Karen Hammerness

*Associate Professor and Director of Program Research,
Bard College*

*Visiting Associate Professor,
Department of Teacher Education and School Research,
University of Oslo*

VISIONS
Conference
2011:
Teacher
Education

A Comparative Study of Three Key Features in the Design and Practice of Teacher Education in the United States and Norway: Part II. Findings from a Study in Norway

Abstract

This paper draws upon recent research on program features that characterize powerful teacher education. Based upon research and scholarship in the U.S., suggests that teacher education programs need to promote a clear vision of teachers and teaching; must be coherent, reflecting a shared understanding of teaching and learning among faculty and students; and finally, that they need to be built around a strong core curriculum deeply tied to teaching practice. However, we know little about whether these features also characterize powerful teacher education programs in other countries. To start to address that gap, I describe research from two separate studies, one conducted in the United States and one in Norway. Both studies examined the visions, coherence, and relationship to practice in a range of teacher education programs. In this second paper, I share the findings from the Norwegian study. An opportunity to look across two contexts at the same features helps provide some initial insights about key characteristics of teacher education that may matter most.

Introduction

Few studies have looked at what are considered to be core features of strong teacher education across different international contexts. To start to address that gap, I describe research from two separate studies, in two linked articles, one conducted in the United States and one in Norway. Both studies examined the visions, coherence, and relationship to practice in a range of teacher education programs. In Part I. of these two articles, I described the results of a study examining those three core features in three teacher education programs in the United States. In Part II., I describe the results of an examination of vision, coherence and opportunities to learn in practice across teacher education programs in Norway. I take advantage of this unique comparative opportunity to

assess whether such core features identified by some teacher education scholars as powerful for teacher education programs in one country, might carry across international boundaries. Furthermore, given the proposed changes in teacher education in Norway underway, and the efforts to deepen and strengthen further the existing research in teacher education, an examination of the key features of Norwegian teacher education seems particularly important and timely.

Three Key Features of Teacher Education

Before sharing the Norway study findings, I will briefly summarize what we know (and do not know) regarding the three features – *vision*, *coherence* and *relationship to teaching practice* – that I focus upon in both studies. A more elaborated discussion of these features can be found in the prior linked paper (see Part I.).

1. Vision

Prominent teacher educators in the United States have long argued that an important part of a strong teacher preparation program is a clearly articulated and shared vision (Darling-Hammond et al., 2005; Kennedy, 2006; Zeichner & Conklin, 2008). This vision expresses the program's larger purposes and goals in preparing teachers. The vision also captures the kind of teachers faculty hope their graduates will be in the future, as full-time classroom teachers. It may also represent the kind of role faculty hope their teachers might play in the educational system. In the strong programs, the vision also includes the kinds of classroom practices faculty hope their graduates will enact: in other words, it is a vision not only of good teachers but also of good *teaching* (Darling-Hammond, et al., 2005). Program vision can also capture what Maxine Greene (1988) has called a "consciousness of possibility" (p.23). It can represent a kind of 'reach' towards powerful educative experiences that stretch beyond what student-teachers learned from their "apprenticeship of observation" as students themselves (Lortie, 1975). Feiman-Nemser (2001) argues that such visions of the possible are critical for new teacher learning:

"Teacher candidates must...form visions of what is possible and desirable in teaching to inspire and guide their professional learning and practice. Such visions connect important values and goals to concrete classroom practices. They help teachers construct a normative basis for developing and assessing their teaching and their students' learning" (p. 1017).

2. Coherence

While having a vision is critical in terms of articulating the kind of teachers program faculty hope to prepare, simply having a vision is not enough. Case studies (Darling-Hammond, 1999, 2006; Howey & Zimpher, 1989) as well as

studies of multiple programs (Grossman, et al., 2008), have pointed to the important role that coherence plays in teacher education programs. In coherent programs, core ideas and learning opportunities – both in terms of course work and clinical work – are aligned (Darling-Hammond, 1999, 2006; see also Grossman et al. 2008). Coherent programs are purposefully designed and provide a well-structured set of learning experiences that are to prepare teachers towards a set of purposes and goals. The importance of coherence is well supported in studies of learning that suggest that students learn more when they encounter mutually reinforcing ideas and practices across learning experiences (National Research Council, 2010). When students have repeated experiences with a set of ideas along with opportunities to practice skills and strategies, they learn more deeply and develop greater expertise (Ericsson, Krampe & Tesche-Romer, 1993). At the same time, vision and coherence are interrelated. Darling-Hammond (1999, 2006) has argued that a critical element of coherence is a common vision of good teaching that permeates all coursework and clinical experiences, and the vision serves as a key factor in defining and aligning the learning experiences.

