ethical craftsmanship.' Ethical issues are regarded as something that intervenes in the entire research process. Ethics is not only used to evaluate the process in retrospect. Kvale and Brinkmann (2008, p. 62) define ethics in general as the "oughtness of human existence." Research ethics is, therefore, the *oughtness of the research process.* In the field of research ethics, there are different formalized guidelines formulated nationally or institutionally (e.g., in Norway, the National Committee for Research Ethics in the Social Sciences and the Humanities, henceforth NESH). This project is registered and approved by Norwegian Social Science Data Services (NSD, see Appendix 5). But there are also less formalized guidelines, both tacit and articulated, in different research communities. A set of more or less common research ethical norms and guidelines in qualitative research, has, in my view, two main purposes. First, they protect the involved parties, and second, the norms attend to more general societal and public interests. Interviewing is an inter-subjective and relational project constituted by uneven power relations as a point of departure. Rules and procedures, as well as personal virtues, are therefore important aspects of interviewing (Kvale & Brinkmann, 2008, p. 66).

Even though universal rules do not apply very well to qualitative research and interview studies, certain ethical guidelines or "ethical protocols" are quite common. Elaborations on *informed consent*, *confidentiality*, *consequences and impact of the study*, *role of the researcher*, and *reporting findings* are expected to be discussed in qualitative research and interview studies in particular (Cohen, Manion, & Morrison, 2000; Fontana & Frey, 2005; Kvale & Brinkmann, 2008). In the following, I will briefly address the first three, while my role as a researcher and in reporting in this study will be discussed in separate sections.

I used several "channels" to inform the participants about the study. Before meeting with the interviewees, an information letter was sent by e-mail, as well as a link to a web page where the project was presented more extensively. *Informed consent* was secured by a written form signed by the participants (See Appendix 4). The form outlined the responsibilities of the interviewees, identified the researcher, provided contact information, and explained that they were free to withdraw from the study at any time. The interviewees read and signed the form before the interviews. They also got a copy to take home. The purposes and features of the research design were presented. I also presented a preliminary sketch of the planned articles so that they could see how and where I would use the material obtained in that particular interview. Regarding *confidentiality*, this study is not particularly sensitive to individuals. I am not focusing on individual knowledge, but on how different novice teachers represent epistemic infrastructures. Teachers are a large group of people in any society, and novice teachers blend quite well into the group. So it is not difficult to make these participants anonymous. As the research progressed, I saw that that the material from the policy maker interviews might lead to some dilemmas concerning anonymity. These interviews were done with publicly profiled persons, and their statements are more challenging to make anonymous. The question was whether they should be made anonymous at all. In particular cases, I choose to paraphrase rather than quote in order to secure the anonymity of the policy makers.

In the process of conducting such an extensive research project, the intention of having *impact and making a difference* has been important for me. Interpretive research in general (Borko et al., 2007), and this study in particular, usually aim for one or more of the following: 1) improving practice; 2) informing policy; 3) guiding and complimenting other research genre/designs; and 4) shaping theory development. The responsibility for determining the "explanatory power a study has within a local context" falls on the readers (Borko et al., 2007, p. 4). Theoretical aspects are used to interpret the empirical material, and this

interpretation is, in turn, used to pose critical questions back to theory. Individuals'
interpretations and understandings are not context-free. The interpretations of the empirical
material have been situated in space and time: "[T]heories are ways of talking about the world
that can be moved about and used in different situations for different purposes," and they are
"connecting different networks of knowledge" (Nespor, 1994, p. 2). The theoretical
frameworks are used as rough maps of a partly unfamiliar terrain, aiding the researcher in
elucidating structures and capturing details in this terrain, which again may contribute to more
detailed maps.

5.5   Analyzing text and talk

> It requires that the researcher (1) Working with the data as if it was possible to get the
> truth, while (2) she knows that there is no such thing as *the truth*. (Skaerbaek, 2007, p.
> 72)

Peräkylä (2005) argues that the differences between researcher-instigated data and
different naturally occurring texts and documents should be understood as a continuum rather
than as a dichotomy. This is in congruence with how the empirical material in this thesis is
approached. I have used an informal analytical approach (Peräkylä, 2005) to written texts
consisting of interview transcripts and curricula documents. An informal approach stands in
contrast to more formative approaches, such as, e.g., semiotic text analysis, content analysis,
or discourse analysis. Informal approaches to textual contents "try to pin down their key
themes and, thereby, to draw a picture of the presuppositions and meanings that constitute the
cultural world of which the textual material is a specimen" (Peräkylä, 2005, p. 870). I have
already elaborated on interviews as a co-construction. Documents are also social in the way
"that they are produced, shared and used socially" (Atkinson & Coffey, 2004, p. 57). Like the
interviews, they contain culturally distinctive values. In this thesis, both transcripts of
interviews and policy documents are regarded as social representations and social texts.
Informal textual analysis is employed both inductively, based on topics appearing in the
readings of the texts, and deductively, through theory-driven coding and interpretations. The
transcripts were read and coded inductively with Atlas.ti in order to allow important features

in the empirical material to emerge, and deductively, based on the theoretical frameworks selected for each article.

Despite many similarities in the analyzed documents and interview transcripts, I find it necessary to further elaborate on the analytical strategies used in each of the articles in this thesis separately. In the next three short sections, I will expand on how I approached the curricula documents, as well as how I approached the interview texts differently when it came to policy makers and teachers.

5.5.1 Analyzing interviews with policy makers

The transcripts from the interview with the policy makers were read and coded with Atlas.ti in order to bring out important features in the empirical material. Then they were read deductively, based on selected concepts from Gornitzka's (1999) theoretical frameworks. Meuser and Nagel (2009) elaborate on some aspects that are important for the data analysis of expert interviews such as these. The first aspect is that the socio-cultural conditions of knowledge production are seen as vital dimensions of expert interviews:

> Attention is drawn to the embeddedness of the expert in circumstances and milieus; to the heterogeneity of relevant others; to the membership in global communities and local networks; to arenas and circles the expert is involved in and orientation is derived from. (Meuser & Nagel, 2009, p. 25)

In the context of the present thesis, this means that knowledge generated from interviews with policy makers is valued as constructional and contextual.

Second, expert interviews features knowledge negotiated across networks and institutional, professional, and entrepreneurial boundaries. Expert knowledge is produced collectively through negotiations of opinions in cooperation, networking and teamwork. Expert knowledge is characterized by strategies of inclusion and exclusion, and is "defined by the communicative practice of insider groups and networks" (Meuser & Nagel, 2009, p. 31). Moreover, it is also partly a mixture of private and public spheres of experiences. For example, it can depend on educational background and work experience.

5.5.2 Analyzing curricula texts

The curriculum study is limited to analyzing how the knowledge basis for teacher education is represented in curricula documents, excluding perspectives of interpreted curricula (teacher educators) and experienced curricula (student teachers). Employing a qualitative, comparative research approach to teacher education curricula documents in this sub-study means looking into how different knowledge areas and activities are represented, reflected, and formulated. To do so, a content analysis is employed using Bernstein's vocabulary, that is, "focusing on the underlying structuring principles" (Maton, 2007, p. 90) of the curricula texts. This approach also emphasizes fluctuation between the parts and the whole in the analysis in order to approach a deeper understanding. This strategy aims at reaching beyond helping the reader understand the diverse and complex texts (Martin, 2003) in order to partake in a theoretical discussion that extends beyond the immediate contexts of this thesis. Methodologically, this also relies on Prior's (2004) notion that a document should be approached in terms of what it contains as a medium for thoughts and expressions, *and* the claims the text seems to make for action.

The two curricula are quite similar in structure and form. They have a similar main composition: (1) an introductory section setting out the aims and goals of education, (2) a section with the core curriculum for each school subject taught in teacher education, including pedagogical studies, and (3) a section presenting the practicum component (student teachers practicing in schools with professional supervisors). The sub-topics and issues addressed in both documents include an overview of the program structure, main objectives for the entire educational process, distribution of ECTs (the European Credit Transfer System), study methods, assessments, and exam structures. The introductory sections, the section with the core curricula for educational studies/pedagogy, and the section describing the practicum are included in the following analysis. Those components apply broadly to educational theory and practice.

To answer the question raised concerning knowledge structures and knowledge relations reflected in the two teacher education programs, the two curricula were first read inductively. An overview of the structure of both programs was developed based on initial illustrations and textual explanations in the two curricula (see Tables 2 and 3 in article 2). The focus was on the aims, goals, and content formulations in the introduction sections; the sections dealing with studies in education/pedagogy, and the sections about practicum. The selected portions of the texts from the two curricula were grouped together systematically under the following categories: selected subject matter (content); arrangement of subject

matter (sequencing); knowledge skills and attitudes to be learned (professional ideal and purpose); and practicum parts and (types of) learning activities. Then, these were compared (and analyzed) across the two programs. After that, the curricula texts were read deductively according to Basil Bernstein's analytical framework on horizontal and hierarchically organized knowledge structures, and classification and framing of knowledge. Based on both the inductive and deductive analysis, and following Prior (2004) on what claims the texts seem to make for action, two questions were discussed: How is the knowledgeable teacher constructed in the two texts?; and, What challenges can be imagined when it comes to transforming teacher education from a general professional program to a research-based program?

Throughout the whole analysis, emphasis is placed on differences, although similarities are also pointed out. Identifying differences in the curricula and the two teacher education programs is carried out because the thesis's research questions require it, but more generally, it will also provide learning opportunities for the present transition phase in Norwegian teacher education.

5.5.3 Analyzing interviews with novice teachers

Here, the teachers' story-telling process is viewed both as active construction and locally constrained meaning-making: "Stories are a powerful means of making sense of our social reality and our lives"(Kvale & Brinkmann, 2008, p. 55). The main themes for the interviews were: teacher education and their own development during the studies; the teachers' present work and challenges; how they approach and access knowledge on a daily basis; and particular challenges in the transition from education to work. They were also asked about what they regard as important knowledge for teachers. The questions were mostly formulated in such way to open the floor to reflections about professional action, rather than meta-reflections on knowledge in professional work.

The analysis was performed in several steps. First, each interview was summarized regarding core aspects of the teacher's perceptions of his/her teacher education, the type of knowledge challenges he/she faced as a novice teacher, and the types of knowledge practices in which he/she engaged. This allowed us to identify similarities and differences in their stories. This was followed by a process through which dominant themes and concerns were organized and grouped. The differences in concerns and modes of articulation were then explored in depth; this was guided by an operationalization of Bernstein's concepts. Following

Bernstein (2000), knowledge relations are embedded in discourse. By paying close attention to teachers' ways of conceptualizing challenges and experiences, the possibility of identifying knowledge structures and relations invoked in their stories emerged. The quotations were selected to figure as illustrative examples of main features across the interviews in each case. The interview material was approached as one body, meaning that the analysis focused on communalities between the two cases.

5.6   My role as a researcher

Discussions on reflexivity in the research process have informed my reflections on my role as a researcher. In this study, this means that I have aimed to engage "in an explicit, self-aware meta-analysis of the research process" to increase the integrity and trustworthiness of the whole research process (Finlay, 2002, p. 531). The ideas of reflexivity inspired me to reflect on my position, perspectives, and presence as a researcher in the research process. Kvale and Brinkmann (2008:313) formulate it differently, but they are describing the same phenomenon when they mention mastering a "third order" or a "triple hermeneutics." This means that a researcher has the responsibility for a "fair tackling" between the subjects' interpretations (policy makers/curricula texts/ the teachers), the researchers' (my) interpretation, and, finally, public interpretations (other researchers, teachers, politicians, etc.). For me, this has meant approaching the field while constantly making judgment calls regarding personal decisions, responses, and interpersonal dynamics, and constantly evaluating research methods and outcomes. In the following sections, I will expand on the mix of different identities constituting me as a researcher, my role in the interview situation, and my reflections on how to represent the teaching profession.

