Finnish pupils' success in international student assessment tests is a hot topic everywhere in the world. The significance of Finnish educational policy and society are continuously discussed. This book provides explanations, answers and reflections to these questions. Over 30 expert authors have contributed to this book by bringing their own specific research-based viewpoints to these issues.

The book describes the wholeness of the Finnish educational system, on both structural and administrative levels. It introduces the framing factors and societal conditions of education in Finland. It also explains how the Finnish educational system and teacher education function in everyday life.

The book illustrates how teaching and learning of different subjects is realized in Finnish schools, and describes the essential characteristics and methods of teaching, learning materials and research on these issues.

The book provides important insight and reflections to international researchers, teachers, students, journalists and policy makers, who are interested in teaching and learning in Finnish schools. It shows the results of the systematic and persistent work that has been done on education and schooling in Finland.

The main features of education in Finland:
- Strong equity policy
- Teachers as autonomous and reflective academic experts
- Flexible educational structures and local responsibility for curriculum development
- Evaluation for improvements, not for ranking
- No national testing, no inspectorate
- Research-based teacher education
- Teachers' high competence in content knowledge and pedagogy
- Trust in education and teachers
Miracle of Education
Miracle of Education

The Principles and Practices of Teaching and Learning in Finnish Schools

Edited by

Hannele Niemi, Auli Toom & Arto Kallioniemi
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All teachers, teacher educators and students in schools who have given their time and commitment in several educational research and development projects in Finland.
The welfare of Finnish society is based on knowledge and competence. Ensuring and improving citizens’ knowledge bases and capacity building require equal possibilities for everyone to receive quality education. All students have a right to good education and counselling irrespective of the region they come from and its local conditions. Access to further education and continuing studies after comprehensive education and employability cannot be endangered because of a poor quality of primary and secondary education. Therefore, the teaching staff in all local educational institutions should be qualified and competent.

The requirements of teacher qualification are based on four different sub-areas: content knowledge, expertise in learning and teaching, social and moral competences, and the many-sided skills involved in practical school work. These sub-areas are not separated, and they are linked to each other in many different ways. Supporting this integration is one of main challenges of teacher education. It also requires a continuum of teachers’ basic and in-service education.

Teachers have to be many-sided experts in their fields. They must have a wide view of every aspect of education and schooling. Teachers need content knowledge and the pedagogical knowledge integrated with it. Furthermore, they must be ready to make long-range plans for education, and not limit their work only to the development of specific aspects of these plans. An understanding of the wholeness of education and schooling is important for developing curricula. Teachers should also have an idea about the networks of different experts who are involved in creating and developing content knowledge. Nowadays, there seems to be some debate over what the common concept of the purpose schools should involve. The concept of schools having a function is being revisited in a dialogue between different points of view. Schools should simultaneously transmit traditional knowledge and skills and direct students to use new knowledge environments in a creative way. In society there are very different and contradictory opinions about what should be the main contents and methods of teaching. Schools, as communities, should set aims for their own work, develop working methods and create tools and procedures for evaluating their effectiveness. Schools cannot be directed by some random trends or strident demands. Reforms must be implemented through dialogue and discussions with partners in society. In the future, the teaching profession and teachers need a readiness to participate and
MIKKOLA

contribute to debates concerning the role of schools in society. (Niemi 2005; Välijärvi 2006).

As the traditional concepts of knowledge of learning have broadened, educational institutions and teacher are facing new challenges. They have to teach students how to learn and regulate their learning in addition to teaching knowledge and skills. Changes in working life require continuous learning and education. As the experts in a knowledge-related profession, teachers are required to act as a model of life-long learning. The core area of teaching profession is the expertise of learning and teaching. In the future teachers will have to use this expertise flexibly not only over different stages of educational organizations, but also over different age groups and different districts. Teachers use their knowledge of teaching and learning in different situations as they work with different people. Networks are also a vital part of a teacher’s work. One of the main tasks of a teacher is to determine how relationships with new learning environments should be moulded in such a way that they support the harmonious development of students (Niemi, 2005; Välijärvi, 2006).

Teachers’ work includes important societal and cultural values in society. Democracy, the value of a human being, active citizenship and human welfare are important objectives, which should be at the centre of every day life in schools. If the goal of school education is an open and reflective student with skills for co-operation, it is important to explore what kinds of education and school environments facilitate these goals. Students can be expected to be remarkably more sophisticated and competent than the way they are modelled in schools’ daily working practices. The ethical and social dimensions of the teaching profession are becoming even more important with the changes in economical wellbeing and social problems in society. Schools cannot solve the problems that arise from the breakdown of social networks in society by themselves, therefore teachers are expected to work more in co-operation with other specialists. As students should be provided with the most appropriate help with their problems, the meaning of the co-operation between schools and parents is becoming more and more important.

According to international comparisons, Finnish teachers are well placed to influence their work. Decentralized decision making and local responsibility for local curricula have been characteristics of our educational policy since the 1980’s. This means that teacher’s work needs many kinds of practical wisdom as well as leadership knowledge. Questions about school life, teachers and students rights and obligations and furthermore, questions about school economics and management are examples of matters that are part of a teacher’s expertise. Student teachers are familiarized with these kinds of question already in their teacher education especially during their teacher practice periods. (Välijärvi, 2006)

Evaluations have uncovered that Finnish teacher education is able to give student teachers a good command of content knowledge together with many-sided expertise in teaching and learning. Periods of teaching practice, which are an integral part of teacher education, give the student teachers the competences they
will need in school life. One main challenge for the future is putting more emphasis on societal issues and their dimensions in teacher education. Ethical and social matters are becoming more and more significant parts of teachers’ expertise. This should also be a vital part of the contents and practice in teacher education.

Even with these problems, the status of Finnish teacher education is still better than in many other countries, if we look at our situation from an international perspective. The universities can choose the best candidates from the pools of applicants, because young people are interested in teacher education. Every year there are many more applicants than the universities can take to begin studies in teacher education. Keeping this interest in teacher education and teaching alive will be one of the main challenges for the teaching profession in Finland in the future.

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PART I INTRODUCTION:
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1. AMAZING PISA RESULTS IN FINNISH COMPREHENSIVE SCHOOLS

ABSTRACT
This chapter highlights Finnish students’ outstanding success in PISA studies during the last decade. This success has been a great joy to educational practitioners and decision makers in Finland. It has been amazing how the Finnish education system, with only average monetary investments, a very small amount of homework and lesson hours and extremely light education evaluation (no inspection system) can reach such results high quality and equality in international comparisons. The purpose of this chapter is to present the Finnish students’ PISA results and describe the special characteristics and strengths of our comprehensive schools. In fact, there is no one single explanation for the result. Rather, the successful performance of Finnish students seems to be attributable to a web of interrelated factors having to do with comprehensive pedagogy, students’ own interests and leisure activities, the structure of the education system, teacher education, school practices and Finnish culture.
Keywords: PISA, learning outcomes, Finland

PISA STUDY
Through the PISA studies the OECD aims to achieve its educational policy strategic objectives. Firstly, it evaluates and improves the outcomes of education by evaluating the trends in learning outcomes of schooling and analysing and improving policies and practices. Secondly, it promotes quality teaching by developing indicators for teaching and learning. Thirdly it builds social cohesion through education by improving outcomes for students with special needs and responding effectively to ethnic and cultural diversity.