3. Opportunities to Learn in the Context of Practice

Finally, beyond a clear, shared vision and a coherent program, teacher education programs also need to offer opportunities to learn to teach that are directly grounded in practice. Case study research suggests that exemplary programs offer a strong core curriculum “grounded in knowledge of child and adolescent development, learning in social and cultural contexts, curriculum, assessment and subject matter pedagogy” that is taught in the context of practice (Darling-Hammond, 2006). The notion of coursework grounded in practice deserves emphasis as it is one feature that has been empirically linked to student outcomes. Using data from over 30 different teacher education programs in New York City, surveys of first-year teachers, and data on student outcomes, researchers found that teachers who had opportunities to learn that were “grounded in practice” had pupils who performed better on standardized tests (Boyd et al., 2009). Opportunities grounded in practice are activities closely related to the actual work of teaching (Grossman et al, 2009a., Grossman et al. 2009 b.). They include, for example, listening to a child read aloud in order to assess his or her reading ability; planning a guided reading lesson; or analyzing student work in mathematics. (see Part I. for a fuller description of these core concepts).

Methods

1. Qualitative Research Study

In order to examine these same key features of teacher education that I previously examined in the U.S., I chose to conduct a qualitative study of a small number of Norwegian teacher education programs (Hammerness, 2012). Such a study would enable me to conduct interviews and collect program data, so that I could examine in some depth the ways that these programs reflected the three key features. I identified a set of teacher education institutions that would represent a range of preparation programs across Norway. Altogether, I included six institutions in my sample: three university colleges and three university-based programs (see Table 1.; see also Table 3. in Part I. for institutions in the U.S. study). While I may not have ended up with a fully representative sample, a broad representation of different institutions allowed me to examine the widest range of programs.

2. Research Questions

I designed the study to answer three research questions similar to the U.S. study: 1) What is the nature of the program vision?, 2) In what ways are the programs structurally coherent?, and 3) To what degree are the programs designed around a strong core curriculum that is tied to practice?

3. Data

Drawing upon methods used in the prior study, I used both interview and program data to answer these questions. At each institution, I focused upon interviewing the program leader or department head, as well as at least one faculty member. Altogether I interviewed 15 faculty. In order to learn from faculty and department heads or program leaders about the espoused program vision and the coherence of the program around it, I asked a set of questions that were focused upon the program vision as well as the kind of teaching the program faculty ultimately hoped graduates could enact. For instance, I asked teacher educators not only about their visions, but also about the kind of teacher the faculty member would like to see graduating from the program. This question enabled me to ask about aims and goals in a way that might be more appropriate within the Norwegian context. It also helped me address the challenge that asking only about the concept of “vision” might not, on its own, be familiar to Norwegian teacher educators or consistent with how they thought about their work.

Next, to understand the core curriculum and the opportunities grounded in practice, I asked for program materials and courses of study, and about the ways in which the programs linked coursework and clinical work. I also asked about particular assignments that drew upon classroom teaching experiences and children, as well as upon coursework and theoretical readings. Finally, I asked

about the conception of teacher learning and development that informed the program, and examined the curriculum for evidence of a design that seemed purposeful and intended to gradually build ideas and understandings about teaching.

4. Analysis

In order to analyze the data, I conducted a content analysis. Drawing upon methods used in the previous study, I examined the interviews for all patterns or themes that emerged in terms of consistent or shared ideas about goals across individuals, both within programs and across programs. I also looked for elements of coherence that have been identified in research literature. For instance, I looked specifically for descriptions of good teaching and descriptions of the kind of teaching graduates should be enacting, and for any other themes that appeared consistently. Furthermore, I also examined the interview and documents for evidence of a strong core curriculum with opportunities to learn that are grounded in practice. I drew in particular upon work by Grossman and her colleagues who have described the nature of such opportunities in some detail (Grossman et al., 2009b).