5.6.1   Mix of different identities

The mix of different identities that constitute me as a researcher has been important to discuss and explore during the entire research process. I am a teacher and teacher educator who is researching teachers and teacher education. I am also a participant in implementing and critically reflecting on teacher education policy and curriculum. On the one hand, I want the interviewees to identify me as a teacher and teacher educator with insider experiences with and opinions on the teacher profession. On the other hand, I want to lay the ground for the participants' own independent stories and experiences. I have had to constantly scrutinize

the challenges of not mixing too much of my own histories into the interviews, and I have taken care to ask relevant and important question for the teachers. As a professional researcher, I have tried to strike a balance in friendliness: I am friendly, but not a friend. My aim has been to be understanding and empathetic, but not to project my own meanings and feelings onto the interviewees.

Reflecting on my role as a researcher was different when it came to the policy makers. According to Bogner and Menz (2009, p. 68), the interaction situation in an expert interview can challenge the interview strategies rather extensively, depending on how the expert views the interviewer. This can vary from valuing the interviewer as a co-expert, a lay-person, an authority, an accomplice, or a potential critic. I experienced that I was valued as a person with relevant knowledge in the field and as someone who was able to ask qualified questions. Overall, it seemed that my questioning was experienced as offering very little threat or criticism. I think that this is due mainly to three reasons. First, I formulated the questions in order to emphasize insider-perspectives. That opened the door for personal experiences and reflections, and put them in the forefront. Second, I experienced that academics and bureaucrats conceive PhD students as less intimidating than 'real' researchers. Finally, I guess that since my institutional affiliation is in teacher education and not in political science, I was met with less suspicion of having hidden agendas.

In the interviews with the policy makers, I avoided as far as possible discussing issues concerning national comparison. Comparative studies seem to interest a broad audience these days, and policy makers are certainly no exception. My role as a researcher was to contribute to the experts' formulation of their different reflections, understandings, and constructions based on their experiences from their specific contexts. My aim was to separate these conceptions from other common and lay statements and understandings. The comparison was mine, and came later in the process, through the analysis of the material. The consequence was that I developed slightly different profiles in the interview guides for the two contexts, although both centered on the same topics. I had set these research ideals beforehand, but as Skaerbaek (2007, p. 69) emphasizes, we have to "recognize the link between the imperfection of the researcher and the researched." Even in a well-planned interview, things do not necessarily go as planned.

5.6.2   The interview situation

I have already elaborated on different aspects of interviewing, but a few words on the interview situation and my role as a researcher are necessary. The balancing act between being an engaged interviewer, making the most out of the situation, and "helping" the participants to contribute broadly, on the one hand, and asking leading questions and bringing too much of one's own experiences into the interview situation, on the other, demand a researcher who is continuously ethically alert. As mentioned, I had a lot of personal experience in the field I researched. My anecdotes could set off the participants and inspire them. They could also, however, restrict or even put a deadlock on the interviewees. Being on ethical alert on such issues is only possible if the researcher is well-prepared, knows why questions are asked, and has the possibility to follow the participants in their contributions. Another aspect that calls for attention is that any study is an intervention, although to varying extents. My research topic is not very sensitive. The interviews consisted of personal reflections about the interviewees' professional lives. My impression, based on the responses from the interviewees, is that they enjoyed and learned from scrutinizing their own work, practice, and reflections. Here are some examples of teachers' comments on the interview process:

> I think that it has given me some perspective on myself, where I am as a teacher now, because when I need to explain it to you I need to think about where I am now, how is the situation—so I think that perhaps I haven't thought about it before. I need sit down for a minute and think about what we are doing in the class, but I don't sit down and think where I am as a teacher. (TF 3-2) [2]

> I think it has been very all right. And… I did think about it afterwards. I thought that NOW was the time to sit down, gathered my papers and books and start reading again. But as I said I didn't. I wish I did, because… I think it has been exciting, and our conversations have started an exciting thinking process. (TN 4-2)

My hope is that they take aspects of these experiences with them into their further practice. The policy makers also expressed the importance of asking these questions and investigating this topic. To my knowledge, the participants found the questioning meaningful and not too sensitive, and none of them withdrew from the study.

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[2] The interviewees are marked as TF 1-1, 1-2 etc. (teacher Finland number 1, first interview, teacher Finland number one, second interview) and TN1-1, 1-2 etc. (teacher Norway number 1 first interview, teacher Norway number 1, second interview).

5.6.3   Representing the teaching profession

A challenge when doing interview studies is always the move from oral representation and constructions to analyzing written text. When doing transcription verbatim, the context, body language, facial mimicry, and gestures disappear. Kvale and Brinkmann (2008) and others suggest doing a *thick descriptio*n, that is, to situate events and statements in their context and proper cohesion. They also emphasize using particular examples from the material in order to move the readers closer to the initial statements and intentions. These same principles are valid when analyzing policy texts.

Being a researcher representing one of the cases implies possible biases. These biases might be strengthened by my mixed identity as researcher and teacher. I could get in a defensive position or take the view that 'the grass is always greener on the other side.' Since Finland has a particularly good reputation and often is framed as an ideal model when it comes to education, my biases were important factors to scrutinize and review. The biases could lead my research in a quite normative direction and make it less trustworthy. Language is a strong force in representing people. I have conducted the interviewees in Finland in a language (English) that was neither the interviewees' nor my first language. During the interviews, time was taken to understand, define, and discuss different concepts in order to secure a common ground in the communication and avoid variation in interpretation and understandings (Métais, 2001). The Norwegian excerpts were translated into English. I have slightly modified the language in some of the excerpts without changing the voice of the interviewees. This was done in order to present and represent the policy makers and the teachers from both cases in an equal and respectful way.

Another important issue for me in this research has been that research-based knowledge developed with teachers can be part of shaping the identity of a profession. Such knowledge can be institutionalized, e.g., in a society, in a profession, or in a research community. As a researcher, I am part of this institutionalization of knowledge on teachers and teacher education. The concepts and categorizations I use and develop can be part of constituting communication on the field. In Norway, the teacher profession is not among those with the highest public recognition, and research-based and unbiased knowledge is important in order to strengthen teachers' professionalism. Categorization is contextually and culturally produced, and these are the basis for communication with the social world. Teachers constitute a category that is constantly exposed to categorization by a broad

audience. Lay people very often have an opinion on how and what a teacher should do and know. The media are also a strong force in categorizing the teaching profession, which should not be underestimated (Mäkitalo & Hertzberg, 2006). Politicians have quite strong opinions on teachers. As part of the research community, I have a much greater responsibility than these groups in characterizing the teaching profession. An interview-based study is an attempt to give the teachers themselves the possibility of categorizing their understandings and work (internal categorization). Nevertheless, as a researcher, I have the power to select focus, theoretical framework, and analytical approach, which in the end transforms and constitutes individuals externally. This is the power of research, and the researcher stands in this crossfire of interests. In the end, then, it is the consequences for the teaching profession that is important, even though I have not set out to change anything directly. But the way, I communicate and represent this new knowledge on the field as something that may be part of an institutional way of understanding teacher knowledge in the future. Categories and identities are reciprocally formed (Mäkitalo & Hertzberg, 2006). When teachers are referred to in specific ways over time, this will inflict itself on their self-perception.

5.7 Securing scientific quality

A thesis is supposed to have a separate section about how the scientific quality of the research has been secured. My stand is that the whole idea of a separate chapter on methodological issues is to report on the transparency of the research process and securing scientific quality. The idea of reflexivity has to guide the entire process of reporting methodological choices (Kvale & Brinkmann, 2008). If this is the case, all of the sections in the chapter on methodology concern securing scientific quality. However, the issues of validity, transparency, reliability, and generalization also need to be explicitly elaborated on. *Validity* is a complex and manifold term. Important questions that are asked to secure validity in this research are: Are the findings trustworthy (Whittemore, Chase, & Mandle, 2001), and can they be related to how other research constructs the phenomenon? Are the findings sufficiently authentic? Would I feel secure enough about these findings to construct social policy based on them (Cuba & Lincoln, 2005, p. 205)? Lincoln (1995) argues that the criteria for judging the quality of qualitative and interpretive research are fluid and constantly emerging. In an interpretive approach such as this one, validity cannot be established through

referring to 'an entity discovered out there.' Validity is strengthened through a transparent exploration of statements and beliefs explored in text and talk.

This chapter started out by giving an outline of the research design, and by identifying the object of analysis, the research approach, and strategy. This was done to secure transparency. *Transparency* of the procedures and the research process is necessary to secure that all stages the intentions of the research are exposed. The method and material are described, and the analytical tools and theoretical framework are explicitly discussed. This is all done to ensure a necessary professional distance from the empirical material. Such transparency also assists in carrying out accurate and representative work. The aim is to "come clean" about standpoints and positions (Lincoln, 1995, p. 280). Lincoln calls this "communicative validity" (1995, p. 199). Since this is a dissertation that contains a collection of articles that deviate somewhat from one another, is has been important to specify the different analytical strategies in each. This is provided for in this extended abstract, as well as in each article. Another important 'criterion' for securing validity has been to lean on my research *community as arbiter of quality* of the research (Lincoln, 1995). By 'community' I mean both the more local and physical community in research groups, at conferences, and with reviewers involved with research on teacher education in both country contexts, as well as the recognized rules and procedures from research literature within my field.

Reliability is a question of the consistency and trustworthiness of the research design and findings. It depends upon the quality of the empirical material and conceptualizations, the coherence of the arguments, and the depth of the analysis. I have already described aspects that are important for reliability, such as, e.g., the reflection on the processes of interviewing, my role as a researcher, and the relationship between research design and research questions. One important aspect is the richness of the empirical material. Reliability in this thesis is not grounded in the representativeness of the material and sampling, but in the voice the empirical material gives to the phenomena studied. The interviewees talked and engaged, and through this they gave a rich description of themselves that enriched the material. Moreover, in-depth analyses of the curricula documents were conducted. Another important aspect is reflexivity throughout the research process, thick descriptions of situations and contexts, and extensive use of quotations when documenting analysis and findings.

I have also presented and discussed the empirical material with other researchers to check and secure my interpretations. Here, I want to focus on two additional issues:

transcription and coding. Most of the transcriptions were conducted by others. However, I listened to all of the interviews, and checked and corrected the transcripts. As I have explained above, both inductive and deductive analytical strategies were used, both on the interview texts and with the curricula documents. Seale (1999, p. 154) argues that "coding that fixes meaning too early in the analytic process may stultify creative thought, blocking the analyst's capacity for seeing new things." In this research, it was very important to let the initial phases of the analysis remain quite open and not let the analysis become over-theorized. Therefore, the analysis started out more like indexing (Seale, 1999) (writing summaries, grouping together texts thematically, and so on). This was followed by the narrowing and combination of codes and by relating them to theoretical conceptualizations in each article.

Generalization does not apply very well to particularization. However, in qualitative research, two forms of generalization are usually discussed: theoretical/analytical and case-to-case generalization (Miles & Huberman, 1994, p. 279). First, the findings of this study cannot be generalized to a population (Norwegian and Finnish teachers), but the differenced revealed in article 3 can nevertheless be related to theoretical perspectives concerning possible implications of different ways of constructing knowledge for the teaching profession (theoretical generalization). A case-by-case generalization is also made possible by a thick description of one case, followed by the replication of the research design. I would argue for and expand upon three specific aspects of generalization that are applicable to the present thesis. Two of these broadly apply to case-by-case generalization, and one applies to theoretical/analytical generalization.

First, the design is combined in such a way that it will be relevant for discussions and comparisons in many other cases and contexts. Policy making, curricula texts for teacher education, and novice teachers are, in most national contexts, key aspects of the construction of knowledge for the teaching profession. In most country contexts, politicians, researchers, and practitioners would be able to relate to the design, which allows for the emphasis of the structures and relations involved. How these structures and relations can be understood is, of course, an empirical question. Secondly, the two teacher education programs compared in this study can be related to other teacher education programs internationally. Third, even though the findings of this thesis cannot establish causal explanations, the findings give reasons to argue that there is a connection between policy making, curricula content, and novice

teachers' knowledge relations. These findings could be transferred analytically beyond this particular research.