PISA focuses on young people’s ability to use their knowledge and skills to meet real-life challenges. This orientation reflects a change in the goals and objectives of curricula themselves, which are increasingly concerned with what students can do with what they have learned at school and not merely with whether they have mastered specific curricular content. PISA 2009 is the fourth of triennial surveys in the OECD’s assessment programme that since 2000 aims to study students’ learning outcomes in reading literacy, mathematical literacy and scientific literacy. Each PISA cycle is named according to the year in which the assessment takes place. The main focus of PISA 2000 was on reading literacy,
in the sense that it included an extensive set of tasks in this domain. In PISA 2003 the emphasis was on mathematical literacy and an additional domain on problem solving was introduced. In 2006 the focus was on scientific literacy. The assessment of the main area is extensive and receives most of the testing time while in the minor assessment areas only the general trend of learning outcomes can be studied. Thus, in PISA 2009 it was possible for the first time to reliably study the changes in students’ performance in reading literacy over a 9-year period.

In PISA 2009 (and the second round in 2010), a paper- and- pencil assessment was completed by approximately 520,000 students, representing the 28 million 15-year-old students in 74 participating countries and economies covering 87% of world economies.

In Finland, data was gathered from 6415 students in 203 schools. All the Swedish speaking schools in Finland were sampled in order to make reliable comparisons between the two language groups in Finland.

HIGH LEVEL OF PISA RESULTS

Finnish Students among Top-achievers in PISA

Finnish students’ performance has been among the best in all the domains in each PISA cycle; although the number of participating countries and economies has increased over the years from 34 to 74.

Reading Literacy

In PISA, reading literacy is defined as understanding, using and reflecting on, and engaging in written texts in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society. A wide selection of authentic texts and tasks that the reader will encounter in everyday life has also been included in the test. In Figure 1, one of the reading items with two following questions is introduced.

Reading Results

In PISA 2009, the OECD countries of Finland and Korea and the partner economies of Hong Kong, China and Shanghai, China had mean reading scores well above any other participants (see Figure 2). It is notable that besides Finland, all top-performing countries and partner economies represent either Asian countries or English-speaking OECD countries. Furthermore Finland clearly
Figure 1. A sample question for OECD’s PISA reading literacy. Source: (OECD, 2009b)
outperformed the other Nordic countries as well as all the other European countries: the second best European country in the PISA 2009 reading literacy assessment was the Netherlands (10th in the country comparison). Finnish students’ reading literacy performance is still characterized by a high level of equity, since the gap between the low and top performers in Finland was clearly narrower than the average within the OECD. However, the distribution of performance was even narrower in Shanghai, Korea, and Hong Kong. The four top countries and economies all show that both quality and equity of learning outcomes can be attained in very different educational and linguistic contexts.

Mathematical Literacy

PISA’s definition for mathematical literacy is the following: An individual’s capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgements and to use and engage with mathematics in ways that meet the needs of that individual’s life as a constructive, concerned and reflective citizen. An example of a PISA mathematics item is shown in Figure 3.

Mathematics Results

During the last rounds of PISA studies, students from East Asian countries dominated in mathematical literacy. The only high-performing country outside of the East Asian region was Finland. In PISA 2009 students in Shanghai, China are by far the best performers in mathematics with a mean score of 600 points (see Figure 2). Their mean score is 59 points higher than the Finns’, who still rank as the OECD’s best students.

On average across OECD countries, nearly four in five students (78%) are proficient in mathematics to the level where they can use basic mathematical algorithms, formulae, procedures, or conventions, and can reason mathematically. In Finland and Korea, and in the partner countries (which are not members of OECD) Hong Kong, Liechtenstein, Shanghai, China and Singapore, over 90% of students reach that level. At the other end of the scale, one in eight students (13%) on average in OECD countries are so-called top performers, capable of complex mathematical tasks requiring broad, well-developed thinking and reasoning skills. In Shanghai, China, over 50% of students reach that level. Respectively, in Korea the percentage of these students is 26%, and in Finland 22%.
Figure 2. Top countries’ performances in reading, mathematical and scientific literacy, PISA 2009.
Figure 3. A sample question for OECD's PISA mathematical literacy. 
Source: (OECD, 2009b).

Scientific Literacy

The PISA 2009 framework gave the following definition for scientific literacy: An individual’s scientific knowledge and use of that knowledge to identify questions, to acquire new knowledge, to explain scientific phenomena, and to draw evidence based conclusions about science-related issues, understanding of the characteristic features of science as a form of human knowledge and enquiry, awareness of how science and technology shape our material, intellectual, and cultural environments, and willingness to engage in science-related issues, and with the ideas of science, as a reflective citizen.
Read the following information and answer the questions that follow.

**Daylight on 22 June 2002**

Today, as the Northern Hemisphere celebrates its longest day, Australians will experience their shortest. In Melbourne*, Australia, the Sun will rise at 5:35 am and set at 9:08 pm, giving nine hours and 32 minutes of daylight.

Compare today to the year’s longest day in the Southern Hemisphere, expected on 22 December, when the Sun will rise at 5:55 am and set at 8:42 pm, giving 14 hours and 47 minutes of daylight.

*Melbourne is a city in Australia at a latitude of about 38 degrees South of the equator.

Source: The Age newspaper, Melbourne, Australia, 22nd June 1999 (adapted).

**QUESTION 3.1**

Which statement explains why daylight and darkness occur on Earth?

A. The Earth rotates on its axis.
B. The Sun rotates on its axis.
C. The Earth’s axis is tilted.
D. The Earth revolves around the Sun.

**QUESTION 3.2**

In the Figure light rays from the Sun are shown shining on the Earth.

![Figure: light rays from Sun](image)

Suppose it is the shortest day in Melbourne.
Show the Earth’s axis, the Northern Hemisphere, the Southern Hemisphere and the Equator on the Figure. Label all parts of your answer.

---

Figure 4. A sample question for OECD’s PISA scientific literacy.
Source: (OECD, 2009).
Science Results

In science, Finland has been among the highest achieving countries in every PISA study. However, in PISA 2009 it was Shanghai’s turn to score highest (see Figure 2). In this most recent PISA, Finland and Hong Kong, China share second place; although Finland is the highest scoring OECD country with the most top (19%) and least low performing 6% students in science. In the OECD on average, the corresponding figures were 9% and 18%.

ABOUT PISA ITEMS

As can be seen from the PISA sample items (Figures 1, 3 and 4), each one of cognitive questions is arranged in units based around a common stimulus. Many different types of stimuli were used (passages of text, tables, graphs and diagrams, often in combination). The total number of cognitive items in PISA is well over 100 representing around 2 hours of testing time. Item formats employed with science cognitive items were multiple-choice, short closed-constructed response, and open- (extended) constructed response. (OECD, 2009c)

In PISA score points were scaled so that the mean of OECD countries was 500 and the standard deviation was 100. When a closer look is taken at students score points in reading, mathematical and scientific literacy, strong correlations can be observed between these different literacies. The correlation between the students score points in reading and mathematics in Finland is 0.78, between reading and science 0.87 and between mathematics and science 0.85. The results can partly be explained by the nature of the items in PISA, which all are in one way or other problem solving items. To be able to respond to science or maths items students are required to read and understand texts. Thus a weaker reader is likely to get weaker results also in maths and science.