Findings

1. Program Visions

When I first interviewed program leaders and faculty members in this study about the visions of their programs, many seemed surprised by the question. While some program directors had a great deal to say about their program visions, they were not in the majority. Most program directors described visions that were fairly brief and concrete, without much detail or elaboration. One program director explained that while her program was working on developing a common vision, she did not feel that her program had a vision yet. She commented, "I'm not certain that there is one at all in the program as such." A lack of emphasis upon vision was also reflected in the websites and documents about the programs. Many of the program materials I reviewed tended to emphasize the administrative features of the program (courses and credits required, names of courses, topics in courses). They only rarely transmitted a broader vision that addressed the purposes of teaching, why one might choose teaching, or what constitutes powerful, effective or inspiring teaching.

Not surprisingly, given national regulations and the common curriculum, there were common themes that emerged consistently in these interviews around the kind of teacher that the Norwegian teacher education programs and faculty seek to prepare. Three common themes emerged as particularly important to Norwegian teacher educators; teachers who can draw upon strong subject matter knowledge; who demonstrate classroom leadership and who are familiar with

and can use educational research to inform and improve their teaching. One of the teacher educators interviewed summed it up in this way:

I think preparing teachers for school, contains of three different areas; one is the subject, for example, Norwegian. The second task is social, and social matters. And the third is methodological. These three competences all together, teachers have to think of when they are in the classroom with children. They have to look at social conditions, social situation for the students and teach them the subject

Another key theme that teacher educators emphasized consistently across institutions was their role in preparing new teachers to be “classroom leaders.” This teacher educator summed it up this way:

We have a strong focus in Norway upon teachers’ leadership....I think the main focus is what teachers think about themselves – what is my role in the classroom, my authority, how to handle that ...the teacher has to be both a teacher for the subject and to take care of the social situation. That is why we say leadership is very central.

A final theme that emerged in interviews with teacher educators was a vision of teachers who understand, value and can use research in their teaching practice. For instance, a program leader at one of the university colleges talked about both teachers as not only subject area experts but also as researchers. The program leader explained that, “we know teachers don’t read a lot of research, [but] we think they need to be able to read research material, to get ideas and to implement their ideas in the schools. So ... they are better able to express what they want in that way, and use their ideas in the schools and of course with parents of the children.” This emphasis is consistent with developments in teacher education in the United States and other countries. Many teacher education programs have built their work around helping new teachers understand the research base of teaching, student learning and student learning in subject areas (Lieberman & Darling-Hammond, 2011).

Overall, the interviews revealed that these three core ideas represent the focal points of the visions of the teacher educators primarily responsible for the program, and that there were common elements across different teacher education programs. At the same time, the lack of elaboration of program visions by the interviewees also suggested that program vision was not something the teacher educators in this sample had frequent opportunities to think about or talk about in their work.

The emphasis upon subject matter knowledge, leadership and research reflected some commonalities across the visions described by the Norwegian teacher educators in this sample. But while the interviews pointed to the presence of individual visions they also revealed the absence of a clear, shared vision across program faculty. It suggested that faculty perceived the possible absence of such a shared vision across schools of education and schools of arts and sciences. As one teacher educator said, noting that her students who are

preparing to teach Norwegian may experience very different approaches to their preparation in different courses in the schools of education and in the humanities,

I do not think at all that the faculty in the department of linguistics share this vision – they are interested in the study of language and it is not linked to schools in any way. The teachers [of Norwegian] who are prepared there are getting strict linguistic courses.

Another program director noted that while their own department of pedagogy had a “very clear” vision within the “core” of the teacher education program that beyond the school of education “not all of the departments have this clear vision.”