6 Summaries of the studies

6.1 Article 1

In this article, policy processes in the area of teacher education in Finland and Norway are examined. The focus is on the policy making processes with respect to initial teacher education. Particular attention is paid to the roles and statuses of different actors participating in the processes and the effects of the distribution of authority among the participants. Contemporary policy processes are analyzed through a set of interviews with profiled and experienced policy makers operating in the area in question. The aim of this article is to contribute to our understanding of the way in which the knowledge basis for teacher education is influenced by different stakeholders in the policy-formation process *and* to contribute to a discussion on whether Finland and Norway represent different traditions in this respect.

The conceptual framework of Gornitzka (1999) on comparative policy research in higher education is used as an analytical tool. A theoretically structured comparative policy analysis was chosen because it can provide a sharp critical lens for examining teacher education policymaking actors who are involved in policy making and the rules that govern the processes.

The following three questions are addressed in this article: *What kinds of actors can be identified in the teacher education policy making processes in Finland and Norway? How can the relationship between the actors involved in these teacher education policy making processes be understood? What kinds of structures and frames for the knowledge basis in teacher education policy making can be identified?* Structures and frames are understood here as the rules and regulations set by government and negotiated forward by the stakeholders through the policy process.

This analysis clearly shows that Norway applies a *state steering model* for developing, regulating, and steering teacher education policies and practice, while Finland has developed a *state supervision model.* The Norwegian *state control model* for steering teacher education signifies governmental and political standards set for access to and control over policy processes. The level of governmental interference is high, and political ideology comes to the forefront when changes are initiated. This kind of process indicates solid confidence in governmental actors and agencies in policy making and a strong belief in a change of policy being a change in practice. The Finnish *state supervision model* is based on government-initiated policy processes with a strong emphasis on academic autonomy. The government and political bodies only monitor, supervise, and give feedback in the process. A salient trust in the field of practice for setting the standards both for the process itself and the content of the policy is apparent.

At the core of the findings of this analysis lie two issues. To begin with, policy processes are shaped by the contexts in which they occur, and second, educational policy is an expression of societal norms and beliefs. The latter concerns the content of the policy and also the given *and* negotiated 'space of policy making.' This analysis clearly contributes to the argument that national contexts can still be decisive for policy making, in this case, the area of teacher education. The analysis of the Finnish model shows a broad, open, and time-consuming academic process, while the Norwegian one displays a tight, short, cyclical process that is steered by political ideology. The Finnish case shows interdependence between political interests and researchers/research work, resulting in trust and the possibility of mutual influence. Research knowledge is put at the forefront in the processes. The Norwegian model shows distance and a gap between policy-formulation bodies and the field of practice, and that some kind of imbalance or "crisis" often initiates the political process of policy making. The Norwegian model is quite common for higher education in Western Europe. However, this study suggests that the research-based model developed through dialogue between professional higher education programs and faculty who are provided with a great deal of professional autonomy is an appropriate alternative to political and bureaucratic steering. Who the participants are and the ways in which they are participating is conclusive.

6.2   Article 2

This article analyzes how knowledge is organized in two different types of teacher education programs, identified as 'research-based' and 'general professional' programs. The first type is often associated with Finland, where teachers have been educated through this model since the 1970s. Until recently, the second type has been common in the Norwegian educational system. In 2010, however, a new model was introduced in Norway that offers distinct programs that educate prospective primary and lower secondary school teachers and that has been pronounced a research-based model. In this reform, the Finnish model was a core source of inspiration (Østrem, 2009).

Recent research shows that the composition and organization of knowledge in teacher education curricula is complex and manifold, and it varies greatly among different teacher education programs. The inclusion and construction of knowledge in teacher education curricula are not straightforward processes; in fact, the selection and organization of knowledge constructs rather different teacher education curricula content, and to some extent, the professional knowledge basis of teachers as well. This article aims to contribute to these issues by examining the 'the general professional program' from Oslo University College (2005) and 'the research-based program' from the University of Helsinki (2005). The latter curriculum is identical to the curriculum at the University of Helsinki, effective from 2008–2011.

The questions raised in the article are as follows: *What characterizes the two programs in terms of knowledge structures and knowledge relations? What are their implications when it comes to the construction of the knowledgeable teacher?* Based on the differences identified through the former questions, the article also discusses *what challenges can be imagined when it comes to transforming teacher education from one model to the other*.

The two curricula are analyzed and compared using Basil Bernstein's concepts of horizontal and hierarchical organized knowledge structures as well as classification and

framing of knowledge. Horizontal and hierarchical knowledge structures as analytical concepts offers the opportunity to analyze how knowledge is organized and sequenced,. Classification allows for an illumination of the insulation between knowledge domains, while framing deals with boundaries between knowledge domains and non-school knowledge, how knowledge is communicated; e.g., whether language is specialized versus use of everyday language, and whether knowledge is context-dependent or context-independent. The strength of Bernstein's analytical concepts is that they allow for the objectification and operationalization of knowledge (Luckett, 2009).

The analysis of the curricula documents shows how the two programs reflect different epistemological and ontological positions, which is crucial in the discussion during a transition phase from a general professional program toward a research-based program. The general professional program emphasizes contextual coherence, which evolves when the curricula content is tied to the professional context. Conceptual coherence increases the more the curricula are conceptually tied to the core of the academic discipline. Both coherence and professional aspects have to do with how the curricula are composed in terms of epistemic and social knowledge relations. The general professional program emphasizes social knowledge relations and individual educational trajectories, while the research-based program emphasizes epistemic knowledge relations and more common and explicit educational trajectories. This shows that even between the two programs of teacher education, a different "grammar" of the discourse on professional knowledge occurs and different "re-contextualization rules" (Bernstein, 2000) are brought into play. Knowledge is legitimized differently. The former asks immanent questions and legitimates knowledge claims on the basis of empirical evidence and opens the space for the knower's individual dispositions, while the latter asks more transcendental questions in search of legitimacy through theorizing and scientifically based decisions (Luckett, 2010; Maton, 2007). The two represent different solutions for how teachers' professional knowledge is "maintained, reproduced, transformed and changed" (Maton, 2007, p. 96). It is argued that the transition from a general professional program to a research-based program, as currently proposed in Norway, is more complex than changing the curriculum text. It calls for a rethinking of deep-seated issues in the wider educational context because it concerns the very rules for re-contextualizing knowledge for educational purposes.

6.3   Article 3

This article examines knowledge relations as they come to the fore in Finnish and Norwegian novice class teachers' conceptions of their work within the context of in-depth interviews. By targeting primary school teachers who have graduated from a 'research-based teacher education program' at the University of Helsinki, and a 'general professional teacher education program' at Oslo University College, we reveal similarities and differences in their relations to knowledge. The overall research problem is: *What characterizes relations to knowledge among Finnish and Norwegian novice teachers?* To investigate this, we examine how the teachers describe their work and articulate their concerns, as well as the epistemic resources upon which they draw. Based on the similarities and differences between both groups of teachers, we also discuss how their relations to knowledge are related to the epistemic profiles of their teacher education programs.

To explore the question above, concepts and perspectives from Bernstein's sociology of knowledge are used. This perspective takes as its primary premise that knowledge comes with structuring forces, which also constitute professional identities and concerns. At the same time, "knowledge itself" is regarded as socially organized when presented to and approached by human beings. In this article, Bernstein's conceptual framework on the *classification* and *framing* of knowledge, as well as a selection of concepts from his theorization of the *pedagogical* device and social organization of knowledge in pedagogical practice (*singulars* and *regions*), are used. For practitioners, relationships with knowledge are embedded in discourse (Bernstein, 2000), and narratives are identified as important mediators through which relationships with knowledge are developed and expressed (Baldwin, 2010). By paying close attention to novice teachers' ways of conceptualizing their concerns, the article explores the relations they have to knowledge and how knowledge discourses are activated as resources to make sense of their work.

The first reading of the interviews revealed a range of common themes and concerns, but further analysis showed a certain pattern of differences between the two groups. The Finnish teachers' knowledge relations are marked by a stronger classification and framing than the knowledge relations of the Norwegian teachers. While the teachers' knowledge relations in both cases are founded in a regionalized knowledge domain, the Finnish case seems to display a stronger disciplinary or epistemological core, based in educational psychology. With reference to Muller's (2009) distinctions between contextual and conceptual coherence, we find that the Finnish teachers describe a field of knowledge in which conceptual coherence is given more emphasis, while the Norwegian teachers' stories are dominated by contextual coherence. Knowledge relations brought to the fore by the Finnish teachers may allow for clearer distinctions to be made in their ways of understanding problems of practice than those identified among the Norwegian teachers, which may lead to more bounded professional identities grounded in epistemic relations.

How, then, can these disparities be related to differences in the professional educational programs? As Afdal (In press) shows, the Finnish research-based program is characterized by conceptual coherence (Muller, 2009) in the sense that the content was conceptually tied to the language of academic disciplines, with emphasis given to educational psychology and to certain subject matter domains. The Norwegian general professional program reflected contextual coherence in the sense that content was conceptually closer to the field of professional practice and to the variegated social and institutional relations in which teachers' work is embedded. A critical issue in professional practice is the capability of defining the problem at hand in ways that are precise enough to provide directions for action or further exploration. The 'definability' of a problem may thus be understood as dependent upon its relation to a specialized knowledge discourse. The analysis in the present article supports the assumption that teachers educated through the first type of curriculum are more likely to identify with a common knowledge basis, while the educational programs that emphasize contextual coherence may foster greater diversity among teachers whose work is guided by a more dispersed and individualized knowledge basis. Hence, it also adds to Smeby (2012) finding that ways of engaging with knowledge during teacher education seem to continue in working life. As discussed above, a core issue in this regard is not only the types of knowledge forms and resources to which students are introduced, but also the types of discourse in which they engage, and the extent to which they develop specialized languages to address professional problems.

7 Discussion and concluding remarks

In this final section of the dissertation, I will first highlight the findings of the thesis, that is, explicate the findings across the three articles. Thereafter, new insights into and implications for policy development and teacher education will be discussed. The thesis will close with some retrospective and prospective reflections concerning this research.

7.1 Constructing knowledge for the teaching profession

The initial research problem that generated the three articles constituting this thesis was: *How is knowledge for the teaching profession constructed?* Emphasis has been placed on the important processes and relations that frame and develop teachers' professional knowledge. As previously underlined, one thesis, even though it includes three analytical perspectives, cannot account for and analyze all structures and relations involved in constructing knowledge for the teaching profession. Only some relations and structures within and between *policy making*, *curricula content*, and *novice teachers* were selected because they are recognized as decisive for constructing knowledge for the teaching profession. Relations and structures constitute interrelated fields and levels of activity where basic premises for teachers' professional knowledge are constructed. As the literature review shows, there is a lack of systematic studies on policy making for teacher education, knowledge orientations in teacher education curricula, the effects of the epistemic profiles of teacher education programs, and on structures and relations between these different contexts of activity in constructing knowledge for the teaching profession.

Article 1 shows that, policy making processes for teacher education are conducted quite differently in two different country contexts within the Nordic region. The analysis of the Finnish policy making process shows a broad, open, and time-consuming academic process, while the Norwegian one displays a tight, short, cyclical process that is steered by political ideology. The Finnish case shows interdependence between political interests and researchers/research work, resulting in trust and the possibility of mutual influence. Research knowledge is put at the forefront in the processes. The Norwegian case shows distance and a gap between policy-formulating bodies and the field of practice. Often, some kind of imbalance or 'crisis' initiates the political process of policy making. The analysis shows that,

as an overall policy ideology, Norway applies a *state steering model* for developing, regulating, and steering teacher education policies and practice, while the Finnish policy approach can be characterized a *state supervision mode* (Goedegebuure et al., 1994). The Norwegian model for steering teacher education denotes that governmental and political standards are set for access to and control over policy processes. The level of governmental interference is high, and political ideology figures at the forefront when changes are initiated. This kind of process implies solid confidence in governmental actors and agencies in policy making and a strong belief in a change of policy being a change in practice. The Finnish model is based on government-initiated policy processes, with a strong emphasis on academic autonomy. The government and political bodies only monitor, supervise, and give feedback in the process. A salient trust in the field of practice for setting the standards both for the process itself and for the content of the policy is visible.