Interest in Reading and Reading Strategies Important

PISA shows that in Finland, students’ high reading literacy performance is related to several interrelated factors: namely, to their attitudes towards reading, their command of effective and appropriate reading strategies, and also the diversity of reading materials. All of these explanatory factors of reading literacy are more pronounced in Finland than in the OECD on average. (Sulkunen et al., 2010)

Trends in Performance of Finnish Students

The reading literacy proficiency of Finnish students in the PISA 2009 assessment has decreased by 10 points during the last 9 years since PISA 2000 (Figure 5). A similar comparison of scientific literacy results with the “science” PISA 2006
results also shows a slight but significant decrease. However, students’ recent performance results in mathematical literacy have remained at approximately the same level when compared with the results of the “mathematics” PISA in 2003. Although these observed decreases are small and barely significant, it is a trend that causes concern.

It is very difficult to find reasonable explanations for the slight decreases observed in reading and science literacy since the first PISA results were published in Finland in 2001. The national distribution of lesson hours was altered at that time to increase instructional time for mother tongue and literature, science, and mathematics in every grade of comprehensive school. Since the overall instructional time stayed the same, these extra hours were mostly taken away from arts, crafts and physical education lessons; so it seems that it is not the quantity, but the quality of lessons which matters.

A closer comparison between the Finnish results of same items (link items) used in PISA (2000 and 2009 in reading literacy, of PISA 2003 and 2009 in mathematical literacy and PISA 2006 and 2009 in science) also gives somewhat puzzling results. Instead of a slight overall decrease in the percentage of correct answers we can observe no differences in most of the items, but there is a 20% difference in some single items. This makes us wonder how notable these most recently observed statistically significant differences in trends actually are.
EQUAL OPPORTUNITIES TO LEARN

Between School Equality

In every PISA study in Finland, differences between schools in students’ reading, mathematics and science scores have been exceptionally small, normally less than 8% of the total variance in student scores: although in recent years, there seems to be a slight increase of a few percentage points in the differences between schools. These small between-school differences indicate great equity in Finnish comprehensive school - the school choice has only a minimal impact on students’ achievement. The main reason for this is that almost 95% of Finnish PISA-aged students are still in comprehensive school with no tracking of streaming and with a high quality of both teachers and instructional material. Regional differences as well as differences between urban and rural areas are also very small.

Equality Related to Family Background

The PISA results show that a student’s socio-economic background, measured as economic, social and cultural capital of the home, is associated with his or her reading performance to some extent in all participating countries. On average across the OECD countries, 14% of variation in students’ reading performance can be explained by their socio-economic backgrounds. However, Finland (with a corresponding figure 7.8%), together with three others of the highest performers in PISA 2009, Shanghai (12.3%), Korea (11.0%), and Hong Kong (4.5%) has succeeded in promoting equality by reducing the extent to which a student’s socio-economic background affects his or her performance in school. On the other hand, in the OECD countries of Hungary (26.0%), Belgium (19.3%), Turkey (19.0%), and Chile (18.7%) family background is a stronger factor in learning outcomes.

There has been a significant widening of the performance gap between students from different backgrounds from 2000 by 2009 in Finland. Even still, it remains well below that of the other OECD countries. It should also be kept in mind, that although socioeconomically advantaged students tend to perform better on average, a number of them still perform poorly, just as a number of disadvantaged students perform well (OECD 2010b).

CHALLENGES TO EDUCATIONAL EQUALITY

Gender Difference

In every one of the 65 countries and economies that participated in PISA 2009, girls scored significantly higher in mean reading performance than boys. This gender gap in reading varies from less than 25 points in 7 countries to more than 50 points in 14 countries and economies. In Finland the gender gap in reading
is 55 points favouring girls, which is the most pronounced difference of all OECD countries. Boys are overrepresented among weak readers and girls among top readers. In Finland there are about four times as many boys among the weak readers (13%) as girls (3%) and among the top readers the respective percentages are 9% of boys and 21% of girls.

The lower reading proficiency among the Finnish boys has not become a major equity issue or concern in the Finnish education system, although it is the equivalent of 1.4 years of schooling. One reason for this is that the Finnish boys still score very high: about 15 points above the OECD average, and are still among the best boy readers in PISA. However, closing the gender gap could be one of the easiest ways to improve reading performance overall. It also means that girls have a clear head start over boys for their future studies and working life as far as reading skills are concerned. This can already be seen in university graduate rates in Finland where 62% of graduates are females and 38% males (OECD, EAG 2009).

Boys outperform girls in mathematics in 35 of the 65 countries and economies that participated in PISA 2009 and by an average of 12 points across OECD countries. However, in Finland there are no significant gender differences. Thus it seems that in Finland, students’ mathematics skills are not gender dependent.

In science, girls outperform boys in 21 of the 65 countries and economies that participated in PISA 2009. This was also the case in Finland, where the gender gap was quite large - 15 points favouring the girls. However, on average across OECD countries, boys and girls achieve the same scores, suggesting that science is a domain where policies that focus on gender equality have been most successful.

Difference between the Language Groups

There are two national languages in Finland, Finnish and Swedish. In PISA 2009 as well as in earlier PISAs, Finnish-speaking students clearly outperformed their Swedish-speaking peers. The observed gap between language groups is 27 points in reading, 14 points in mathematics, and 28 in science. In reading and science these differences amount to more than half a school year’s progress. However, when compared internationally, it is notable that Swedish-speaking Finns still do quite well, and clearly better than students in Sweden who also speak Swedish as their mother language.

Immigrant Education

The very small proportion of immigrant population in Finland is commonly considered to be one of the reasons for Finnish success in PISA studies. According to PISA 2009 results in Finland, there is a pronounced performance difference between native students and students with an immigrant background. Even after
accounting for socio-economic background, students with an immigrant background score, on average, 69 points below students without an immigrant background in reading: this difference in reading performance is the equivalent of 1.8 years of formal schooling. This is the second biggest difference between immigrants and non-immigrants among OECD countries after Mexico (128 points); the OECD’s average being 35 points respectively. In Israel, Australia, the USA, and Canada students from an immigrant background perform just as well as their non-immigrant peers (OECD, 2010b). These PISA findings call for active educational policy making that aims at more effective integration training for immigrants in Finland.

EFFECTIVE EDUCATION SYSTEM

High Performance with Average Investment

The mean score summarises the performance of students overall and shows that reading standards vary greatly among countries and economies in ways that cannot simply be attributed to the countries’ different stages of economic development. A nation’s wealth and expenditure on education influences educational success; but GDP per capita accounts for only 6% of the differences between countries’ average student performance. The other 94% reflects the fact that two countries of similar prosperity can produce very different educational results (OECD, 2010a). For example Figure 6 shows, the public spending per student up to age 15 on the horizontal axis and the performance at the vertical axis. We can see that the cumulative expenditure on the education of a 15-year-old in Finland represents international average and is at the same level as in Germany. However, the difference between these two nations in mean performance scores on the PISA science scale is about 40 points favouring Finland (see Figure 6) (OECD, EAG 2009).

