

The Secret to Finland's Success: Educating Teachers

September 2010

About this Brief

In the last decade, Finland has emerged as the leading OECD country in educational achievement. In examining the sources of Finland's dramatic rise to the top, research shows one key element that has impacted Finland's success above all others: excellent teachers. This policy brief details the key elements of Finland's successful system, examining teacher preparation, professional learning and development, decision-making systems and practices for curriculum and assessment, future policy issues for Finland, and lessons that the United States can learn from Finland's success.

This brief is made possible by a generous grant from the Ford Foundation.



**Stanford University
School of Education**

**Barnum Center, 505 Lasuen Mall
Stanford, CA 94305**

**<http://edpolicy.stanford.edu>
scope@stanford.edu
650.725.8600**

By Pasi Sahlberg

Director General, Centre for International Mobility and Cooperation

With its high levels of educational achievement and attainment, Finland is regarded as one of the world's most literate societies. More than 98 percent attend pre-school classes; 99 percent complete compulsory basic education; and 94 percent of those who start the academic strand of upper secondary school graduate. Completion rates in vocational upper secondary school also reach close to 90 percent (Statistics Finland, 2010; Välijärvi & Sahlberg, 2008).

Since it emerged in 2000 as the top-scoring OECD nation on the international PISA assessments, researchers have been pouring into the country to study the "Finnish miracle." How did a country with an undistinguished education system in the 1980s surge to the head of the global class in just few decades? Research and experience suggest one element trumps all others: excellent teachers. This policy brief examines the crucial role that teachers and teacher education have played in the dramatic transformation of Finland's education system.

The Teacher within Finnish Society

Education has always been an integral part of Finnish culture and society, and teachers currently enjoy great respect and trust in Finland. Finns regard teaching as a noble, prestigious profession—akin to medicine, law, or economics—and one driven by moral purpose rather than material interests.

Teachers also are the main reason Finland now leads the international pack in literacy, science, and math. Until the 1960s the level of educational attainment in Finland remained rather low. Only 1 out of 10 adult Finns in that time had completed more than nine years of basic education; achieving a university degree was an uncommon attainment (Sahlberg, 2007). Back then, the education level of the nation was comparable to that of Malaysia or Peru, and lagged behind its Scandinavian neighbors, Denmark, Norway, and Sweden. Today, Finland publicly recognizes the value of its teachers and trusts their professional judgments in schools. Without excellent teachers Finland's current international success would have been impossible.

These educational accomplishments seem all the more remarkable given that Finnish children do not start primary school until age seven. The educational system in Finland today consists of an optional pre-school year at age six, followed by nine-year basic school (*peruskoulu*)—a six-year primary school and a three-year lower secondary school (*junior high school*)—compulsory to all. This is followed by voluntary three-year upper secondary education with

two streams: general and vocational education. Content experts and subject-focused teachers provide instruction in the upper grades of basic school as well as at the upper-secondary level.

The Finnish education system does not employ external standardized student testing to drive the performance of schools; neither does it employ a rigorous inspection system. Instead of test-based accountability, the Finnish system relies on the expertise and accountability of teachers who are knowledgeable and committed to their students.

Becoming a Teacher

Among young Finns, teaching is consistently the most admired profession in regular opinion polls of high school graduates (Helsingin Sanomat, 2004). Becoming a primary school teacher in Finland is a very competitive process, and only Finland's best and brightest are able to fulfill those professional dreams. Every spring, thousands of high school graduates submit their applications to the Departments of Teacher Education in eight Finnish universities. Normally it's not enough to complete high school and pass a rigorous matriculation examination, successful candidates must have the highest scores and excellent interpersonal skills. Annually only about 1 in every 10 applicants will be accepted to study to become a teacher in Finnish primary schools, for example. Among all categories of teacher education, about 5,000 teachers are selected from about 20,000 applicants.

There are two phases to the selection process for primary school teacher education: First, a group of candidates is selected based on matriculation examination results, the high school diploma issued by the school, and relevant records of out-of-school accomplishments. In the second phase:

1. Candidates complete a written exam on assigned books on pedagogy.
2. Candidates engage in an observed clinical activity replicating school situations, where social interaction and communication skills come into play.
3. Top candidates are interviewed and asked

to explain why they have decided to become teachers. These highly capable candidates complete a rigorous teacher education program at government expense.