Curricula content at the institutional level in both Finland and Norway is developed in close congruence with national policies (National curriculum in Norway, National recommendations in Finland) for teacher education. Given the findings from articles 1 and 2, it could be argued that the curricula content reflects how the policy making has been conducted, who has been participating, and the character of the underlying processes. The theoretically structured content analysis shows that the Finnish research-based program emphasizes subject didactics and research competence. The program is sequentially organized and formulated in scientific language. This suggests a more pointed focus, aimed at integrating the complex knowledge field through educational studies and research competence. It manifests the teacher knowledge basis as scientific, unique, and distinct from everyday knowledge. The research-based program provides opportunities for an inquiry-oriented attitude towards the teaching practice. Teacher education aims not only for prospective teachers to understand a more or less given practice, but also to develop, renew, and change the teaching practice based on existing and developing educational research.

Norwegian policy for teacher education has been developed lately through frequent politically steered processes that reflect political need for improving the quality of Norwegian teachers. In the general professional program, school subject studies are emphasized; the curricula content is constructed segmentally, is practice-oriented, and is formulated mainly in everyday language. The general professional program aims to educate professionals to adopt an interpretative role in the field of practice. The most important capability for a teacher

(according to the curricula document) is to understand and interpret the practice of teaching in a historically continuous and ongoing context. The underlying assumption seems to be that the teaching profession is developed through subject knowledge and through continuity in the interpretations of and reflections on practice. The research-based program (with an emphasis on conceptual coherence, stronger disciplinary focus, and more scientifically developed concepts) is more likely to educate professionals with a strong academic identity. According to Bernstein (2000) and Muller (2009), this will influence professional identity. These professionals (in this case, teachers) will typically be better qualified to bind the social to the cognitive and to create innovative professional environments. The contextually coherent general professional program, on the other hand, has a weaker disciplinary foundation and promotes identities founded in the professional practice, rather than in the academic knowledge domain.

So how have these two different models of teacher education programs influenced novice teachers? The analysis in article 3 shows that the Finnish teachers' knowledge relations are marked by a stronger classification and framing than the knowledge relations of Norwegian teachers. While the teachers' knowledge relations in both cases are founded in regionalized knowledge domains, the Finnish case seems to display a stronger disciplinary or epistemological core, based in educational psychology. A critical issue in professional practice is the capability of defining the problem at hand in ways that are precise enough to provide directions for action or further exploration. The 'definability' of a problem may thus be understood as dependent upon its relation to a specialized knowledge discourse. As the analysis in article 3 shows, the knowledge relations brought to the fore by the Finnish teachers may allow for clearer definitions than those identified among the Norwegian teachers. The differences described also have implications for the construction of professional identities. Such identities may take different forms, relative to the type of knowledge discourse and its mechanisms of recognition. Finnish teachers seem to be more strongly connected to specialized disciplinary knowledge, which may lead to more bounded professional identities grounded in epistemic relations. The Norwegian teachers in article 3 express closer relations to the social dimensions of their work, which emphasizes problems emerging in the field of practice. In both cases, however, the teachers' concern for their students and their practical work is evident. The difference lies in their conceptual framing of these issues and how they position themselves as professional, knowledgeable actors in the field of practice. So how can this be understood in relation to the epistemic profiles of their respective teacher education

program? Although the findings from articles 2 and 3 do not allow for causal conclusions, the differences resemble previously identified characteristics of knowledge organization in the relevant educational programs. The analysis in article 3 supports the assumption that teachers educated through the first type of curriculum are more likely to identify with a common knowledge basis, while educational programs that emphasize contextual coherence may foster greater diversity among teachers whose work is guided by a more dispersed and individualized knowledge basis.

The overall findings of this study (as presented in this thesis) show how the construction of knowledge for the teaching profession involves contextually and societally embedded processes, and that a complex set of structures and relations are involved. The epistemic profiles of the teacher education programs can be related to who has been participating in the policy making processes, the constitution of the policy environment, and the wider institutional structures. The construction of knowledge for the teaching profession is clearly influenced by the epistemic profile of the teacher education program, as well as novice teachers' professional orientation and knowledge relations in the teaching practice. The analysis of these two particular cases allows for the comparison of academically versus politically steered policy processes (representing two different steering approaches: state supervision versus state steering), conceptual coherence versus contextual coherence in the organization of knowledge in curricula texts, as well as the examination of knowledge affiliation among novice teachers in Finland and Norway, respectively. This means that the epistemic profiles of the teacher education programs were reflected in the novice teachers' knowledge relations. The overall study shows that the construction of knowledge for the teaching profession is constituted by deep and complex epistemic structures, and suggests that transforming teacher education involves far more comprehensive and time-consuming processes than merely changing policy and curricula texts.

In the next two sections, I will elaborate on some new insights and possible implications of these findings for policy development and teacher education programs, respectively.

7.2   Insights in policy development and its implications

The Norwegian model for developing higher education policy is quite common in Western Europe. However, as this study shows, a research-based model developed through dialogue between professional higher education programs and faculty who have been provided with a great deal of professional autonomy is a possible alternative to political and bureaucratic steering. In this section, I will discuss six important and interrelated issues raised in this thesis that concern policy development for teacher education: *historical structures*; *actors and voices*; *the knowledge basis for policy making*; *international trends*; *the relationship between changing policy and changing practice*; and *legitimacy and trust in policy making*.

This study shows that in order to fully understand policy making, it is necessary to view such processes in the light of *historical and societal structures*. Following the historical lines of the two cases drawn in chapter 2, quite different images appear regarding coherence, consistency, and linkage over time in policy development for teacher education (Gornitzka, 1999). Norwegian teacher education has deep roots in the seminarium tradition, which strongly emphasizes 'the culture of good teaching practice' and has a somewhat loose affiliation with academic traditions and research (Kvalbein, 1999; Rasmussen, 2008). At the same time, societal structures and a political heritage focused on equality through state steering and control seem to have led to a tradition with rapid, politically steered reforms of teacher education, a strong belief in policy documents as a tool for changing the practice of teacher education, and decreasing opportunities for teacher educators to influence teacher education policies. In the latest reform, this has resulted in a detailed national curriculum, which was developed in strong congruence with European recommendations. The curriculum employs 'learning outcomes and levels' that describe what a student teacher should know, understand, and be able to do.

Finnish teacher education is built into a more general academic tradition (Jakku-Sihvonen & Niemi, 2006b; Maaranen, 2009) within the university structure. Political and societal structures are less focused on policy shifts and policy documents. The government and other political stakeholders seem to take on a mainly monitoring role. They leave the responsibility for teacher education policies to teacher educators and researchers in the field.

The policy environment is open to slow changes, based on new research on and evaluation of different topics concerning teachers, teaching, and teacher education. In the latest reform of teacher education, this resulted in national recommendations, which are included in a research anthology focusing on updated and relevant issues and topics concerning Finnish teacher education.

The diverging historical structures of policy making in Finland and Norway have allowed for differences in *actors* involved and *voices* that get to be heard in the respective processes. Actors and voices in the processes involve several implications for policy development. First, it concerns what kind of *questions* are allowed to be asked (Cochran-Smith, 2001) and what kind of *rhetoric* dominates the processes (Cochran-Smith, 2005). Cochran-Smith (2001) describes important questions that have been driving teacher education development. I would argue that, due to the differences in actors allowed in the policy processes in Finland and Norway, different questions have been asked and emphasized and different rhetoric has been legitimated. In the Finnish case, key questions follow international and national research trends. Dominating voices are researchers and faculty of teacher education. Key issues include 'attribute questions' (attributes and qualities of good teaching and good teacher education), 'effectiveness questions' (what are the most effective teaching strategies and which teacher education procedures are the most effective in that respect), and overall 'knowledge questions' (Cochran-Smith, 2001), which emphasize what teachers should know and be able to do.

In the Norwegian case, research has been less systematic; the voice of the teacher educators is weaker, and political rhetoric has dominated over the years. This has culminated in the current reform, in what Cochran-Smith calls 'the outcomes questions.' These questions ask for evidence of effectiveness and accountability of teacher education programs and procedures concerning teachers and teaching. The political and bureaucratic *rhetoric* in Norway has been dominated by what Furlong et al. (2000) refer to as *both neo-liberal and neo-conservative voices*. Neo-liberal voices emphasize efficiency and accountability, while neo-conservative forces stress preservation of a refined cultural heritage. The strong seminarium tradition and the presence of 'bildung' as an ideal for the development of teachers seem to have supplied both the academic and political rhetoric with arguments for emphasizing educational heritage, school-based, and apprenticeship-based development. However, over the last few decades, the political environment has also moved educational

policy and rhetoric towards what commonly is understood as a neo-liberal trend in Europe (Furlong et al., 2000). Concepts and ideals like efficiency, outcome-based developments, basic competencies, and accountability dominate, and the language resembles that of the corporate world and market-like logics.

The situation in Finland has been quite different. In Finland, *the voice of the profession* has been strong and influential in the rhetoric-driven teacher education policies. According to Furlong et al. (2000), this voice has a tendency to be obscured because of the unsettled definition of who and what the profession is. It seems that in the Finnish context, the profession has managed to appear with a more unified and stronger voice than that of Norway. Multiple contextual and historical factors explain this. One important factor that this study documents, however, is the extensive and thorough empirical research that has been conducted on teachers and teacher education by teacher educators over the last three or four decades in Finland. Important parts of this research are being shared (and sometimes also conducted together) with students of teacher education, providing the profession with resources for developing a voice.

This study shows that the selection of actors involved in policy making is influencing the voices that are brought forward and the rhetoric of the policy making. However, the selection is also influencing the *knowledge basis for policy making*. A key question is what kind of knowledge is governing the direction of educational policy (Grek & Ozga, 2010). That is, on what kind of knowledge do the actors who are designing and carrying out the policy making process base their decisions and formulations? What is included, and what is excluded? I would argue that Norway is on its way toward developing what can be identified as *evidence-based policy making* for teacher education. An evidence-based approach has a strong focus on pupils' achievement tests, an outcome-based focus in education, and a belief in new policies and reforms in teacher education programs. Politically and bureaucratically steered policy making is more likely to be affiliated with general economic and societal trends and developments, than to base its suggestions on educational theory and research. Finland, on the other hand, has developed a *research-based policy making*, which allows recent research developments to come to the forefront in policy making. This is only possible due to the fact that the researchers and teacher educators are developing the policies. As discussed earlier, the knowledge basis for teachers and teacher education is particularly complex and also sometimes contradictory. It is not easy for political actors to relate to research-based

knowledge on teachers and teacher education. Researchers and teacher educators, on the other hand, are specialized to approach such a knowledge basis.