High Results with Minimum Instruction Hours

Instruction time in formal classroom settings accounts for a large portion of the public investment in student learning and is considered to be a central component of effective schooling. The amount of schooling determines students’ opportunities to learn. Instruction time is also regarded as one of the main factors in schools’ operations. In Finland, school for children starts at the age of 7. Among OECD countries, compulsory instructional time between the ages of 7 and 14 is 6777 hours. However, as can be seen in Figure 7, this instructional time in Finland is 1025 hours less, being only 5752, which is among the lowest ones in the OECD countries. In Finland the students are expected to receive, on average 1216 hours between the ages of 7 and 8, 2049 between the ages of 9 and 11, and 2487 hours between the ages of 12 and 14. The corresponding mean hours in the OECD are
1554, 2466 and 2754. It is really amazing, how Finnish students can achieve the topmost results with the minimum instructional time. There seems to be a question of the quality of education, not about the quantity. (OECD EAG 2010)

Small Class Sizes

Class size and student teacher ratios are hotly debated topics in Finnish education policy discussions - along with students’ total instruction time. The average class size in primary and lower secondary education varies from about 30 or more in Japan and Korea to 20 or fewer in Denmark, Finland, Iceland, Luxembourg and Switzerland. In two-thirds of the countries with comparable data for 2000 and 2008, class sizes have tended to decrease. However, in Finland those have stayed the same at 20.1 students.

In OECD countries the ratio of students to teaching staff in primary education ranges from 24 or more per teacher in Chile, Korea, Mexico and Turkey, to fewer than 11 in Hungary, Italy, Norway and Poland. The OECD average is 16 students.
per teacher. In Finland this figure is 11.4, well beyond the OECD average. In lower secondary education the OECD average is 13.7 and in Finland 10.6 students per teaching staff. (EAG 2010)

SUMMARY

The outstanding Finnish students’ performance in PISA cannot be explained only by school related factors. As Sadler already in 1900 stated, “In studying foreign systems of education, we should not forget that the things outside the schools matter even more than the things inside the schools and govern and interpret the things inside” (Sadler, 1979). So in order to understand these high quality educational outcomes we have to look as well for the specific social, cultural, economical and historical characteristics of Finland.
One way to approach these characteristics is to take a closer look at comparative statistics. As an example, Newsweek (2010) ranked Finland as a best country in the world using factors related to health, economic dynamism (the openness of a country’s economy and the breadth of its corporate sector), education, political environment, and quality of life. Another, so-called Legatum Institute’s Prosperity Index (2010) ranking of 110 countries covering 90% of the World’s population ranked Finland also among the happiest countries. The prosperity index was constructed from the fields of economy, entrepreneurship & opportunity, governance, education, health, safety & security, personal freedom and social capital. Finland has also been chosen as the greenest countries – the most liveable place on the earth by the Reader’s Digest (2008).

The well being of Finnish children (UNICEF, 2007; OECD, 2009d) has also ranked to be among the top countries in the world. In these comparisons material well-being, housing and environment, educational wellbeing and health and safety in Finland were ranked very high.

These different rankings reveal that it is somewhat evident that Finnish students’ amazing results in PISA, good living conditions and children’s wellbeing form a cycle in which these components can either reinforce or diminish each other.

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2. THE SOCIETAL FACTORS CONTRIBUTING TO EDUCATION AND SCHOOLING IN FINLAND

ABSTRACT

The article introduces the reasons why teaching and learning have a high priority in Finnish society and how teacher education support teachers’ role to work as high quality professionals. The article provides a brief review of the historical and cultural movements that have had an influence on respect for education and learning in Finnish society. The article also provides a description of the Finnish educational system with the comprehensive school as one of its important element. The major reasons for the success of Finnish education are a combination of political will, purposeful efforts to promote equity by the educational system, high quality teacher education, teachers’ professional and moral responsibility, and society’s trust in the educational actors.

Keywords: teacher education, equity, educational system, teaching profession, teachers

THE FINNISH EDUCATION: EQUITY AND QUALITY AS ITS MAIN OBJECTIVES

Introduction

The Finnish education system has received attention from all over the world because of the great success of Finnish 15-year-olds in the OECD’s PISA surveys in 2000, 2003, 2006 and 2009 (e.g. OECD, 2006; 2009; 2010). The knowledge and skills of Finns in problem solving, scientific, mathematical and reading literacy are representative of the highest level of international standards. Only a very few Finnish students are in the lowest PISA categories. Likewise, the between schools differences of learning outcomes are small. Major reasons for these high learning outcomes are a purposeful educational policy and the high standards of teachers. According to researchers (Schleicher, 2005; Välijärvi, 2004; Simola, 2005; Laukkanen, 2006; Niemi & Jakku-Sihvonen, 2006), the Finnish educational policy has aimed at equity in education and has promoted the
common comprehensive school model. In the process, many important decisions have been made. One of those has been the decision that all teacher education including primary school teachers was raised to the MA level (5-year programs). This article gives an overview of the major drivers of this policy, why they were taken and how they have influenced educational practice and teachers’ professional roles. In the beginning of the article there is a brief review of the historical and cultural movements that have influenced Finnish education. Thereafter the structure and major features of the Finnish educational system are introduced. Finally there is a description of the Finnish research-based teacher education and its major qualities.

Respect for Learning and Education in the Finnish Culture - Education of a Nation and Comprehensive Schooling for All

In Finland, the promotion of equity, learning and education is central factor in our national history, which can be seen in the framework of cultural and historical background factors. Thus, in Finland we like to think that our success in the PISA surveys has been only a side product in the development of our educational system.

A major cultural influential background factor is the Finnish national identity. Having been first a part of the Swedish realm from 1249 to 1809, then from 1809 to 1917 existing as a Grand Duchy in the Russian Empire, Finland finally became independent in 1917. From the late 19th century onwards, a strong Finnish nationalist movement, known as the Fennoman movement, grew. Milestones included the publication of what would become Finland's national epic, the Kalevala, in 1835, and the Finnish language achieving equal legal status with Swedish in 1892. The stories of the Kalevala tell about strong individuals whose power was based on mental abilities and wisdom, not on physical strength. The national movement in the 19th century was inspired and promoted by many influential university professors who apart from working in their areas of expertise also had political power. They strongly advocated the education of the nation. Especially J.V. Snellman (1806–1881), philosopher, statesman and later also Head of the Bank of Finland, stressed the value of education and learning for the nation. The main message of representatives of the Finnish national movement was the education of a nation. The power of the nation depends especially on competent leaders and quality of civil servants and teachers. Teacher education was seen as a necessary means for national education. Teacher education has had a close relationship with universities since its beginnings in the 19th century. The first teacher education seminar was established in 1863 and in 1866 the first decree for basic education was given. The most influential promoter of basic education was Uno Cygnaeus who created the main guidelines for education for all children and developed the first teacher
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Education models. In 1852 the first professorship in education was established at the University of Helsinki and it was closely related with teacher education and the role of education in society. It was the first professorship of education in the Scandinavian countries. The first advocates of a national identity put a strong emphasis on basic education. Respect for learning and education provided also the possibility of elevation from the lower strata of society. Historically, many teachers had peasant family backgrounds.

Respect for learning and teachers’ work has long historical roots in Finland and has been a deep cultural feature in Finnish society. Teachers were considered to be important persons in local communities. They were often responsible for cultural activities in villages when a 6-year basic education became compulsory for all children in 1921. Teachers were called “candles of the nation” and very often they educated the whole village and people in local regions by organizing choirs, theatre performances and parental education in addition to their normal school work. This education process was strongly supported by the Finnish Lutheran Church that had demanded literacy as a basic requirement for obtaining permission to marry since the 15th century until the school system in society took responsibility for basic education and literacy.