Until the mid-1970s, primary school teachers were prepared in teacher colleges. Middle and high school teachers studied in subject departments of Finnish universities. By the end of the 1970s, all teacher education programs became university based. At the same time, scientific content and educational research methodologies began to enrich the teacher education curriculum. Teacher education is now research-based, meaning that it must be supported by scientific knowledge and focus on thinking processes and cognitive skills used in conducting research (Jakku-Sihvonen & Niemi, 2006). The entry requirement for permanent employment as a teacher in all Finnish basic and high schools today is a master's degree. Preschool and kindergarten teachers must have a bachelors degree.

Wages are not the main reason young people become teachers in Finland. Teachers earn very close to the national average salary level, typically equivalent to what mid-career middle-school teachers earn annually in the OECD nations—about \$38,500 in U.S. dollars (OECD, 2008). More important than salaries are such factors as high social prestige, professional autonomy in schools, and the ethos of teaching as a service to society and the public good. Thus, young Finns see teaching as a career on a par with other professions where people work independently and rely on scientific knowledge and skills that they gained through university studies.

Educating Teachers for Knowledge-Society Schools

International indices suggest that Finland is one of the most advanced knowledge societies (Sahlberg, 2007). Schools have played an important role in transforming Finland from a traditional industrial-agrarian nation into a modern innovation-based knowledge economy. This would not have been possible without considerable improvements in how Finnish teachers are prepared.

Universal high standards

All teachers hold master's degrees. Primary school

teachers major in education, while upper grade teachers concentrate their studies in a particular subject, e.g., mathematics, as well as didactics, consisting of pedagogical content knowledge specific to that subject. There are no alternative ways to receive a teacher's diploma in Finland: the university degree constitutes a license to teach.

Teacher education aims at balanced development of the teacher's personal and professional competences. Particular attention is focused on building pedagogical thinking skills that enable teachers to manage the teaching process in accordance with contemporary educational knowledge and practice (Westbury et al., 2005). Candidates in primary teacher education study three main areas: (1) the theory of education, (2) pedagogical content knowledge, and (3) subject didactics and practice. Each student completes a master's thesis. Prospective primary school teachers normally complete their theses in the field of education. Secondary teachers select a topic within their subject. The level of academic expectations for teacher education is similar for all teachers, from elementary to high school.

Finnish teacher education is aligned to the European Higher Education Area (2009) framework being developed under the ongoing Bologna Process. Currently, Finnish universities offer a two-tier degree program. An obligatory three-year bachelor's degree program is followed by a two-year master's degree program. These two degrees are offered in multi-disciplinary programs consisting of studies in at least two subjects. Studies are quantified in credit units within the European Credit Transfer and Accumulation System (ECTS) used in 46 European countries. ECTS is based on the assumption that 60 credits measure the workload of a full-time student during one academic year, and each ECTS credit stands for around 25 to 30 working hours. Teacher education requirements are 180 ECTS credits for a bachelor's degree followed by 120 ECTS credits for a master's degree. Successful completion of a master's degree in teaching (including the bachelor's degree) generally takes from five to seven-and-a-half years (Ministry of Education, 2007).

Strong preparation in content and pedagogy

A broad-based curriculum ensures that newly prepared Finnish teachers possess balanced knowledge and skills in both theory and practice. It also means that prospective teachers possess deep professional insight into education from several perspectives, including educational psychology and sociology, curriculum theories, assessment, special-needs education, and pedagogical content knowledge in selected subject areas. All eight universities have their own teacher education strategies and curricula that are nationally coordinated to ensure coherence, but locally crafted in order to make the best use of the university's resources and other nearby resources.

As a general rule, primary school teacher education includes 60 ECTS credits of pedagogical studies and at least 60 more ECTS credits for other courses in the educational sciences. The master's thesis requires independent research, participation in research seminars, and presentation of a final educational study. The common credit weighting associated with this research work in all universities is 40 ECTS credits. The renewed teacher education curriculum in Finland expects primary school teacher candidates to complete a major in educational sciences and a total of 60 ECTS credit in minor studies of subjects included in the National Framework Curriculum for basic schools.

Subject teacher education follows the same principles as primary school teacher education, but is arranged differently. A prospective subject teacher majors in the field he or she will be teaching (e.g., mathematics or music). For this subject, advanced studies involving 90 ECTS credits are normally required. In addition, 60 ECTS credits are required in a second school subject. Generally, the Department of Teacher Education organizes courses in pedagogical studies in collaboration with subject-matter programs offered by certain faculties, which also are responsible for teacher education of their own students. Academic subject faculties, who also have an important role in teacher education in Finland, issue master's degrees for subject teachers.