The discussion so far on structures, actors, voices, and dominant policy ideology for policy making in Finland and Norway shows that the two countries have chosen different ways of developing teacher education policy. Finland is often suggested by, for example, OECD and EU, as a country that is leading the way and as a good example in education and educational policies. Sahlberg (2011) argument about Finland choosing its policy agenda in a rather different way than most Western countries is relevant in this discussion. Finland is not just adapting to *international trends* of GERM (The Educational Reform Movement), he argues. Finland has had high confidence in the researchers, teacher educators, teachers, and the profession in general in developing policies. They have allowed systematic evaluation and research to gradually influence the policies. Finland does not formulate policy for teacher education through an outcome-based structure. The focus is rather on evaluation, research, an inquiry-oriented approach, and the ability to analyze and combine different knowledge fields and disciplines. Norway, on the other hand, has developed towards more standardization of education, increased focus on basic competencies, teaching for predetermined learning results, test-based accountability based on students' results, and increased control of teachers' work and schools. These are all important features in a global neo-liberal educational policy trend (Sahlberg, 2011). What, then, are the differences between the Finnish way and the GERM's way for teachers, teaching, and education? According to Sahlberg (2011, p. 180), GERM's way changes the nature of teaching from an open-ended, non-linear process of mutual inquiry and exploration to a linear process with causal outcomes. It shifts the focus from creative processes to efficiency, and distances teachers from the moral purpose of their profession. Furthermore, GERM's approach increases teaching for tests and bureaucracy in schools. These are all features that the Norwegian teachers brought forward in this thesis. I have argued that the two selected countries respond differently toward international trends in teacher education policy. Even though Finland is put forward as a good example in a European context, Finland seems to have chosen a path of its own. It could be argued that Norway has, to a greater extent than Finland, adapted to neo-liberal forces and European recommendations. Gornitzka and Masssen (2011), on the other hand, argue that the differences between Finland and Norway is not necessarily whether or not to follow international policy trends, but in how and what "instruments" to use. As article 1 shows, the policy makers in Finland decided to be selective in adopting the Bologna recommendations.

They wanted to preserve national, historical, and structural traditions in the policy and educational environment in Finland, which has been proven successful. Norway has, on the other hand, adapted closely to the European Qualification Framework. This supports Gornitzka and Maassen (2011) argument that global policy scripts do not result in isomorphism in educational policies. National, historical, and structural factors are still decisive in policy making for teacher education.

As the study underlying this thesis shows, the two different models for developing teacher education policies are rooted in deep historical and societal structures. The models also represent what Rasmussen (2008) identifies as different 'logics' when it comes to teachers' professional knowledge. Knowledge in the two cases holds different premises, which are related to different criteria and preferences. Professional knowledge in the seminarium tradition holds the same logic as the theories of "praxis," while professional knowledge in a research-based teacher education program holds a logic closer to that found in the science of education. These two knowledge 'logics' are consistent with the findings in article 2. They have consequences for how to understand policy change for teacher education. It has to do with how *the relationship between changing policy and changing practice* is understood. Changing the profile of the teacher education program from a 'general professional program' to a 'research-based program' cannot be carried out simply by changing policies and curriculum texts. Policy making processes cannot be viewed as linear processes from formulation to implementation. Transformation involves deeper and more fundamental structural changes in how policy making processes are designed and structured. Transformation concerns the role of the state, the actors that are allowed into the processes, the power relations in the processes, whether changes are coming from within or above, and how and on what grounds the changes and new initiatives are founded. It concerns the wider policy ideology underlying reform initiatives. Historical and societal structures and traditions are, according to the present study, strong forces in processes of change and should be exposed to careful examination, evaluation, and discussion. Transformation involves deeper structural changes for teacher education and teacher educators. I will return to this in section 7.3.

The final issues I will raise concerning possible implications of the findings in this thesis for policy making in teacher education are *legitimacy* and *trust.* The legitimacy of policy processes in the field of practice can affect the outcome of policy processes (Enders,

Jeliazkova, & Maassen, 2003). The policy makers in both cases discussed legitimacy in the interviews. They were talking about both legitimacy within the policy processes and legitimacy in the implementation process. As article 1 shows, teacher educators' construction of and participation in the reform and the academic autonomy they were granted by the state were crucial for the trust in the reform in Finland. The teacher educators were the main actors in the policy making and implementation processes, which creates trust in the policy content and the reform. The state and the political environment took on a monitoring role, which created an environment of mutual trust in the policy process. The Norwegian policy makers commented on the rapid reforms of teacher education the last three decades and argued that the reforms had led to few changes in teacher education. Their argument was that the extensive and rapid reforms lacked legitimacy in the context of teacher education. Furthermore, the field of practice had little trust in the policy making processes. These findings show that the role the state plays and the distribution of authority in the policy making processes are decisive factors. There are also reasons to argue that legitimacy for reforms in teacher education is achieved when teacher educators are trusted to carry out the reform process themselves. In the next section, I will discuss insights and implications of the findings in this thesis for teacher education.

7.3   Insights for teacher education and its implications

As the research review in chapter 3 shows, there are multiple ways of arguing for and doing teacher education when it comes to epistemic, as well as organizational structures. Several studies (e.g. Nordic Council of Ministers, 2009; Rasmussen, 2008; Rasmussen & Bayer, 2010) also show that teacher education programs in the Nordic countries have extensive differences with respect to both the structure and the epistemic profiles of their programs. In the following, I will discuss implications of the findings of this thesis for teacher education, emphasizing *the significance of analyzing the epistemic profiles of curricula and programs; transforming teacher education in Norway*; *the effect of teacher education programs; and possible implications for teacher educators.*

The findings from article 2 confirm the main arguments in Rasmussen's (2008) article on the differences in *epistemic profile* between teacher education programs influenced by the seminarium tradition, on one the hand, and a research-based program, on the other.

Professional knowledge is perceived differently, holds different premises, and is related to different systems with different preferences and criteria. The Finnish research-based program is clearly inspired by the 'logics of scientific theory' and scientific methods, in particular the logics and methods of science of education. The aim in a research-based model is more to explain different phenomena than to suggest ways to intervene. This is clearly reflected in the inquiry-oriented approach, which dominates the curriculum in the Finnish case. The inquiry-oriented professional approach implies specific methodical criteria resembling scientific approaches, for instance, less ambiguous use of concepts and a systematic way of approaching professional challenges, such as motivation and evaluation. The Norwegian general professional program relates more to what Rasmussen (2008) calls "the logics of praxis" and the seminarium tradition (Kvalbein, 1999). The ideal of 'bildung' in the program reflects formative and fostering perspectives, with a focus on upbringing and teaching. The program's aims are of personal and societal importance and value, while the "logics of praxis" focuses on 'what works' and 'best practice.' Experience in the field of practice is valued as the best way to resolve practice-related problems. Kvalbein (1999) argues that Norwegian teacher education has been more occupied with the knowledge that should be acquired and reproduced than with organizing teaching and knowledge in a way that emphasizes further development and new constructions of teachers' professional knowledge. Rasmussen's distinction between the two programs relates closely to Muller's (2009) conceptual coherence and contextual coherence in curricula. Bernstein (2000) argued that such differences in epistemic profile have to do with the re-contextualization process. Educational knowledge is reconstructed in the interplay between different fields of production (here, research and curricula), and the outcome of the knowledge discourse depends on the 're-contextualization rules.' The curricula analysis in this thesis shows that the re-contextualization rules in developing teacher education curricula are significantly different in Finland and Norway. If we follow Bernstein one step further into his theorizing of the *pedagogical device*, he would argue that these internal structures (logics/discourses), which have been developed by specific re-contextualization rules, are closely connected to external structures. Following Bernstein, and based on the results and analyses in this thesis, I would argue that the 'rules' in policy making processes, at least to some degree, can be related to the re-contextualization rules in curricula development. The consequences of this for teacher education are that the character of policy making processes, the actors involved, and the content of curricula documents must be valued as an interrelated and continuous process. The

findings presented in this thesis show that this also should be an important issue for further research.

A next logical step in this discussion will be to ask for possible challenges in *transforming teacher education in Norway* from a general professional program to a research-based program. The two programs represent different solutions for how teachers' professional knowledge is "maintained, reproduced, transformed and changed" (Maton, 2007, p. 96). The analysis of underlying structures in professional curricula texts in article 2 indicates that a transition from a general professional program towards a research-based program is more complex than changing the curriculum text. Knowledge is re-contextualized in quite different ways. As underlined throughout this extended abstract, historical, political, institutional, and cultural forces influence the re-contextualization process. The analysis shows that the two curricula reflect different "deep structures" that contain different rationalities and "rules." Changing the curriculum text will not necessarily change the contextual forces, the actors involved, or the institutional structures. Therefore, I will argue that the introduction of a new teacher education program most likely also requires work on these underlying structures and logics in order to change the practiced and experienced curriculum. Such underlying structures and logics concern different ways of developing professional knowledge and different ways of communicating professional knowledge, and that knowledge is selected based on different argumentations. The two models specialize teachers in different ways and hold different perceptions of the student teacher. Furthermore, the two models represent different educational contents and ways of sharing professional knowledge in the educational setting and in the profession. The two models also hold different conceptions of the relationship between everyday knowledge and professional knowledge. The models give different directions to a number of questions: how and what to select as the curriculum content, how to structure the program and sequence the teaching, what kind of literature to put on the student reading lists, how to teach and supervise, whether to do research, what the role of teacher educators is in policy making, research, and teaching. When the relationship between social and epistemic relations in a curriculum changes (in the re-contextualization rules), this change influences the re-contextualization processes. The forces influencing the "discursive gap" have to be identified and addressed in far-reaching processes. Epistemological structures, educational values, and norms concerning all involved stakeholders have to be re-examined. When the relationship between social and epistemic

relations is altered, the relationship between teacher education and external stakeholders must be re-traced and transformed.

The roles of teacher educators in the educational setting must also be reconsidered. Thus, I argue that the re-contextualization rules (the relationship between research, curricula text, and educational context), as well as the role of the profession, have to be traced over again. Such tracing has to be seen as a collective effort before a new program can truly be implemented. A shift in the dominant teacher education model influences the institutional order of teacher education, with its different actors and stakeholders, responsibilities, and divisions of labor. To address these issues is beyond the scope of this thesis, and further research is needed. However, the understanding of the differences between the two teacher education models sheds light on what is at stake in such a transformation process.

Article 3 analyzes novice teachers' relations to professional knowledge and discusses how these relations can be related to the epistemic profiles of the respective teacher education programs. These questions deal with *effects of different teacher education programs*. The most important question in this regard for a society is: What kind of qualified professionals do we want to produce in teacher education? As discussed earlier, the findings from article 2 show particular differences in the epistemic profiles of a general professional program and a research-based program. The analysis in article 3 supports the assumption that teachers educated through the first type of curriculum are more likely to identify with a common knowledge basis, while educational programs that emphasize contextual coherence seem to foster greater diversity among teachers. Their work is guided by a more dispersed and individualized knowledge basis. This analysis adds to Smedby's (2012) finding that ways of engaging with knowledge during teacher education seem to continue in working life. The issue here is not only the types of knowledge forms and resources to which students are introduced. A vital matter concerns the types of discourses in which students engage, and the extent to which they develop specialized languages to address professional problems, e.g., doing an independent research project during education. Article 2 discusses how the two program models may have different implications for the construction of professional identities. According to Beck and Young (2005), such identities may take different forms, relative to the type of knowledge discourse and its mechanisms of recognition. The distinctions made in article 2 are found among the teachers interviewed for article 3. In both cases, the teachers' concern for their students and their practical work is evident. The

difference lies in their conceptual framing of these issues and how they position themselves as professional, knowledgeable actors in the field of practice. This shows that it is important to maintain an epistemic reflectivity concerning what kind of knowledge discourses are to be included in teacher education programs and how these are to be organized. This thesis contributes to this epistemic reflexivity by offering an analysis of the epistemic profiles of two programs and the knowledge relations developed among the graduates of the two programs. This is done through a discussion on how knowledge relations may influence their professional approach and identity. Finally, challenges in transforming teacher education programs are discussed.