Educational Policy for Equity

After the Second World War the baby boom increased the number of pupils in the 1950s. At the same time the concept of a welfare society emerged. Education was seen as a basic factor for equity in society. An important part of this process was the ideal that free education is a basic right for all citizens. At the time, there was a wide consensus between politicians that a small country has to promote equality in education by implementing a system that provides educational opportunities for as long as possible to all those are motivated to learn, regardless of their socioeconomic status, gender or residence. In those days Finland had a parallel system in education in which ten-year-old children had to decide what would be their future prospects and careers. They had to seek entrance and pass examinations into academically oriented schools or go on routes that led to vocational fields. If they selected the vocational route they could not seek entrance to higher education. The educational system put individuals into one of two categories at a very early stage of their lives, thus creating a divided nation. The academic schools very often had tuition fees, which further strengthened the divide.

Moving to a new school system that would be the same for all children was not an easy process in spite of a common general vision of the importance of education. After a very contradictory and hard political debate in the 1960s, it was decided in 1968 that the parallel school system should be replaced by a national nine-year basic education that would represent the ideology of comprehensive
education. When the Government delivered its bill to Parliament in 1967, one of the arguments for the common nine-year education for all was that it was too early to judge individual capacities after students had only had four or even six years of basic education. In the beginning of the new school streaming was allowed but it was abolished in the 1980s because of unwanted consequences. It did not increase learning outcomes but strengthened the divide between different learners. In the 1970s and 1980s the comprehensive school was a very centralized system. It was a time when a new concept of pedagogy had to be developed and teacher education was reformed radically. In the 1980s a general decentralization in all administrations was implemented in Finland and also in educational policy. It gave more freedom as well as responsibility to local educational providers. The teacher education system was also developed to provide new teachers with better competences to meet the whole age cohorts and to take more responsibility for curriculum development. During the 1980s and 1990s there were many political debates about the relevance of the common comprehensive school for all. Critical voices demanded more attention especially for gifted children. However, the comprehensive school model remained. The main policy was that the comprehensive school could have different profiles locally and support students’ individual qualities without streaming or separate schools for e.g. gifted pupils.

Since the late 1960s Finnish basic education has been logically developed towards the comprehensive model, which guarantees everybody equal opportunities in education irrespective of sex, social status, ethnic group, etc., as outlined in the constitution. According to education researchers (Schleicher, 2005; Välijärvi, 2004; Simola, 2005; Laukkanen, 2006; Niemi & Jakku-Sihvonen, 2006), the educational policy has purposefully aimed at equity in education, which is the main reason for its good learning outcomes. Finland has built up an education system with the following characteristics: uniformity - free education, free school meals and special needs education. The principle of inclusion has been an important guideline. Since the 1980s, all Finnish students in basic education began to have the same goals in mathematics and foreign languages. In so doing, the Finnish Government was realistic. In reality, these goals are attained by individuals with different levels of success. However, with extra support for the weakest students, we can considerably raise the performance of the whole age group.

Laukkanen (2006) summarizes the most important decisions as: 1) the discontinuation of streaming, 2) the strong allocation of affordable educational resources to lower secondary education and 3) the decentralization of decision-making powers, 4) primary school teacher education was also raised to the MA level, 5) support for weak students was taken care of and 6) different stakeholders were invited to express their opinions.
THE STRUCTURE AND AIMS OF THE EDUCATIONAL SYSTEM

In today’s Finland (population 5.4 million) education is a public service. General education, vocational education and higher education are free of charge. All political parties see the comprehensive school model as an important investment for the future and defend even free higher education, even though there is pressure to set tuition fees for higher education from some business sectors. Basic education consisting of 9 years of comprehensive school, upper secondary education and vocational education are financed by the state and local authorities. These educational services are provided by local authorities, which are municipalities or consortiums of municipalities. They have councils for strategic planning of educational issues and are responsible for the quality of education in local schools. Municipalities (local authorities) and their schools write their own curricula on the basis of the national core curriculum. Local needs can be taken into consideration in these curricula. Schools can have their own profiles such as e.g., science or music education.

Preschool education, mainly provided by social authorities in day-care centers, is offered for all 6-year-olds. It has been a subjective right for families since August 2000. Even though it is not obligatory almost the entire age cohort, about 96% of the age group, participate in preschool education. Basic education lasts for nine years. The age group contains 60,000 pupils. Children start this compulsory schooling at the age of 7. In the comprehensive schools, class teachers are mainly responsible for grades 1–6, and most of the subjects are taught by subject teachers in grades 7–9 (also called lower secondary school). In basic education, students get all their study materials and one meal for free from the school. All students living 5 km or farther from their schools have transportation to and from school arranged by their education providers. For the Swedish speaking population (about 6%) there are separate schools as well as administrative services. The aim of immigrant education is equality, working bilingualism and multiculturalism. The goals of immigrant education are to prepare immigrants for integration into the Finnish education system and society, to support their cultural identity and provide them with a functioning bilingualism so that in addition to Finnish or Swedish, they have a command of their own native language. (National Board of Education, 2003; Jakku-Sihvonen & Niemi, 2007).

Upper secondary schools usually obtain their students from many local comprehensive schools. After compulsory education at the age of 15, about half of the age group choose to go to upper secondary schools, which have academically oriented curricula and prepare students for higher education. Students who at the end of upper secondary education obtain passes in four matriculation exam subjects are awarded matriculation certificates, which provide eligibility for
universities and vocational higher education. The other half of this age group chooses a vocational school. They also have access to universities and vocational higher education. Teachers at the lower and upper secondary schools are called subject teachers. They have qualified to teach one or two academic subjects. (National Board of Education, 2003; Jakku-Sihvonen & Niemi, 2007).

The Higher education sector consists of universities and polytechnics, which now are mostly known as universities of applied sciences. The universities provide B.A., M.A. and Ph.D. degrees and have also rich variety of Open University programs and a wide provision of further education and in-service training. Polytechnics offer B.A. degrees and professionally oriented M.A. programs and also a lot of in-service training. All degree programs in higher education are free of charge. Open University programs have small registration fees and in-service training is fee based. Universities or polytechnics have entrance examinations because of the Numerus Clausus, this is a quota in each discipline that is based on negotiations between the higher education institutions and the Ministry of Culture and Education. They agree on how many degrees each institution can award over a fixed time period. Funding is not dependent on the intake of students but outcomes and productivity. The numbers of degrees are based on the anticipated needs in society. This means that not all applicants can be accepted to higher education institutions, and competition is pretty fierce.

Teacher education for teachers in comprehensive schools and upper secondary schools, as well as for those teachers who teach general subjects in adult education and vocational education, is provided at eight Finnish comprehensive universities around the country. According to old decrees issued in 1979 and 1995, and the new 2005 decree all candidates have to obtain a Masters degree to become a qualified teacher. Teachers for vocational schools must also have a MA degree.