Some faculty noted that even within the schools of education, the pedagogy faculty (pedagoger) have different visions than those education faculty who teach courses with a subject area or disciplinary focus (fagdidaktikere). One program director said simply, “not all of us are of the same opinion” and explained that the split tended to run between education faculty more focused upon particular subject matter and those interested in schools. Another teacher education program leader pointed to this divide, described a tendency among some of his colleagues to overlook the connection of subject matter to teaching practice: “many of my colleagues ...emphasize ... their own subject and [believe] the students should read and know as much as possible about this subject instead of thinking of the connection to practice, to schools.”

There were programs that were making attempts to develop a shared program vision. One program director explained that although their program did not have a shared vision, “we have tried to start working on this – to develop a more common vision.” She noted that her faculty had begun program meetings and faculty seminars in order to come together around some core ideas that would shape the entire program. She added that they have begun to articulate as a group “the kind of teacher education that we want to be.”

2. Coherence

While program directors in this sample articulated some common elements of their program visions, they also pointed to a number of ways in which they perceived that faculty across the programs may hold different ideas about teaching and learning. This suggests that one of the key features of a coherent program – a clear, shared vision – has not yet been developed in these teacher education programs. Or at the least, a vision may not be fully shared across whole programs particularly if program leaders and core faculty members do not articulate such a vision. Without coherent visions that are shared by all members of a program, students in these programs may be hearing different messages about what good teaching looks like. In turn, the absence of shared vision can

contribute to a lack of alignment; program ideas and concepts are not clearly designed around any strong central programmatic ideas, aims or goals.

Another aspect of a coherent program is that features of the program vision are reflected in the coursework and in teachers' opportunities to learn – as reflected in the programs examined in the U.S. study. In coherent programs, the coursework is consistent with the vision. Yet the interviews in this study revealed that some of key aspects of the vision expressed by Norwegian teacher educators may not necessarily be consistent with the kinds of opportunities new teachers have to learn about them. For example, teacher educators emphasized consistently across institutions their role in preparing new teachers to be “classroom leaders.” Yet in my review of the courses required in the programs I examined, no programs specifically offered a course in classroom management.

Taken together, the interviews suggested several key ways that the Norwegian teacher education programs I studied may lack coherence. First, they appear to lack a strong clear vision that is shared by program leaders and key faculty members, so students may not encounter consistent messages about the purposes, aims and goals of the programs. This may be particularly at play across subject matter lines – suggesting that faculty within pedagogy may have quite different visions from those within subject areas or within the humanities. Second, this also raises questions about the degree that faculty that focus upon disciplinary content have visions that are connected to schools and schooling. Finally, it suggests that central features of the vision expressed by these teacher educators – for instance, becoming a classroom leader – may not be fully reflected in coursework or key program structures.

3. Core Curriculum Grounded in Practice

When I asked the Norwegian teacher educators in this sample about opportunities that were grounded in practice, many of them noted that they saw the school sites as the places that provided those opportunities. However, they did not mention as many opportunities within the university coursework that drew upon artifacts from the classroom. They did not often describe using examples of student work; videos of classroom teaching, curriculum requirements, or other materials that were directly related to classroom teaching. In other words, many Norwegian teacher educators described a clear distinction between theoretical work done in university coursework and practical work done in schools, a separation that Hauge (1994) described almost 20 years ago. While there were exceptions, most program directors noted that opportunities that were grounded in practice were not particularly frequent.

At the same time, the teacher educators I interviewed did emphasize opportunities to learn how to conduct research. For instance, some of the key assignments in programs I investigated emphasized the importance of learning about and using research, or sharing research findings. At one university, one of the core culminating assignments for new teachers was to conduct a research

project and to then present it at a conference at the end of their program. At another university, students were asked to present a lecture on linguistics research. While these efforts are reflective of the emphasis in the vision for teacher education upon connecting research to teaching, the connection to teaching practice is not as clear.