The historical review of the two cases, as well as the analysis of contemporary policy making processes, clearly show different trajectories when it comes to the role of *teacher educators*. Historically, the role of teacher educators and educationalists has been decreasing in policy making for teacher education in Norway. In the latest reform, teacher educators and educationalists are present, but strictly steered by the state. The Finnish case displays a contrasting picture, with an increasing role for teacher educators since the 1980s and a great deal of influence and control in the latest reform. The role of teacher educators in policy making is obviously related to the degree of control the state takes in the processes. The findings from the Finnish case, however, indicate that it may also have to do with the *common voice* that the teacher educators have developed over the last few decades. This thesis does not count for all processes and relations in developing the rather extensive academic autonomy held by Finnish teacher educators both in policy making and as higher educationalists. This comparative analysis point to the fact that, compared to the Norwegian teacher educators, Finnish teacher educators have benefitted from being part of a university culture from the early1970s on, *and* from having developed a common research-based voice. As the literature review from Finland shows, research on teachers, teaching, and teacher education has been the basis for developing the teacher educators' voices. Didactical research in Finland has a long tradition of being scientifically founded, both theoretically and methodologically. The Finnish teacher educators have also been looking at international trends in research, which can also give solid ground for valuing teacher educators' professionalism. It could be argued that the Norwegian seminarium tradition and college culture have not provided the same ground for developing a united voice. The literature review from Norway shows more sporadic research that has been less connected to international trends and scientific theory and method.

Another issue regarding teacher educators' voice concerns continuity with regard to program structure and curriculum content. The frequent reforms in the Norwegian case (6 different national curricula since early 1970s) has not allowed teacher educators and researchers in the field to dwell on, research, discuss, and evaluate the understanding of knowledge for teachers and in teacher education. Such processes are time-consuming and call for continuity, consistency, and linkage over time. The same goes for teachers in basic education. Since the early 1970s, teachers in Norway have been educated based on 6 different national curricula, emphasizing different aspects as important and structuring the education differently. I would argue that this clearly could have implications for curriculum consciousness among teacher educators in Norway. In what way this may be the case still stands as an empirical question.

If we return to the curriculum analysis in article 2, the differences between epistemic profiles of the teacher education programs could also have implications for the epistemic responsibilities of teacher educators. Based on Bernstein's concepts, Luckett (2009) argues that curricula with horizontally organized knowledge structures and weaker framing and classification of knowledge grant greater freedom, but also place a heavy responsibility on the re-contextualizing agents (in this case, the teacher educators) (Luckett, 2009, p. 453). The translation from the field of reconstruction (teacher education curricula) to the field of reproduction (teacher education) becomes, to a great extent, socially determined, can create large and varying gaps and conclusions, and is, to a large degree, left open to different actors' interpretations and influences. Following this logic, important knowledge for teachers will be determined locally. I would argue, based on the analysis in article 1, that the latest reform in Norway (implemented in august 2010) is an example of how the Norwegian government, through tight steering, control, and formulation of basic competencies for prospective teachers, is trying to limit the liberty of the teacher educators and departments of teacher education, so that they are only part of constructing knowledge for the profession locally. In the Finnish curriculum, the teacher educators themselves have been leading this process. They have identified a meta-language on knowledge, which the disciplines constituting teacher education have agreed upon, namely the inquiry-oriented and research-based approach. Acknowledging the fact that such a meta-perspective is composite and not straightforward, the perspective implies a spectrum of "rules," both for theoretical as well as methodological approaches. This perspective and these rules enable productive discussions across disciplines.

Since Norway now has proclaimed the current national curriculum (2010) as "research-based," Norwegian teacher educators are still quite early in the process of "translating" what "researched-based" means in teacher education practices. Following Bernstein on re-contextualizing process, this is not a straightforward issue. The formulations in the Norwegian national curriculum from 2010 were obviously inspired by the way the Finnish recommendations for teacher education (Niemi & Jakku-Sihvonen, 2006) define a research-based teacher education (see section 3.3.2). Finland has a history of more than thirty years of conceptualizing, developing, researching, and operationalizing what research-based teacher education means. In Norway, teacher educators are now facing the challenge of defining what this means in a Norwegian teacher education context. Teacher educators in Norway have the advantage of being able to draw on policy experiences and research conducted on the topic both in the US and Finland. However, the Norwegian context is different. A key issue is to discuss what a research-based teacher education may mean within an educational culture strongly influenced by the seminarium tradition. I would argue that this challenge demands extensive discussions within the professional community of teacher educators, within and across institutions, as well as profound research activities. I also think that this is a unique opportunity for teacher educators to strengthen their voice in the Norwegian debate about what is important knowledge for teachers.

7.4   Retrospective and prospective reflections

The aim of this thesis has not been to "map" and tell "the truth" about processes and relations involved in constructing knowledge for the teaching profession. Insider-perspectives and interpretations of textual representations are empirically placed at the analytical forefront. The main contribution of this thesis, and the feature that distinguishes this research from previous research, is situated in its aim to provide a more integrated insight into *some* important processes and relations involved in constructing knowledge for the teaching profession. By illuminating three empirical perspectives within one study, and by using one analytical framework, a profound image of such structures and relations has developed. It has been possible, to some extent, to "follow" the processes and relations involved.

The findings of this thesis show that policy making processes are open and closed for specific participants and power relations in context-specific ways. The findings also show that policy processes lay the foundation and set both regulative and epistemic premises. Policy

processes constitute a basis for the selection of knowledge to be included in teacher education programs. Empirical research on policy making for teacher education is scarce in the European context, and is a research field that calls for more, broader, and more profound research. I believe that the voice of teacher educators can be strengthened by the development of independent research in this field. Several influential arenas in the making of teacher education need to be approached. There is a need for more profound historical, document, and process analysis in different country contexts. The participant perspective taken in this thesis regarding policy making should also be further developed. In an interpretive study like this, a small number of interviewees were selected. Alternative research approaches could expand the range and scope further. This thesis shows that the organization and structuring of knowledge in teacher education curricula gives prominence to some professional qualities and not to others. Analysis of the cultural content of curricula and other policy documents concerning teacher education can be beneficial for both policy makers and teacher educators. Such research should give sound ground both for further policy development and for development of teacher education programs and practice. A basic premise for research-based policy making (and systematic evaluations, for that matter) and its effects is that policies must be allowed to be implemented and carried out. This takes time. At least two to three cohorts of students should have gone through the entire program prior to evaluative research. Then, extensive research and evaluations need time to be developed and carried out. This does not mean that a program "stands still" for a decade or so. If policies are developed as a framework or guidelines, the programs can constantly be developed from within. This requires trust in the capacity of teacher educators as professionals. More structured and systematic evaluations can also provide continuous information.

One arena within the context of practice that is not represented in this study is the context of teacher education. It would have been very interesting and valuable to ask the teacher educators how they interpret epistemic aspects of the respective curricula and how they articulate relations to professional knowledge themselves, as well as to observe the kinds of epistemic activities they initiate in the educational setting. All of this I had to leave to future research due to the workload of a PhD project. Nevertheless, more studies on how teacher education is carried out are needed, as well as research connecting policy and practice.

To compose an analytical framework and include two theoretical perspectives was necessary due to the integrative approach. Approaching the construction of knowledge for the

teaching profession through three perspectives called for the integration of theoretical perspectives. Within research on higher education, researchers normally conduct either policy research-based on theories from the field of political science, or analyses of the cultural content of educational programs and teachers' interpretations of practice, using theories from educational science. I have tried, to some extent, to break this open and move across such traditional disciplines within higher education research. This has been both challenging and rewarding. In my opinion, teacher education researchers have neglected (with a few exceptions) the field of policy making. "Hard core" higher education policy researchers have given less priority to studies of teacher education than other higher education policy issues. In my effort to compose an analytical framework, I first and foremost had to select theoretical perspectives that had a compatible epistemological stance; second, I had to identify perspectives that could assist in analyzing the research questions; and third, I had to find perspectives that could accommodate the empirical material in the study. Both of the theoretical perspectives I use attend to aspects in processual, relational, and contextual ways. Both Gornitzka's and Bernstein's frameworks provide relatively clear-cut categories that are possible to operationalize for empirical research. This has been particularly important because of the comparative mode of this study. Comparative studies depend on sharply defined categories to provide a sound ground for discussion. However, the disadvantage with clear-cut analytical categories is that theory will override the voice of the empirical material. This study has responded to this by first approaching the empirical material collected for each of the three articles inductively, and then bringing inherent structures into play with the analytical categories. Of course, there are relevant alternative theoretical perspectives I could have used in this thesis. For example, the field of policy research in higher education does offer several frameworks for approaching both policy processes and policy content (e.g. Gornitzka, 1999). Since my competence lies in the field of education more than in political science, and since this thesis foregrounds the epistemic aspects of teacher education, I needed a framework that could also sensitize the organization of knowledge and knowledge structures. The result was a composite analytical framework. Looking back at the research process and particularly on developing the analytical framework, I would say that I did not choose the easiest way out. However, I would argue that the present analytical framework has provided a valuable contribution to analyzing structures and relations constructing knowledge for the teaching profession.

I have found the comparative research strategy very valuable in this research. A contrasting mode has made both salient and taken for granted features visible in both cases, historically and presently. The comparison provided a solid foundation for discussing Norwegian and Finnish distinctive features. These can be included in further discussions on how to develop teacher education in the two country contexts. The comparative analysis may also respond to some of the international curiosity about what Finland has done to make its education such a success in international student tests. The aim for including a historical review in this thesis has been to give the articles a horizon that sensitizes societal, cultural, and contextual features of teacher education policy and practice. A final contribution of the comparative mode in this study has been the opportunity to discuss how different countries negotiate and relate to international trends in educational policy. I recognize that this study could have benefitted from more document analysis, concerning both historical and preset policy developments, and from a larger selection of interviewees (policy makers and novice teachers). However, this has not been possible, due to time and the capacity limits of one researcher.

This thesis has shown that *structures*, whether they are institutional structures or knowledge structures, do give premises for the way knowledge for the teaching profession is developed. Such structures shape and re-shape the goals and content of teacher education programs, and are contextually and historically embedded. *Actors* in policy making and in teacher education are shaped by and are shaping and negotiating structures in developing knowledge for the teaching profession. Certain routines, embedded logics, or *rules* have been identified in this study. They are formative for communication, interaction, and relations—whether it is between actors, in knowledge discourses in curricula, or among novice teachers. This thesis highlights the importance of structures, actors, and rules. The author closes by hoping that this research has provided a solid foundation for further research and discussion on the construction of knowledge for the teaching profession.

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PART II: Articles

Article 1

Article 2

Afdal, H. W. (in press)

Knowledge in teacher education curricula: examining differences between a research-based program and a general professional program.

Article 3

Afdal, H.W. and Nerland, M. (2012)

Does Teacher Education Matter?
An Analysis of Relations to Knowledge among Norwegian and Finnish Novice
Teachers.

Appendix 1 - 6

Interview guide policy makers Finland

Introduction: Introduction to the research project and the interview.

Questions:

1. Can you shortly present yourselves?
2. Can you start with reflecting on your own role over the years in the development of the Finnish teacher education policy?
3. The Finnish educational system is regarded as one of the most effective and successful educational systems in the world. How do you see this position? How do you reflect upon this?
4. What is, in your view, the role of teacher education in the success of the Finnish education system?
5. What would you say have been the core factors influencing Finnish teacher education over the last 20 to 25 years?
6. What is the background for the local/institutional governance responsibility with respect to teacher education instead of a national curriculum?
7. How do you view the role of the VOKKE project in current teacher education, as well as from a historical perspective?
8. What would you emphasize as the important features in current teacher education?
9. Can you reflect on the relationship between subject knowledge, educational theory, and didactics in Finnish teacher education today and historically?
10. How would you describe the role of practice in Finnish teacher education, and how has it developed this way?
11. What has been throughout the years the influence of the teaching profession on teacher education? The relationship ministry, teacher education and the profession. **Use figure next page!**
12. Teachers can be regarded as knowledge agents. What kind of knowledge agents are being produced by the Finnish teacher education programs?

13. What is in your view the relationship between political ideology and party programs, on the one hand, and academic knowledge and expertise, on the other, when it comes to the development of the Finnish teacher education policies? How about the balance between politics and academia in the practice of teacher training?

14. The Bologna process is a framework for higher education within the European context. Why has the Finnish national process on teacher education developed in this particular way?

Is it possible that I can contact you on e-mail for follow up questions?

Thank you very much for your time and effort!!