There are two main ways to become a subject teacher. Most students first complete a master's de-

Table 1. Structure of subject teacher education program at the University of Helsinki

Bachelor's level (25 ECTS credits)	Master's level (35 credits)
<p>First Term (18 credits)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Developmental psychology and learning (4) <input type="checkbox"/> Special education (4) <input type="checkbox"/> Introduction to subject didactics (10) <p>Second Term (7 credits)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Basic teaching practice in Teacher Training School (7) <p>As part of Master's program:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Research methodology (6) 	<p>Third Term (17 credits)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Social, historical and philosophical foundations of education (5) <input type="checkbox"/> Evaluation and development of teaching (7) <input type="checkbox"/> Advanced teaching practice in Teacher Training School or Field School (5) <p>Fourth Term (12 credits) Research seminar (4)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Final teaching practice in Teacher Training School or Field School (8)

gree with one major subject and one or two minor subjects. Students then apply to the department of teacher education for their focus subject. One academic year (60 ECTS credits) is spent in pedagogical studies, focusing on subject-oriented teaching strategies. The other way to become a subject teacher is to apply directly to the teacher education program when applying to study a subject. Normally, after the second year of subject studies, students start pedagogical studies in the education department. The curriculum for this second pathway is identical to the first, only scheduled differently within the bachelor's and master's tracks, typically over four academic terms as shown in an example of the University of Helsinki in Table 1 (above).

Instruction in Finnish teacher-education departments is arranged to reflect pedagogical principles that newly prepared teachers are expected to practice in their own classrooms. Although each university teacher has full pedagogical autonomy, every department of teacher education in Finland has a detailed and often binding strategy for improving the quality of its teacher-education programs. Subject-focused pedagogy and its research in, for example, science education are well-advanced in Finnish universities. Strategies of cooperative and problem-based learning, reflective practice, and computer-supported education are common in all Finnish universities. A Finnish higher education evaluation system that rewards effective, innovative university teaching practice has served as an important driver of these positive developments.

Integration of theory, research, and practice
 Finland's commitment to *research-based teacher education* means that educational theories, research methodologies and practice all play an important part in preparation programs. Teacher education curricula are designed to create a systematic pathway from the foundations of educational thinking to educational research methodologies and then on to more advanced fields of the educational sciences. Each student thereby builds an understanding of the systemic, interdisciplinary nature of educational practice. Finnish students also learn the skills of how to design, conduct, and present original research on practical or theoretical aspects of education. Another important element of Finnish research-based teacher education is practical training in schools, which is a key component of the curriculum, integrated with research and theory.

Teaching practice is integrated into both theoretical and methodological studies. Over the five-year program, candidates advance from *basic practice to advanced practice and then to final practice*. During each of these phases, students observe lessons by experienced teachers, practice teaching observed by supervisory teachers, and deliver independent lessons to different groups of pupils while being evaluated by supervising teachers and Department of Teacher Education professors and lecturers.

There are two main kinds of practicum experiences within teacher education programs in Finland. The first—a minor portion of clinical training—occurs in seminars and small-group classes

in the Department of Education, where students practice basic teaching skills in front of their peers. The second—the major teaching practice—happens mostly in special Teacher Training Schools governed by the universities, which have similar curricula and practices as normal public schools. Some student teachers also practice in a network of selected Field Schools. Primary school teacher education students devote approximately 15 percent of their intended study time (about 40 ECTS credits) to practice teaching in schools. In subject teacher education, practice teaching comprises about one third of the curriculum.

Although Teacher Training Schools constitute the main portion of the network where Finnish students complete their practice teaching, some normal public schools (called Municipal Field Schools) also serve the same purpose. (See Figure 1, below.) Schools where practice teaching occurs have higher professional staff requirements, and supervising teachers have to prove that they are competent to work with student teachers. Teacher Training Schools are also expected to pursue research and development roles in collaboration with the Department of Teacher Education and, sometimes, with the academic faculties who also have teacher education functions. These schools can, therefore, introduce sample lessons and alternative curricular designs to student teachers. These schools also have teachers who are well-prepared