Usually less than one forth from applicants can be accepted into universities (Kansanen, 2003; Niemi & Jakku-Sihvonen, 2011). Teacher education, especially class teacher education, is one of the most desired study programs. Because of the large numbers of applicants for class teacher education, only 10 - 15% highly motivated and talented applicants can be accepted. Also, secondary teacher education has become more and more popular in most subjects. In general, admission to the university is difficult for young people wishing to pursue a career as a subject teacher as only a small percentage of the applicants are granted admission to the faculties of their choosing. This is true particularly for biological subjects, but there have been recently problems in recruiting talented students in mathematics, physics, chemistry and some foreign languages. There have been many efforts to attract new students and this has resulted in a change from the
“elimination approach” to a “recruitment approach” in the organization of the student admission programs of the faculties. These efforts include utmost flexibility in the timing of studies and arranging entrance tests in some faculties occasionally as often as three times a year (Meisalo, 2007, p. 172). Pedagogical studies of subject teachers are normally put in the individual study plans of teacher students between the middle of subject studies e.g., during the third and fourth study years. However, it is possible to transfer from a Master’s degree program at a subject faculty to pedagogical studies afterwards, by taking an entrance examination for pedagogical studies. All students applying for teacher education programs are tested and interviewed individually. (Meisalo, 2007, p. 172.)

One of the aims of the Finnish education system is to have an educational infrastructure that is devoid of so-called “dead-ends”. The compulsory education is the nine years of comprehensive school, but the national aim it is to keep all children for at least 12 years in connection with the educational system and to provide after that several routes for life-long learning. The aim of the educational system is to enable an individual's education to continue. Nearly 100% of each age cohort completes the 9 years of comprehensive schooling. Ninety-four per cent of those who finish the 9th grade of comprehensive school continue their studies in the same year either in upper secondary general school or upper secondary level vocational education (Statistics Finland, 2009). The six per cent of the age cohort, who do not continue their studies, is a risk group. Municipalities have launched various programs to keep them in touch with education and learning so that they will be able to find pathways to further education. Without additional education they are in danger of being excluded from the labor market. The aims related to equity and the enablement of all people’s development through learning and education set special requirements on teachers, the teaching profession and teacher studies at universities.

An inclusion policy and special needs education are extremely important in promoting all students’ right to learn. The basic principle is that all students with learning difficulties must be given help and support to overcome these difficulties. They can have extra tuition hours or and special needs instruction integrated into their own class, and temporary or more permanent help in special classes or groups. In each school there is a multi-professional student care group to which a principal, teachers as well as special need teachers, social workers, nurse belong. In 2011 a new decree was passed. According to it every teacher is responsible to identity students’ learning difficulties at the earliest stage possible (National Board of Education). This widens teachers’ and local level responsibility to seek solutions for supporting these students. Inclusion has been the main principle in the last decade and this new law strengthens this trend.
Figure 1. The educational system in Finland

Basic education, 7–15 year-olds

Comprehensive schools:
- A lower secondary level (grades 7–9)
- A primary level (grades 1–6)

Pre-primary education (0 grade), 6-year-olds
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In Finland, the teaching profession has been based on high moral and ethical principles for as long as teachers have been educated, i.e. for more than 150 years. This conception has continued undiminished after teacher education was moved to the universities in the 1970s (Niemi 2011; Niemi & Jakku-Sihvonen, 2010). As an initiative of the national Teacher Union an ethical council for the teaching profession was established in 2000. It is an independent organ and its main purpose is to advance the ethical nature of the teaching profession. The first ethical principles were published in 2000 (Ethical Council for the Teaching Profession, 2002, pp. 164–167).

The principals of Finnish schools have an important role to play. They are qualified teachers with extra studies in management and leadership of school organizations. They have administrative tasks but they are also pedagogical leaders. Most of them have at least a small teaching load in order to keep in touch with grass root level issues. All teachers are also considered leaders in their own special areas and are expected to make active contributions to curriculum development.

ENHANCEMENT-LED AND FORMATIVE EVALUATION POLICY FOR PROMOTING QUALITY

A quest for good learning outcomes is on the educational agenda of many countries. Globally, much controversy exists over what is the best way to use assessment as a tool to achieve high learning outcomes. Some countries have chosen standardized testing, which stresses competition between schools and focuses on measurable performances. Other countries have applied more formative aspects of evaluation. The Finnish choice has been enhancement-led evaluation at all levels of education. The assessment of processes and outcomes are regarded as an important tool to improve education.

There is no inspection system to control the educational arrangements at schools or institutions. Instead of inspection, there is an evaluation system. For basic education, following up whether schools have reached the national goals for learning outcomes set in the national core curriculum for basic education is done by national sample based assessments. Upper secondary schools have their own statute based end examination system.

Since the mid 1990s, the Finnish National Board of Education has conducted national assessments of learning outcomes, mostly in the 9th grade of basic education. Regular assessments have been carried out in mathematics, the students’ mother tongue (either Finnish or Swedish) and literature, and occasionally in other subjects as well. National assessments produce information about the quality and results of education and training in relation to objectives stated in the national core curricula. These assessments are sample based and thus do not cover the whole age group. This is because the results are used for the development of education. Recently, evaluations have also been started, for example, at the end of the second grade.
The purpose of this is to enhance the use of evaluation for formative purposes. All schools in a sample of an assessment receive an individual feedback report. These reports are delivered to schools as soon as possible after the assessment data has been collected, as fresh results are more interesting for schools than results that are months old. Recently, feedback has been received as soon as two months after the data was collected (Laukkanen, 2006).

At the local level, municipalities are encouraged to produce internal and external evaluations to develop education. Policy-makers are informed about the status of education by assessments and special up-to-date reports organized by the Ministry of Education. Evaluations are implemented to find evidence to support the continuous development of education and learning. The responsible parliamentary committee stresses that evaluation also has an important social and political function in enhancing the realization of equality among people within the Finnish education system (The Parliamentary Committee on Education, 1998).

The aim of the national evaluation system is to support the local/municipal education administration and the development of schools as goal-oriented and open units, and to produce and provide up-to-date and reliable information on the context, functioning, results and the effects of the education system. The Ministry of Education is responsible for general policy making and financing educational evaluations. National evaluations are organized by special councils. Evaluations are carried out by the Finnish Educational Evaluation Council (http://www.edev.fi/portal/english). It is responsible for evaluating general education, vocational education and adult education. Evaluation of school achievement/learning outcomes in basic education is carried out by the Finnish National Board of Education (http://www.oph.fi/english/). The Finnish Higher Education Evaluation Council (http://www.finheec.fi/index.phtml?l=en&s=1) is an independent expert body assisting universities, polytechnics and the Ministry of Education in matters relating to evaluation and quality assurance systems. Beside the national evaluations, international evaluations are important in developing Finnish education. Since 2000, PISA has provided important information for the development of Finnish basic education. (Jakku-Sihvonen & Niemi, 2007, p. 14)

**Balancing between a Centralized and Decentralized Administration**

Finland has also balanced between a centralized and decentralized administration of education. At the beginning, comprehensive schools were very centralized, but in 1985 the municipalities’ freedom and responsibility was increased. The status of the then new national curricular guidelines was to create a framework for curriculum design in the municipalities (e.g. Laukkanen, 2006). Ten years later, in 1994, the National Board of Education only gave very broad aims and content guidelines for teaching different subjects. The municipalities and, ultimately, the schools set up their own curricula on the basis of the national core curriculum.
Since 1999 new legislation has been provided to mainstream decentralization. Providers of education - meaning municipalities, coalitions between municipalities and private foundations - have been given wide freedom when it comes to writing their local curricula. Still, the local curricula have to be drawn up in accordance with the National Core Curriculum for both comprehensive and upper secondary schools.