Figure used in question 11:
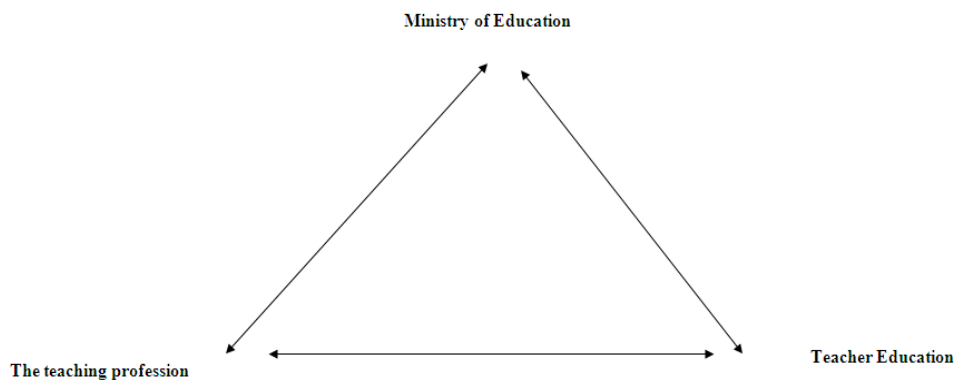
Interview guide policy makers Norway

Introduksjon: Innledning om forskningsprosjektet og intervjuet.

Spørsmål:
1. Kan du kort presentere dere selv?

2. Kan du starte med å reflektere over din egen rolle i utviklingen av den norske lærerutdanningens læreplaner /rammeverk?

3. Hva vil du si har vært de viktigste faktorene som har påvirket norsk lærerutdanningspolitikk de siste 20 til 25 år? Hva med sammenheng og kontinuitet?

4. Hvordan vurderer du reformer av norsk lærerutdanning de siste 10- 15 år? Kan du reflekterer på at disse reformer har blitt gjennomført relativt hurtig.

5. Kan du beskrive prosessene rundt de seneste reformene (2003-2010) knyttet til norsk lærerutdanning og utvikling av rammeplaner? (Hvem initierer? Hvem utvikler og bestemmer struktur? Hvem deltar? Hvem bestemmer endelig produkt? Rammer for prosessen? (forhold politikk – HUI/akademiske eksperter)

6. Hvilken rolle har lærerutdanningsinstitusjonene (ledelse vs ansatte) i utviklingen av de nasjonale rammene for lærerutdanningen?

7. Hva vil du fremheve som spesielt viktige og sentralt i dagens norske lærerutdanning (eller politikk)? Sentrale verdier og teoretiske perspektiv?

8. Kan du reflektere over politiske perspektiver på forholdet mellom fagkunnskap, pedagogisk teori og didaktikk i lærerutdanning i dag, men også i et historisk perspektiv?

9. Hvilken rolle ønsker man at praksis skal ha i norsk lærerutdanning i dag? Hva er bakgrunnen for dette?

10. Hvilken innflytelse vurderer du at lærerprofesjonen har på lærerutdanningen både nå og i et historisk perspektiv? Hvordan vurderer du forholdet mellom departementet, lærerutdanning og profesjonen?

11. Lærerne kan betraktes som kunnskap agenter. Hva slags kunnskap agenter ønskes det at den norske lærerutdanningen "produserer"? (Forhold praksis – politikk)

12. Hvordan har dette med forskningsbasert lærerutdanning vokst fram i Norge? Hva legges i begrepet forskningsbasert i en norsk kontekst?

13. Hvordan er forholdet mellom politisk ideologi og partiprogrammene på den ene siden og akademisk kunnskap og ekspertise på den andre når det gjelder utviklingen av rammeplanene lærerutdanningen? Hva med balansen mellom politikk på den ene siden og

akademiske/forskningsbaserte perspektiver på den andre i forhold til innholdet av lærerutdanningen?

14. Hvor står norsk lærerutdanning i dag i forhold til det europeiske rammeverket /Bologna-prosessen? Hvilke planer og tanker har byråkratiet i forhold til internasjonal utviklingen framover?

Er det mulig at jeg kan kontakte deg på e-post for oppfølgingsspørsmål? Tusen takk for at du har delt av din erfaring, kunnskap og tid!

Spørsmål 10

Ministry of Education

The teaching profession   Teacher Education
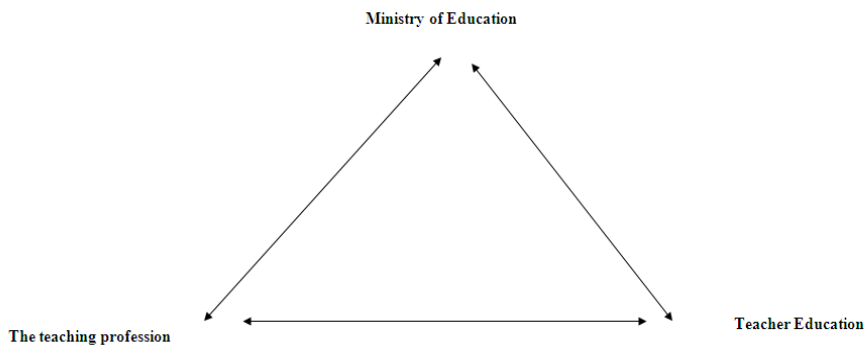
Interview guide 1, Finnish teachers

Questions:

1. *Tell a little bit about your current work situation. How have you been included in the college?*

2. *Why did you become a teacher? Was it a long-term plan or more of an adult decision?*

3. *Think back and describe your teacher education for me, shortly.*
   a. What would you say has happened with you during the education?
   b. Why…? What can you relate this to…?
   c. What was emphasized in the teacher education? Particular parts and in general.
   d. How was the relationship between different subject fields?
   e. Was there anything that surprised you in the education?
   f. Was there anything in particular that influenced you to look differently at the teaching profession and teachers during your education?

4. *Knowledge affiliations and particular interests*
   a. What do you find particularly interesting with the teaching profession? What engages you the most? Why? How?
   b. What are the most important elements of being a teacher?
   c. How would you describe a good teacher?
   d. Who are you cooperating with? How do you interact?
   e. What kind of challenges have you experienced in the transition education and practice? Supporting infrastructure?
   f. Have you had any experience where you feel that you have come too short or succeeded in a particular way? Examples?
   g. How would you find about new ideas/knowledge for your teaching job?
   h. Is there any knowledge or skills that you already now can see that you need to develop? What do you want to improve?

5. *Knowledge in teacher education—knowledge in practice*

a. Do you feel that the teacher education has given you sufficient knowledge for practicing as a teacher? Advantages? Lacks?

b. Do you feel that you are able to use the knowledge you acquired in teacher education? What have been most important? Why/why not? Which challenges?

6. *Accessing knowledge*

a. How would you describe/characterize the literature you worked with in your teacher education?

b. Where do you keep literature from the reading list at the teacher education? Are you using the literature or particular theoretical perspectives in your practice?

c. Where do you search for knowledge you need as a teacher?

d. As a new teacher, you have a busy schedule. Do you have time for updating? How is it done? Why not? If you could decide, how would you like it to be?

e. How do you make a teaching plan for specific topics? Where do you start? What kind of facilities do you use? Start from scratch? Teachers' guides? Pre-designed plans/programs?

f. When you have finished a certain topic, how do you organize and preserve/keep you teaching material and you experiences for later use?

g. Do colleagues share teaching plans, teaching material, and experiences? How? In what way? Why not?

h. Do you feel that there exist a common idea about what is "good teaching" and how it should be done among you and your colleagues?

7. *Experience and understandings of teachers' knowledge*

a. As a teacher, you both have to educate and to take part in the upbringing of children. How do you view these two tasks?

b. What is important knowledge for teachers?

c. Would you say that teachers have a unique knowledge base?

8. *Is there anything you will like to add about being a new teacher?*

Interview guide 2, Finnish teachers

1. What has happened in your professional life since our last meeting? Can you reflect on your own development as a teacher/professional so far this year?

2. What kind of challenges do you have as a teacher these days?
   a. Last time you talked a lot about making good relations with the children. This time I want to focus on other challenges, maybe more connected to your own professional development. Which other professional challenges have you engaged in? How? Why
   b. What is this about, if you consider the knowledge domain of teaching? Is this something you can relate to topics addressed in your education?
   c. What do you do? How?

3. Sometimes you cannot solve a problem or a challenge on the spot. What kind of issues could that be?
   a. How do you approach those? (teachers as problem solvers)

4. Last time many of the teachers I interviewed said they would like more teacher practice in their teacher education, and found it difficult to connect theory and practice.
   a. How do you see this now?
   b. Have you returned to some of the theoretical perspectives from the teacher education?
   c. Do you conceive the relationship between theory and practice differently today?
   d. Are there any theories you understand and evaluate differently today? Why?

5. In the last interview you talked a lot about the importance of acquiring more experience as a teacher. How do you get more experience?
   a. What do you do?
   b. Are there specific types of engagement or activities which you see as important in this regard? Can you describe a situation in which you really had the feeling of being moved forward as a teacher?
   c. Do you draw on experiences of others, or do you have the feeling that is this 'built up alone'?
   d. Knowledge can also be available in distributed or material forms in professional work. How is this in your case? What do you learn from? What kind of tools and resources do you approach?

6. Can you describe your model or ideal teacher?
   a. Why, how?

7. Are there certain things that are up for discussion in general these days, concerning teaching and schools, that engages teachers?
    a. Do you know this book research based teacher education?

8. Central themes are e.g. 'learning to learn', 'assessment' and 'ICT'. Is this something that you can relate to in your work?

9. How can you as a teacher develop the teaching profession?
    a. Can you do it by creating something new?
    b. In that case, what will you do and how?

10. What are you discussing with your colleagues?
    a. Which are the most important issues you discuss?
    b. What do you think about that?
    c. Are there any themes from pedagogy that you bring with you in your daily work?
    d. When you think about it, are there other pedagogical themes or perspectives?

11. How are you met by others as a professional? By 'others' I mean colleagues, educational leaders and other professional groups.
    a. Is there some kind of teachers that is more necessary, interesting, or demanded that you cooperate with? (common specialization, tradition of education, working in the same level)
    b. What is this based on? Where does such structure come from? Why is it like that?

12. Are you proud of being a teacher?
    a. Why? Why not

13. How do you perceive your further professional development?
    a. Would you like to engage in specific areas?
    b. How can you do this?
    c. Where could that lead you?/What could that potentially result in?

14. How have you experienced these conversations?
    a. Have they given you any new thoughts and ideas?

Please contact me by email if you want to add or reconsider something.

Appendix 3

Intervjuguide 1 – norske lærere

Introduksjon: Ønsker ikke ideelle svar men virkelighetsbeskrivelse og din unike forståelse

Spørsmål:

1. Fortell litt om din nåværende arbeidssituasjon
2. Hvorfor ble du lærer?
3. Beskriv lærerutdanningen du har vært gjennom kort med utgangspunkt som om jeg vet svært lite om lærerutdanning.
   a. Hva vil du si har skjedd med deg som person i studietiden?
   b. Hvorfor…? Hva kan du knytte det til?
   c. Hva opplevde du at var trukket fram som sentralt og viktig i utdanningen?
   d. Var det noe ved utdanningen som spesielt overrasket deg?
   e. Ser du på deg selv og din rolle som profesjonell på en annen mate nå enn tidligere? Hva påvirket deg spesielt?

4. *Knowledge affiliations and special interests*
   a. Hva er de viktigste sidene ved læreryrket?
   b. Hva er det du finner spesielt interessant ved læreryrket? Hva engasjerer deg mest? Hvorfor? Hvordan?
   c. Hvem samarbeider du mest med? Hvordan samarbeider dere?
   d. Hvilke utfordringer har du møtt i overgangen utdanning yrkesutøvelse, altså overgangen lærerstudent – lærer?
   e. Siden du begynte som lærer har du opplevd situasjoner hvor du kom til kort eller lykkes spesielt? Gi noen eksempler.
   f. Hvor henter du nye ideer og ny kunnskap til lærerjobben din?
   g. Er det spesiell kunnskap eller ferdigheter du opplever at du mangler som nyutdannet lærer. Hva vil du eventuelt jobbe mer med og forbedre?