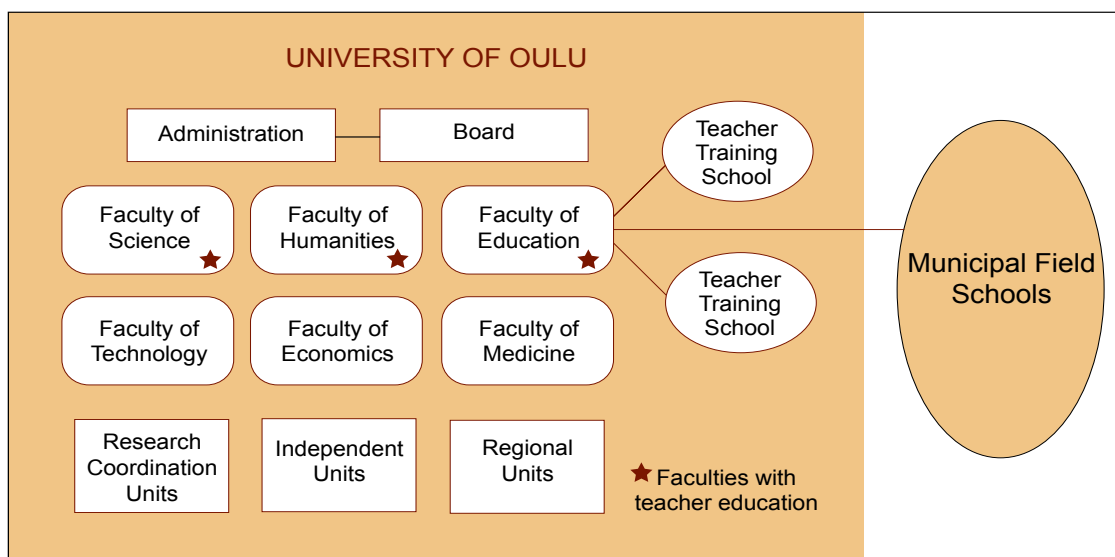
in supervision and teacher professional development and assessment strategies.

Professional Learning and Development

Finnish teachers possessing a master's degree have the right to participate in post-graduate studies to supplement their professional development. Many teachers take advantage of the opportunity to pursue doctoral studies in education, often while simultaneously teaching school. For doctoral studies in education, students must complete advanced studies in the educational sciences. This means that subject teachers much change their focus from their initial academic concentration, e.g., chemistry, to education, so that they not only understand their subject expertly, but also how the content can be better taught.

While Finnish teacher education has been praised for its systematic academic structure and high overall quality (Jussila & Saari, 2000), professional development and in-service programs for teachers are more variable. In Finland, induction of new teachers into their first teaching position is less uniform than initial preparation. It is up to each school and municipality to take care of new teachers' induction to their teaching assignments. Some schools, as part of their mission, have adopted advanced procedures and support systems for new staff, whereas other schools simply bid new teachers welcome and show them their classrooms. In

Figure 1. Structure of the University of Oulu and the organization of teacher education



some schools, induction is a specific responsibility of school principals or deputy principals, while in others, induction responsibilities may be assigned to experienced teachers. Teacher induction is an area that requires further development in Finland, as has been pointed out in a recent European Commission report (2004).

Concerns have also been raised recently about the variability of in-service education. Municipalities, as the overseers of primary, middle and high schools, are responsible for providing teachers learning opportunities, based on their needs. Whereas some Finnish municipalities organize in-service programs uniformly for all teachers, in others, it is up to individual teachers or school principals to decide how much and what type of professional development is needed and whether such interventions will be funded. Although schools are equitably financed, the central government has only limited influence on the budget decisions made by municipalities or schools. Therefore, some schools receive greater allocations for professional development and school improvement than others, especially where, during times of economic downturn, professional development budgets are the first to vanish.

Teachers' annual duties include three days devoted to planning and professional development. According to a Finnish national survey, teachers devoted about seven working days per year on average to professional development in 2007; approximately half was drawn from teachers' personal time. About two-thirds of primary and secondary school teachers participated in professional development that year (Kumpulainen, 2007).

In response to concerns that participation in professional development may be decreasing (Ministry of Education, 2009), the government is planning substantial increases in professional development budgets and considering ways to require that all teachers must have access to adequate professional training financed by municipalities. The state budget annually allocates some \$30 million to professional development of teachers and school principals through various forms of pre-tertiary and continuing education. The government determines

the focus of the training, based on current national educational development needs, and the training is contracted out to service providers on a competitive basis. The Finnish Ministry of Education (2009), in collaboration with municipalities, plans to double the public funding for teacher professional development by 2016.