One other way that teacher education programs can help prospective teachers learn about teaching in ways that are more closely grounded in teaching practice is to provide opportunities to learn about *particular* instructional strategies (Grossman, et al. 2009; Windschitl, 2009). These teacher educators emphasize teaching student-teachers how to learn to help a group of pupils come to consensus around some core mathematical ideas (Chazan & Ball, 1999) , or learning how to orchestrate a whole-class discussion in a literature class (Hatch & Grossman, 2009). Yet many of the teacher educators I interviewed emphasized that they were skeptical about teaching new teachers about any particular teaching strategies. Rather, most program faculty foregrounded the importance of choice. They emphasized their intent to develop of teachers who could draw upon a wide variety of teaching methods. One program director said he wanted to prepare teachers to use

... all strategies, as many as possible. My teaching expectations are – variation. I like [the new teachers] to try out a lot of things. Variation is a main word for me. Both modern and more traditional methods.

Yet at the same time that teacher educators emphasized the importance of autonomy and choice in relationship to methods and strategies, they did not emphasize the ability to make distinctions among methods or the ways in which content and context might shape one's choice of strategies.

Furthermore, the interviews also revealed skepticism towards teaching methods in a practical way and an assumption that learning about practice should be relegated to school settings. However, research consistently finds that that new teachers cannot learn ambitious teaching practices in school placements alone (Britzman, 1991; Feiman-Nemser & Buchman, 1985; McDonald, 2005). Making distinctions between what is learned in university settings and school settings can reinforce the historical divide between theory and practice in teacher education (Zeichner, 2010). The clear message from these findings has led scholars in teacher education to argue that teacher education coursework could be strengthened significantly – by providing concrete opportunities that enable student-teachers to try out and learn about such practices within pedagogical coursework or other university-based classes. Such opportunities would then allow novice teachers to rehearse, approximate, and ultimately enact elements of actual teaching practice in their coursework (Grossman et al., 2009b). A focus upon the 'pedagogies of enactment' is consistent with a recent Blue Ribbon Panel in the United States charged with investigating fieldwork and

student teaching. The panel called for teacher education to be “turned upside town” to center upon the development of clinical practice (Blue Ribbon Panel on Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning, 2010).

Looking Across The Three Features in the U.S. and Norway

The research on teacher education programs in the United States and Norway reported in these linked articles represent qualitative studies of a small number of teacher preparation programs. Yet looking across the two studies, several important implications emerge. First, the two studies suggest that examining the visions, coherence and opportunities to learn that are grounded in practice help reveals important tensions, patterns and themes within teacher education programs in both countries. Specifically, they suggest that the three features can translate internationally, and may represent useful aspects to examine in other settings.

Both studies suggests paying greater attention to the role that vision may play in other kinds of teacher education programs in terms of both contributing to coherence and to guiding program design. Both studies point to the potential value in articulating program visions as part of general program design and structure. In the U.S., conversations about the type of vision may be useful for program faculty to consider. What kind of vision (if any) does their program promote or wish to promote? What might be the implications of such visions for the career paths of their graduates? And in Norway, the personal and individualized nature of vision in teacher education in the programs I studied may point to the possibility for starting a conversation about the nature and character of program vision. Perhaps discussions about the nature and character of program vision could be productive in Norwegian teacher education programs. Conversations across faculty in both subject area departments and in pedagogical departments could be particularly illuminating in strengthening the focus upon the kind of teaching programs want to prepare their graduates to enact, and the kind of teacher programs wish to prepare.

This finding, in turn, points to important questions that could be the grounds for a conversation among teacher educators in Norway. Norwegian teacher education must now implement a set of new curricular and structural reforms. This may be a particularly timely moment to take questions about vision, coherence and practice into account. A new curriculum remains a set of topics and plans – and does not necessarily provide a “vision” of what good teaching might look like in Norway. What vision (or visions) of good classroom teaching should, or could, undergird Norwegian teacher education? What should be, or could be, the nature of the connection to practice in these programs? It may be worth examining the merits of a vision that takes practice into account, or that ends up taking practice more directly into account. Such a vision that

emphasizes not just any set of practices – but the particular research-based practices that are emerging within the content areas – may also have the potential to help prospective teachers understand and identify more clearly the linkages between theory and practice, and subject matter and pedagogy. Yet there may be other emphases or priorities that need to be captured by a vision of good teaching in Norway. Discussions about vision may be a means to start to identify and affirm what really matters in Norwegian classrooms, in ways that go beyond structures and curriculum.