The local curricula have to determine the teaching and educational practices of the schools concerned. The curricula must be drawn up in such a way that they take into account the schools’ operating environments, local value choices and special resources. Education provider may decide about the implementation of curriculum in co-operation with interest groups. The aim is to ensure a high standard of general education, with relevance to society and commitment from the community as a whole to the jointly determined objectives and procedures. As it concerns pupil welfare and home-school cooperation, the curriculum must be drafted in collaboration with authorities charged with tasks that are part of the implementation of the local authority’s social and health services (National Core Curriculum for Basic Education, 2004, p. 8; National Core Curriculum for Upper Secondary Schools, 2003, p. 8).

TEACHER EDUCATION AS A KEY PLAYER

In Finland, the responsibility for providing education to prospective teachers in primary and secondary schools has been transferred to universities. Since 1974, teacher education for all teachers in basic education has been arranged at universities. Before 1974, primary school teachers were educated at teacher-training colleges. In 1979, the basic qualification for secondary and elementary school teachers was defined as a Master's degree obtained in programs requiring 4 to 5 years to complete. The purpose of this modification was to unify the core aspects of elementary and secondary school education and to develop an academically high standard of education for prospective teachers. Teacher education for the secondary school level was also reformed by expanding the scope of pedagogical studies. (Niemi, 2010; Niemi & Jakku-Sihvonen, 2006)

According to old decrees issued in 1979 and 1995, all teachers had to obtain a Master’s degree for teacher qualification. In terms of the Bologna process, the degree of qualified teachers was equivalent of a second cycle degree in the European higher education area. As part of the Bologna process, teacher education in Finland moved to a two-tier degree system on 1 August 2005. The combination of a three-year Bachelor’s degree and a two-year Master’s degree in appropriate subjects qualifies teachers to teach subjects in primary and secondary schools or general subjects in vocational institutions. Since moving to the Bologna process the kindergarten teacher’s degree has to be Bachelor in Education (180 ECTS); all other teachers must attain a Master’s degree (BA 180 + MA 120 = 300 ECTS;
1 ECTS is about 25–28 hours work). Teachers for vocational schools study their vocational subjects in higher education institutions (e.g. technological universities), which are specialized in vocational content areas. All other teachers are educated in comprehensive universities.

The main elements of all teacher education curricula consist of studies in

- Academic disciplines. These can be whatever disciplines are taught in schools or educational institutions or in science of education. Academic studies can be a major or minors depending on the qualification being sought. Class teachers have a major in educational sciences and minors in other disciplines.
- Research studies consist of methodological studies, a BA thesis and an MA thesis
- Pedagogical studies (min. 60 ECTS) are obligatory for all teachers. They also include teaching practice.
- Communication, language and ICT studies are obligatory.
- The preparation of a personal study plan has been a new element in university studies in Finland since 2005. Its main function is to guide students to develop their own effective programs and career plans, and to tutor them in achieving their goals.
- Optional studies may cover a variety of different courses through which students seek to profile their studies and qualifications.

**Pedagogical Studies**

The traditional distinction between class teachers and subject teachers has been retained but the structures of the respective degree programs allow them to take very flexible routes to include both in the same program or permit later qualification in either direction. The pedagogical studies (60 ECTS) are obligatory for qualification as a teacher and are approximately the same for both primary and secondary teachers as well as vocational and adult education teachers. These studies give a formal pedagogical qualification to teachers at all levels in the Finnish educational system regardless of the programme in which they are provided. According to legislation, pedagogical studies must be studies in the science of education with an emphasis on didactics. The pedagogical studies can be part of the degree studies, or they can be taken separately after completion of a Master's degree.
Universities have a high degree of autonomy in designing their curricula. Therefore, no detailed “curriculum of teacher education” covering all universities in Finland can be presented. However, there are some principles and general outlines followed by all institutions of teacher education. These are partly due to recommendations by the Ministry of Education and Culture, partly by national working groups e.g. related to teacher education reforms such as the Bologna and partly to an agreement of the Deans of the Faculties of Education and the Directors of the Departments of Teacher Education who have regular contact with each other and with the Ministry. The Ministry of Education and Culture has full confidence in the departments and faculties involved in teacher education (Meisalo, 2007, p. 163).

Table 1a. Main components of the teacher education programs for primary school teachers (class teachers) (Niemi & Jakku-Sihvonen, 2006).

<table>
<thead>
<tr>
<th>Primary school teacher education program</th>
<th>Bachelor’s degree 180 ECTS</th>
<th>Master’s degree 120 ECTS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class teacher’s pedagogical studies (as a part of major in education)</td>
<td>25 (including supervised teaching practice)</td>
<td>35 (including a minimum of 15 ETCS supervised teaching practice)</td>
<td>60</td>
</tr>
<tr>
<td>Other studies in a major in education</td>
<td>35 (including a BA Thesis, 6–10)</td>
<td>45 (including a MA Thesis, 20–40)</td>
<td>80</td>
</tr>
<tr>
<td>Subject matter studies for comprehensive school</td>
<td>60</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>Academic studies in a different discipline, minor</td>
<td>25</td>
<td>0–35</td>
<td>25–60</td>
</tr>
<tr>
<td>Language and communication studies including ICT, optional studies</td>
<td>35</td>
<td>5–40</td>
<td>40–75</td>
</tr>
</tbody>
</table>
Table 1b. Main components of the teacher education programs for secondary school teachers (class teachers) (Niemi & Jakku-Sihvonen, 2006).

<table>
<thead>
<tr>
<th>Secondary school teacher education program</th>
<th>Bachelor’s degree 180 ECTS</th>
<th>Master’s degree 120 ECTS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject teacher’s pedagogical studies</td>
<td>25–30 (including supervised teaching practice)</td>
<td>30–35 (including a minimum of 15 ECTS supervised teaching practice)</td>
<td>60</td>
</tr>
<tr>
<td>(minor)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic studies in different disciplines (major)</td>
<td>60 (including a BA Thesis, 6–10)</td>
<td>60–90 (including a MA Thesis, 20–40)</td>
<td>120–150</td>
</tr>
<tr>
<td>Academic studies in different disciplines (1–2 minors)</td>
<td>25–60</td>
<td>0–30</td>
<td>25–90</td>
</tr>
<tr>
<td>Language and communication studies</td>
<td>35–40</td>
<td>0–30</td>
<td>35–70</td>
</tr>
<tr>
<td>including ICT, optional studies</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ECTS means European Credit Transfer System (also called The European Credit Transfer and Accumulation System): 1 ECTS = 28 hours of students’ work in studies including lessons, contact hours, examinations and all independent and collaborative activities, BA = 180 ECTS, MA 120 ECTS.

The main principles of the Finnish teacher education system can be summarized in the following way.

A Research-Based Approach as a Main Guideline

For decades, the Finnish orientation toward teacher education has committed itself to the development of a research-based professional culture (Niemi & Jakku-Sihvonen, 2011; Jakku-Sihvonen & Niemi, 2006). The critical scientific literacy of teachers and their ability to use research methods are considered to be crucial. Accordingly, Finland’s teacher education programs require studies of both qualitative and quantitative research traditions. The aim of these studies is to train students to find and analyze problems they may expect to face in their future work. Research studies provide students with an opportunity to complete an authentic project, in which students must formulate a research question in an educational field, be able to search independently for information and data, elaborate on them in the context of recent research in the area, and synthesize the results in the form
of a written thesis. They learn to study actively and to internalize the attitude of researchers as they do their work (Niemi, 2011).