The Teacher's Tools: Curriculum and Assessment

Since teacher education became part of academic university studies in the 1970s, Finnish teachers' professional identity and status have gradually increased. During the course of Finland's education reforms, teachers have demanded more autonomy and responsibility for curriculum and student assessment (Aho et al., 2006). The professional authority and autonomy that teachers have in Finland is an important factor in explaining why so many young Finns consider teaching as their most admired future job.

While the National Curriculum Framework for Basic School and similar documents for upper secondary education provide guidance to teachers, curriculum planning is the responsibility of schools and municipalities. The school-level curriculum is approved by local education authorities and teachers and school principals play a key role in curriculum design. Teacher education provides them with well developed curriculum knowledge and planning skills. Moreover, the importance of curriculum design in teacher practice has helped shift the focus of professional development from fragmented in-service training towards more systemic, theoretically grounded schoolwide improvement efforts.

Along with curriculum design, teachers play a key role in assessing students. Finnish schools do not use standardized testing to determine student success. There are three primary reasons for this. First, while assessment practice is well-grounded in the national curriculum, education policy in Finland gives a high priority to individualized education and creativity as an important part of how schools operate. Therefore the progress of each student in school is judged more against his or her individual progress and abilities rather than against statistical indicators. Second, education developers insist that

curriculum, teaching, and learning should drive teachers' practice in schools, rather than testing. Student assessment in Finnish schools is embedded in the teaching and learning process and used to improve both teachers' and students' work throughout the academic year. Third, determining students' academic performance in Finland is seen as a responsibility of the school, not the external assessors. Finnish schools accept that there may be some limitations on comparability when teachers do all the grading of students. At the same time, Finns believe that the problems often associated with external standardized testing—narrowing of the curriculum, teaching to the test, and unhealthy competition among schools—can be more problematic. Since Finnish teachers must design and conduct appropriate curriculum-based assessments to document student progress, classroom assessment and school-based evaluation are important parts of teacher education and professional development.

Although Finnish teachers' work consists primarily of classroom teaching, many of their duties lay outside of class. Formally, teacher's working time in Finland consists of classroom teaching, preparation for class, and two hours a week planning school work with colleagues. From an international perspective, Finnish teachers devote less time to teaching than do teachers in many other nations. For example, a typical middle school teacher in Finland teaches just less than 600 hours annually, corresponding to about four 45-minute lessons a day. In the United States, by contrast, a teacher at the same level devotes 1,080 hours to teaching over 180 school days as shown in Figure 2 (OECD, 2008). This means that a middle school teacher in the United States, on average, devotes about twice as much time to classroom teaching compared with his or her counterpart in Finland.

This, however, does not imply that teachers in Finland work less than they do elsewhere. An important—and still voluntary—part of Finnish teachers' work is devoted to the improvement of classroom practice, the school as a whole, and work with the community. Because Finnish teachers take on significant responsibility for curriculum and assessment, as well as experimentation

with and improvement of teaching methods, some of the most important aspects of their work are conducted outside of classrooms.

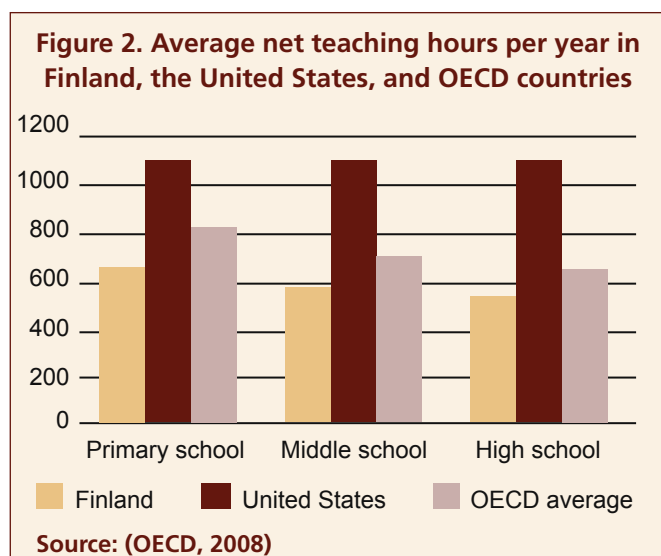
Future Policy Issues in Finland

Finland improves its schools and teacher education programs through continuous evaluation and review. In 2007, the Ministry of Education identified these issues as important to address:

1. Responding to the changing society. Declining age cohorts and growing retirements create a challenge for preparing enough new teachers for the future. Meanwhile, Finnish schools must accommodate a growing number of immigrant and special-needs students. Teacher education must continue to adapt to prepare educators for work in a changing social and cultural world.