5. *Knowledge in teacher education – knowledge in practice*
   a. Opplever du at lærerutdanningen har gitt deg tilstrekkelig og riktig utvalg av bakgrunn for å arbeide som lærer? Styrker? Mangler?

b. Opplever du at du har muligheten til å anvende kunnskapen du tilegnet deg I lærerutdanningen? Hvorfor/hvorfor ikke? Hvilke utfordringer knyttet til dette har du eventuelt?

6. *Accessing knowledge*
   a. Hvordan vil du beskrive og karakterisere pensumlitteraturen du arbeidet med på lærerutdanningen?
   b. Hvor er pensumlitteraturen nå? Hvilke forhold har du til den nå?.Opplever du at du har bruk for de teoretiske perspektivene fra lærerutdanningen nå?
   c. Hvor leter du etter ny kunnskap nå?
   d. Som nyutdannet lærer har du tid til faglig oppdatering? Hvordan gjør du det eventuelt? Hvis du skulle kunne velge og bestemme hvordan ville du ha lagt opp faglig utvikling for deg selv og andre?
   e. Hvordan går du fram når du planlegger undervisning? Hvor begynner du? Hva slags hjelpemidler bruker du? Begynner du helt fra bunnen av eller bruker du hjelpemidler som lærerveiledninger, ferdige undervisningsopplegg som andre har laget eller noe annet?
   f. Når du er ferdig med et tema hvordan tar du vare på undervisningsmateriell du har laget og erfaringer du har gjort deg?
   g. Opplever du at kollegaer/lærere er positive til å dele undervisningsopplegg og materiell de har laget eller erfaringer de har gjort? Hvorfor? Hvordan? Hvorfor ikke?
   h. Er dette satt i system på din skole?
   i. Opplever du at det eksisterer en felles forståelse av hva "god undervisning" er? Hvis ja er denne underforstått eller åpent diskutert?
   j. Hva er i så fall god undervisning/opplæring?

7. *(How do you experience and understand teachers' knowledge?)*
   a. Hva vil du si er viktig kunnskap for en lærer?
   b. Har lærere en kunnskapsbase som er unik?

8. *Er det noe mer du ønsker å legge til om det å være nyutdannet lærer*

Intervjuguide 2 – norske lærere

Hva har skjedd i jobbsammenheng siden vi møttes sist? Kan du reflektere over din egen utvikling som lærer / fagperson så langt i år?

1. Hva slags utfordringer har du som lærer nå om dagen
    a. Sist gang snakket du mye om å skape gode relasjoner til barna. Denne gangen vil jeg fokusere på andre utfordringer, kanskje mer knyttet til din egen faglige utvikling. Hvilke andre faglige utfordringer er du engasjert i? Hvordan? Hvorfor
    b. Hva handler dette om, hvis du relaterer det til fagfeltet til lærere? Er dette noe du kan knytte til temaer som ble tatt opp i utdanningen din?
    c. Hva gjør du? Hvordan?

2. Noen ganger kan ikke en lærer løse et problem eller en utfordring på stedet, der og da. Hva kan det være?
    a. Hvordan du nærmer deg slike utfordringer? (Lærere som problemløsere)

3. Sist gang sa mange av de lærerne jeg intervjuet at de ønsker mer praksis i sin lærerutdanning, og fant det vanskelig å koble teori og praksis.
    a. Hvordan ser du på dette nå?
    b. Har du nå gått tilbake til noe av de teoretiske perspektivene fra lærerutdanningen?
    c. Tenker du forholdet mellom teori og praksis annerledes i dag?
    d. Er det noen teorier du forstår og vurderer annerledes i dag? Hvorfor?

4. I det siste intervjuet du snakket mye om viktigheten av å skaffe seg mer erfaring som lærer. Hvordan du får du egentlig mer erfaring?

    a. Hva gjør du?
    b. Er det spesielle typer oppdrag eller aktiviteter som du ser som viktige i denne forbindelse? Kan du beskrive en situasjon der du virkelig hadde følelsen av å ha framgang som lærer?
    c. Kan du lære av andres erfaringer, eller har du følelsen av at dette er noe du må "bygge opp alene?
    d. Kunnskap kan også være tilgjengelig i gjennom ferdigproduserte opplegg for ulike temaer. Bruker du slikt materiale?
    e. Hva lærer du mest av som lærer? Hva slags verktøy og ressurser bruker du?

5. Kan du beskrive en ideallærer eller en lærer som ville vært et forbilde for deg? Hvorfor, hvordan?

6. Er det spesielle ting du kan trekke fram som diskuteres i samfunnet forøvrig, om undervisning, lærere og skole, som også engasjerer lærere?

    a. Hvilke? Hvorfor?
    b. Hva med omorganiseringen av lærerutdanningen?

7. Hva tenker du om fokuset på grunnleggende ferdigheter i norsk skole i dag?

8. Hvordan kan du som lærer utvikle læreryrket?
    a. Kan du være med å skape noe helt nytt?
    b. I så fall, hva vil du gjøre og hvordan?

9. Hva diskuterer du med dine kolleger?
    a. Hva er de viktigste spørsmålene dere diskuterer?
    b. Hva mener du om det?
    c. Er det noen temaer fra pedagogikk som du tar med deg i ditt daglige arbeid?

10. Hvordan blir du møtt av andre som en profesjonell? Med 'andres' mener jeg kolleger, pedagogiske ledere og andre yrkesgrupper lærere må samarbeide med.
    a. Er det noen type lærere som er mer ettertraktet enn andre? Er det fagområder eller spesialiseringer som etterspørres?
    b. Hva er dette basert på? Hvor kommer slik struktur kommer fra? Hvorfor er det slik?

11. Er du stolt over å være lærer?
    a. Hvorfor? Hvorfor ikke?

12. Hva tenker du om din videre utvikling som lærer?
    a. Er det områder du ønsker å engasjere deg spesielt i framover?
    b. Hvordan kan du gjøre dette?
    c. Hvor kan det føre deg? Hva kan det potensielt resultere i?

13. Hvordan har du opplevd disse to samtalene/intervjuene?
    a. Har de gitt deg noen spesielle tanker eller ideer?

Du må gjerne kontakte meg via e-post hvis det skulle være noe du ønsker å legge til eller overveie på nytt.

Request and consent to participate in the research project:

Teacher knowledge in Norway and Finland, - Historical, institutional and personal accounts.
(Preliminary title)

The purpose of this project is to analyze the organization, framing and structuring of knowledge in two teacher educations, the one at University of Helsinki and the other at Oslo University College. Subsequently analyze how novice teachers (graduates from these two institutions) orient towards knowledge. The anticipation is that the ways in which teachers are presented to professional knowledge during their education influence novice teachers' management and maneuver in the professional knowledge field.

Together with approximately 10 to 15 novice teacher and 6 policy makers for teacher education in Norway and Finland you get this request for participation in the research project.

Participation in the project means to participate in one or two interviews. The teacher will also be asked to write two short logs between the interviews. The interview will be recorded on the digital voice recorder. All information about you will be treated confidentially, which means that no personally identifiable information will be available to others. In connection with the release of the publications or the like will only anonymous information will be released. When the project ends in December 2012, all information that might help identify the participants in the project will be deleted. The results of the study will be published in scientific articles and in a PhD thesis. The PhD project is expected to be completed by Christmas 2011. After the project is completed will the information be made anonymous.

It's completely voluntary to participate in the project and you can withdraw your consent at any time without any justification. If you do, the information will be anonymized and withdrawn from the project immediately. There is no other than my supervisors and I that will get access to the personally identifiable information. They are subject to confidentiality and information will be treated strictly confidential.

I appreciate if you'd like to contribute to share some of your experiences! You contribution will be highly valued. If you wish to participate in the study, I ask that you sign the attached consent statement.

Do you have any questions regarding this request, or wish to be informed about anything at any time, please feel free to contact me at the address below.

Best regards
Hilde W. Afdal   hilde.afdal@hiof.no   Cellular phone: +47 97 56 65 58

Affiliated with: Ostfold University College (responsible institution), Department of Teacher Education, Norway (www.hiof.no) and University of Oslo, Institute for Educational Research, Norway (www.uio.no).

Consent Statement:
I have received information about the project "*Teacher knowledge in Norway and Finland, - Historical, institutional and personal accounts*, and am willing to participate in the study.

Date… … … … … …   Signature ... ... … … … … … …

Norsk samfunnsvitenskapelig datatjeneste AS
NORWEGIAN SOCIAL SCIENCE DATA SERVICES

NSD

Hilde Afdal
Avdeling for lærerutdanning
Høgskolen i Østfold
Remmen
1757 HALDEN

Vår dato: 19.10.2009   Vår ref: 22782 / 2 / RKH   Deres dato: Deres ref:

KVITTERING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 13.10.2009. All nødvendig informasjon om prosjektet forelå i sin helhet 16.10.2009. Meldingen gjelder prosjektet:

22782	*Teacher Knowledge in Norway and Finland: Historical, institutional and personal Accounts*
Behandlingsansvarlig	*Høgskolen i Østfold, ved institusjonens øverste leder*
Daglig ansvarlig	*Hilde Afdal*

Personvernombudet har vurdert prosjektet og finner at behandlingen av personopplysninger er meldepliktig i henhold til personopplysningsloven § 31. Behandlingen tilfredsstiller kravene i personopplysningsloven.

Personvernombudets vurdering forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, vedlagte prosjektvurdering - kommentarer samt personopplysningsloven/-helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/forsk_stud/skjema.html. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, http://www.nsd.uib.no/personvern/prosjektoversikt.jsp.

Personvernombudet vil ved prosjektets avslutning, 31.12.2012, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Bjørn Henrichsen   Ragnhild Kise Haugland

Kontaktperson:Ragnhild Kise Haugland tlf: 55 58 83 34
Vedlegg: Prosjektvurdering

Declaration describing the independent research contribution of the candidate

The declaration will show the contribution to conception and design, or development and analysis of a theoretical model, or acquisition of data, or analysis and interpretation of data, contribution to drafting the article or revising it critically for important intellectual content etc.
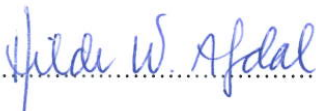
Article no. 1

Afdal, H. W. (2012): Policy Making Processes with respect to Teacher Education in Finland and Norway.
Higher Education. Published as Online First 7 April 2012

The independent contribution of the candidate

I am fully responsible for this article.

1ˢᵗ of June 2012 ....*Hilde W. Afdal*...............

Article no. 2

Afdal, H. W. (in press): Knowledge in teacher education curricula: examining differences between a research-based program and a general professional program. Manuscript accepted for publication in *Nordic Studies in Education.*

The independent contribution of the candidate

I am fully responsible for this article.

1ˢᵗ of June 2012 ....*Hilde W. Afdal*...............

Article no. 3

Afdal, H.W. and Nerland, M. (accepted): Does Teacher Education Matter? An Analysis of Relations to Knowledge among Norwegian and Finnish Novice Teachers. Manuscript accepted for publication in *Scandinavian Journal of Educational Research*

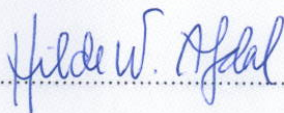*The independent contribution of the candidate:*

I am the first author of this article. My independent contribution consists of having the major responsibility for the final version of the article. In more detail this means:

- I have been responsible for collecting the empirical material and narrowing down and selecting the parts that have been analyzed in depth
- I have analyzed the empirical material
- I have written up the final version
- I have submitted and kept the contact with the journal

My co-author has contributed in the following manner:

- She has been a discussion partner and commented on drafts throughout the writing process
- She has contributed to the choice of theory that has been used in this article
- She has written up different parts, such as sections in the theoretical and methodological framework and some sections of the discussion.

1st of June 2012

....

Signature of candidate   Signature of co-authors