Professors have the responsibility to guide students in the research-oriented aspects of their education. The main object of this guidance is not the completion of the Bachelor and Master thesis itself, but actually to engage students to become active participants of education society. In this aspect of the degree program, the processes of active working and thinking are integrated in various complex and sometimes unexpected ways. The aim of the guiding process is to help student to discover and tap his/her own intellectual resources and to enable him/her fully to utilize the resources of the study group in which he/she is working. (Nummenmaa & Lautamatti, 2004, p. 117).

The goal of Finnish TE is to equip teachers with research-based knowledge and with skills and methods for developing teaching, cooperating at school and communicating with parents and other stakeholders. The leading guidelines are:

- Teachers need a deep knowledge of the most recent advances of research in the subjects they teach. In addition, they need to be familiar with the latest research concerning teaching and learning. Interdisciplinary research on subject content knowledge and pedagogical content knowledge provides the foundation for developing teaching methods that can be adapted to suit different learners.

- Teacher education in itself should also be an 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-orientated attitude towards their work. This means that teachers learn to take an analytical and open-minded approach to their work, that they draw conclusions based on their observations, and experiences and that they develop their teaching and learning environments in a systematic way.

The Social and Moral Code of the Teaching Profession
Teachers’ work is context-bound, depending on learner age level, cultural conditions, available resources and the contents that they are mediating to learners. Teachers and teacher education are clearly related to national goals and purposes. The welfare and economy of the society are related to the quality of educational outcomes, which are associated with teachers’ competences. Besides being guided by national and local community-based goals, teachers’ work also has more generic aims. Teachers open doors and windows to cultural enrichment and help people to understand other human beings and their cultural contexts. Teachers are key actors in promoting human rights, justice and democracy in a global world.
In Finland the school law contains values that promote these aims. Teachers are expected to implement them in their daily work. Since 2000, Ethical Council for the Teaching Profession has worked to promote teachers’ ethical awareness. Also teacher education programs emphasize teachers’ social and moral responsibility. A survey in 2010 showed that Finnish student teachers are committed to the teaching profession and be aware of the ethical bases of teaching (Niemi, 2011).

**Integration of Theory and Practice**

Teachers’ pedagogical studies include supervised teaching practice (approx. 20 ECTS). The aim of guided practical studies is to support students in their efforts to acquire professional skills in researching, developing and evaluating teaching and learning processes. In addition, teacher students should be able to reflect critically on their own practices and social skills in teaching and learning situations. During their supervised practice periods student-teachers meet pupils and students from various social backgrounds and psychological orientations and have opportunities to teach them according to the curriculum.

Teaching practice is integrated with all levels of TE time. It is supervised by university teachers, university training school teachers or local school teachers depending on the phase of practice (Jyrhämä, 2006) (Figure 2).

![Figure 2. Teaching practice in the Finnish teacher education curricula.](image-url)
The main principle is that practice should start as early as possible and support student teachers’ growth towards expertise. At the beginning it guides student teachers to observe school life and the pupils from an educational perspective, then it focuses on specific subject areas and pupils’ learning processes. Finally it supports student teachers as they take holistic responsibility in their teaching and schools. This period can be tightly connected with their research studies and master’s dissertation.

Universities’ teacher training schools (so-called “Normal schools”) play a crucial role in the Finnish teacher education. The Normal Schools are state schools and their teachers have a different status than teachers in other schools. The teachers have a dual role: on one hand they teach pupils and on the other, they supervise and mentor student teachers. Many of the Normal School teachers are active in research and development and are members of teams that produce learning materials for schools.

There is also frequent critique based on the demand of having at least a substantial part of the teaching practice in more typical schools. Actually, parallel to the Normal Schools there have been so-called field schools with an important contribution to the capacity and volume of teacher education in the times of high demand of qualified teachers (Meisalo, 2007, p. 167).

Teachers in Finland are representatives of a high-quality academic and ethical profession. Teachers have to take an active role in raising serious questions about what they teach, how they teach, and the larger goals for which they are striving. Teachers need to view themselves as public intellectuals who combine conception and implementation, thinking and practice in the struggle for a culture of democratic values and justice. Teachers have a right and an obligation to articulate educational needs and challenges in the society they serve. They also have to be active in public debates and decisions affecting the development of schools and education. As professionals, teachers cannot only be implementers of decisions, but must also be partners in their development. Teachers are expected to be able to take an active role in evaluating and improving schools and their learning environments. They are also expected to refresh their professional skills, to cooperate with parents and other stakeholders, and to be active citizens (Teacher Education Development Programme, 2001).

Universities do not give any certificate of teacher qualifications. They only provide the education and training required to fulfill the demands that are needed for teacher qualifications. At graduation, students are given a certificate for their university degree. Students can choose between different options for their own teaching career, and there is a variety of possible degrees that qualify them as teachers. Employers or, in the Finnish case, municipalities, require that a teacher
candidate has completed all the studies required by law for the teaching profession and the teacher qualification. Universities are autonomous and can provide different profiles in teacher education. Universities negotiate every three years with the Ministry of Education on their strategic plans and results in teacher education.

Finnish teachers are recognized as professionals, and the teachers’ trade union considers this status to be very important. Almost all teachers belong to the same teachers’ trade union (OAJ), which is a very powerful agency. It has been invited to play an active role as a partner in all major reforms of teacher education and school curriculum in the last decades. It has also promoted the policy of the master’s degree as teachers’ basic qualification. Finland has no inspectorate, no probation time for newly graduated teachers’ or national school achievement testing. Finnish society considers teachers to be professionals who are morally responsible for their work.

The society’s trust in universities’ degrees as well as teachers’ competences is mediated via trust in the universities and makes them very accountable. Trust is not a stable and permanent status. Results and quality must be assessed and evaluated systematically. Therefore universities’ own quality assurance methods are important (all Finnish universities will be audited by 2011). Teacher education has also been evaluated several times nationally and internationally in the last two decades. Evaluations have been enhancement led and their purpose has been to produce improvements in teacher education. There is a close cooperative relationship between universities and the Ministry of Education and Culture in teacher education issues. Many research projects into teacher education have been also carried out jointly. The recent recommendations from the Ministry of Education and Culture stress the importance of strengthening research in and on teacher education. The Ministry of Education and Culture also requires universities to reorganize conditions for teacher education research.

CONCLUSION

The OECD review team looking at equity in the Finnish education system (OECD, 2006, P. 48) expressed the view that the Finnish strategy has taken a long time to mature and is composed of several interrelated issues. The team writes: “This is a complex of practices that has emerged over time, but it must be maintained since any weakness in one component will undermine other practices.” The miracle of the Finnish education is an outcome of a purposeful policy and practice. The educational system and teacher education have together supported the aims of equity and teachers’ professional autonomy. There are a number of reasons that all together have resulted in high learning outcomes. Many of those factors are mutually dependent and interconnected. If any one of the factors is dramatically changed, it may affect the whole. The success is based on the combination of political will, purposeful efforts to promote equity
by the educational system, high quality teacher education, teachers’ professional and moral responsibility, and society’s trust in the educational actors.

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