2. Offering systematic professional development for all teachers. Teacher education and teacher professional development should form a stronger continuum, with induction available to all teachers and included as part of lifelong professional development. Municipalities should be required to ensure that each teacher has access to relevant professional development.

3. Creating a teacher education strategy for each university. Each university offering teacher education should have an updated, comprehensive teacher education strategy, coordinated among the university's various units, and guaranteeing mobil-



ity across institutions. These strategies should also put a strong focus on enhancing the university's role in providing in-service training and professional development to teachers.

4. Strengthening research on teacher education. Research on teacher education should be strengthened through a better, more coordinated national research program that includes conducting research on effective teacher education.

Lessons from Finland's Success

No single thing can explain Finland's outstanding educational performance. However, most analysts observe that excellent teachers play a critical role. Among the successful practices that we can take from Finland are:

- The development of rigorous, research-based teacher education programs that prepare teachers in content, pedagogy, and educational theory, as well as the capacity to do their own research, and that include field work mentored by expert veterans;
- Significant financial support for teacher education, professional development, reasonable and equitable salaries, and supportive working conditions;
- The creation of a respected profession in which teachers have considerable authority and autonomy, including responsibility for curriculum design and student assessment, which engages them in the ongoing analysis and refinement of practice.

Teachers' capacity to teach in classrooms and work collaboratively in professional communities has been systematically built through academic teacher education. In addition, a critical condition for attracting the most able young people to teaching is that teacher's work is an independent and respected profession, rather than just a technical implementation of externally mandated standards and tests. Teachers' strong competence and preparedness creates the prerequisite for the professional autonomy that makes teaching a valued career.

References

- Aho, E., Pitkänen, K. & Sahlberg, P. (2006). *Policy development and reform principles of basic and secondary education in Finland since 1968*. Washington, DC: World Bank.
- European Commission (2004). *Common European principles for teacher competences and qualifications*. Brussels: Directorate-General for Education and Culture. Available at: http://www.see-educoop.net/education_in/pdf/01-en_principles_en.pdf.
- European Higher Education Area (2009). *Bologna Process*. Vienna: Austrian Federal Ministry of Science and Research. Available at: http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents/Bologna_booklet.pdf.
- Helsingin Sanomat (2004). *Ykkösuosikki: Opettajan ammatti [Top favorite: Teaching profession]*. February 11, 2004.
- Jakku-Sihvonen, R. & Niemi, H. (Eds.) (2006). *Research-based teacher education in Finland: Reflections by Finnish teacher educators*. Research Report 25. Turku: Finnish Educational Research Association.
- Jussila, J. & Saari, S. (Eds.) (2000). *Teacher education as a future-molding factor: International evaluation of teacher education in Finnish universities*. Helsinki: Higher Education Evaluation Council. Available at: <http://www.kka.fi/?l=en&s=4>.
- Kumpulainen, T. (Ed.) (2008). *Opettajat Suomessa 2008 [Teachers in Finland 2008]*. Helsinki: Opetushallitus.
- Ministry of Education (2007). *Opettajankoulutus 2020 [Teacher education 2020]*. Committee Report 2007:44. Helsinki: Ministry of Education.
- Ministry of Education (2009). *Ensuring professional competence and improving opportunities for continuing education in education*. Committee Report 2009:16. Helsinki: Ministry of Education.
- OAJ (2008). *Teacher education in Finland. Helsinki: The trade union of education in Finland*. Available in the Internet at: http://www.oaj.fi/pls/portal/docs/page/oaj_internet/01fi/05tiedotteet/03julkaisut/opekoulutuseng.pdf.
- OECD (2008). *Education at a glance. Education indicators*. Paris: OECD.
- Sahlberg, P. (2007). Education policies for raising student learning: The Finnish approach. *Journal of Education Policy*, 22(2), 147-171.
- Statistics Finland (2010). *Education*. Retrieved September 4, 2010 from http://www.stat.fi/til/kou_en.html.
- Westbury, I., Hansen, S-E., Kansanen, P. & Björkvist, O. (2005). Teacher education for research-based practice in expanded roles: Finland's experience. *Scandinavian Journal of Educational Research*, 49(5), 475-485.
- Väljjarvi, J. & Sahlberg, P. (2008). Should a 'failing' student repeat a grade? Retrospective response from Finland. *Journal of Educational Change*, 9(4), 385-389.