This finding also suggests fruitful questions that could be the grounds for a conversation among teacher educators in the U.S., across different types of programs. What visions are most powerful for teacher education programs? Are there other visions – aside from the three identified – that we feel are important? And, in an era in which national curricular standards are also becoming part of the educational context in the U.S., as well as increasing pressure around standardized testing, questions about maintaining powerful visions continue to surface in teacher education. How can we help new teachers sustain visions of the possible (that may run counter to more narrow measures of learning and achievement) in this current age of accountability?

Taken together, the findings in particular also affirm the potential need for programs to articulate – and for new teachers to develop – a *vision of classroom teaching practice*. Such a vision of classroom practice seems particularly important for graduates to develop an identity as a classroom teacher (Kennedy, 2006; Feiman-Nemser, 2001). The U.S. study found that graduates of programs with strong visions of teaching practice could imagine themselves carrying out their visions as classroom teachers for the long term (see Part I). This study of the visions of key teacher educators in Norway across a range of programs, however, also suggested that the program visions were not closely tied to teaching practice. However, if teacher educators are reluctant to promote and support visions of what good teaching is and looks like, student teachers may come away with the idea that *any* kind of teaching is acceptable and effective. In a program without a strong vision of teaching practice, student teachers may come to believe that all strategies and any approaches equally promote student learning, and that no one approach might be better than another. Or, worse, they may come to believe that there is no particular value in learning professional approaches to teaching and learning at all. Furthermore, in a program without opportunities to learn that are grounded in practice, student teachers may not ultimately not come to learn how to actually enact the strategies and practices that are reflective of and based in powerful principles of learning, or in visions of good teaching (McDonald, 2005; Zeichner, 2010; see also Grossman et al. 2009b.).

Despite the fact that these studies took place in very different policy and educational contexts, the studies together appear to confirm that the features of vision, coherence, and opportunities to learn in practice can be used fruitfully to

examine teacher education programs in different contexts. Recent research by Hansen and his colleagues suggests that teacher educators in different countries may face the same challenges, even though different language is used to describe them (Hansén, Forsman, Apfors, & Bendtsen, 2011). Similar to what Hansén and his colleagues anticipate, these three features helped call attention to shared challenges that may be useful for programs in both countries to consider. These two studies suggest that keeping these features in mind in program design or reform may be particularly fruitful in assessing strengths as well as program needs.

In an era in which recruiting and sustaining teachers over time remains a challenge for almost every country, helping new teachers develop and maintain a powerful vision may be particularly critical. A sense of purpose may be particularly important to sustaining commitment to teaching over the long haul or, on the other hand, to depleting commitment – for teachers in both countries. By articulating a program vision that connects to larger purposes, teacher education programs in the U.S. and in Norway may be better able to acknowledge, reinforce or further develop the visions that perhaps drew candidates to teaching in the first place. Furthermore, by articulating a vision of teaching practice and by providing the accompanying opportunities to learn, teacher education programs may be better able to help new teachers develop the repertoire of strategies and classroom practices necessary to succeed in attaining those visions.

Acknowledgements

This research was supported by a grant from the U.S. Norway Fulbright Foundation through the Fulbright Scholars Program for the academic year 2009-2010. The University of Oslo's Institute for Educational Research hosted me as a Visiting Scholar over the course of the year. I want to thank the Norwegian teacher education faculty and scholars who spent time with me over the course of the year in order to help me understand their programs and their efforts to prepare teachers. I also acknowledge and thank my University of Oslo colleagues, Kirsti Klette and Frøydis Hertzberg, who read and provided extremely useful feedback upon earlier versions of this paper.

References

- Blue Ribbon Panel and Clinical Preparation and Partnerships for Improved Student Learning (2010). *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers*. Washington, DC: National Council for Accreditation of Teacher Education.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher Preparation and Student Achievement. *Educational Evaluation and Policy Analysis*, 31(4), 416-440.
- Britzman, D. (1991). *Practice Makes Practice*. Albany, NY: State University of New York Press.
- Chazan, D. and D. Ball (1999). Beyond being told not to tell. *Learning of Mathematics* 19(2), 1-10.

- Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs*. San Francisco, CA: Jossey-Bass.
- Darling-Hammond, L., Hammerness, K., Grossman, P., Rust, F. & Shulman, L. (2005). The design of teacher education programs. (pp. 390-441). In L. Darling-Hammond, J. Bransford, P. LePage, K. Hammerness & H. Duffy (Eds.). *Preparing teachers for a changing world*. San Francisco, CA: Jossey-Bass.
- Darling-Hammond, L. (1999) (Ed). *Studies of Excellence in Teacher Education: Preparation at the graduate level*. (Five volumes) New York, Washington, DC: National Commission on Teaching and America's Future and American Association of Colleges for Teacher Education.
- Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record* 103(6), 1013-1055.
- Feiman-Nemser, S. and M. Buchmann (1985). Pitfalls of experience in teacher preparation. *Teachers College Record* 87, 53-65.
- Greene, M. (1988). *Dialectic of Freedom*. New York: Teachers College Press.
- Grossman, P., K. Hammerness, & McDonald, M. (2009a). Redefining teaching, reimagining teacher education. *Teachers and Teaching: Theory and Practice* 15(2), 273-289.
- Grossman, P., Compton, C., Ingra, D., Ronfeldt, M., Shahan, E., & Williamson, P. (2009b). Teaching practice; A cross-professional perspective. *Teachers College Record* 111(9).
- Grossman, P. and S. Loeb, Eds. (2008). *Alternative Routes to Teaching: Mapping the new landscape of teacher education*. Cambridge, MA: Harvard Education Press.
- Hammerness, K. (2012). Examining features of teacher education in Norway. *Scandinavian Journal of Educational Research*. Published February 24, 2012 online at: <http://www.tandfonline.com/doi/pdf/10.1080/00313831.2012.656285>
- Hansén, S. E., Forsman, L., Apfors, J., & Bendtsen, M. (2012). Visions for Teacher Education: Experiences from Finland. *Acta Didactica Norge* 6(1 Article 9), 1-17.
- Hatch, T. and P. Grossman (2009). Learning to look beyond the boundaries of representations. Overview for a digital exhibition, Learning from the Practice of Teaching. *Journal of Teacher Education* 60(1), 70-85.
- Hauge, T. E. (1994). Teacher education: A profession in decline? *Journal of Education for Teaching* 20(4), 27-30.
- Howey, K. and N. Zimpher (1989). Profiles of preservice teacher education. Albany: Albany State University of New York.
- Kennedy, M. M. (2006). Knowledge and Vision in Teaching. *Journal of Teacher Education* 57(3): 205-211.
- Lieberman, A. & Darling-Hammond, L. (Eds.) (2012). *Teacher Education around the World: International Perspectives on Teacher Education*. New York: Routledge.
- Lortie, D. (1975). *Schoolteacher: A sociological study*. Chicago: University of Chicago Press.
- McDonald, M. (2005). The integration of social justice in teacher education: Dimensions of prospective teachers' opportunities to learn. *Journal of Teacher Education* 56(5), 418-435.
- National Research Council, Committee on the Study of Teacher Preparation Programs in the U.S (2010). *Preparing Teachers: Building evidence for sound policy*. Washington, DC: National Academies Press.
- Windshittl, M., Thompson, J. & Braaten, M. (2009, November). The beginner's repertoire: Proposing a core set of instructional practices for teacher preparation. Paper presented at the NSF DR-K12 meeting. Washington, DC.
- Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college and university based teacher education. *Journal of Teacher Education* 61, 89-99.

Zeichner, K. and H. Conklin (2008). Teacher education programs as sites for teacher preparation, (pp. 269-289). In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre and K. Demers (Eds.). *Handbook of Research on Teacher Education: Enduring questions in changing contexts*. New York: Routledge.

Appendix

Table 1. Programs Examined in Norwegian Study
List of Institutions and Type of Preparation Examined

<u>Norwegian Study</u>
University of Oslo (Secondary and Upper Secondary)
University of Stavanger (Primary and Secondary)
University of Trondheim (Secondary and Upper secondary)
Oslo University College (Primary)
Vestfold University College (Primary)
Telemark University College (Primary)