ETLA
ELINKEINOELÄMÄN TUTKIMUSLAITOS
THE RESEARCH INSTITUTE OF THE FINNISH ECONOMY
Lönnrotinkatu 4 B 00120 Helsinki Finland Tel. 358-9-609 900
Telefax 358-9-601 753 World Wide Web: http://www.etla.fi/

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Liisa Leijola

THE EDUCATION SYSTEM IN FINLAND – DEVELOPMENT AND EQUALITY*

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ABSTRACT: This discussion paper examines the education system in Finland from the viewpoint of equality. First, it presents the current structure of the education system in Finland. Second, history and development of the Finnish education system are discussed with special attention paid to the principle of equality, which has since the early 19th century been one of the key values and goals of education policy in Finland. National sentiment first called for educating also the common people and providing basic and further education in the Finnish language. Regional equality and equal physical accessibility to schooling were emphasised in the early development of the common school system. Later, socioeconomic and gender equality in educational opportunity have become the other two equality goals of the education system in Finland. Third, the paper provides a review of empirical literature on equality at the different levels of the education system, from pre-primary to tertiary education. It is concluded that potential sources of inequality with respect to socioeconomic background, region, and gender exist in all levels of education. The Finnish education system fares well in international comparisons of equality between national education systems, however, especially with respect to socioeconomic background of the students.

JEL codes: I20, I21
Keywords: Education system, equality

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TIIVISTELMÄ: Tämä ETLA keskusteluaihe tarkastelee Suomen koulutusjärjestelmää tasa-arvon näkökulmasta. Ensiksi esitellään nykyinen koulutusjärjestelmä. Sen jälkeen käsitellään suomalaisen koulutusjärjestelmän historiaa ja kehitystä erityisesti tasa-arvoon keskittyen. Tasa-arvon periaate on 1800-luvulta asti ollut koulutusjärjestelmän keskeisiä arvoja ja tavoitteita. Kansallismielisyys edisti talonpoikaisväestön koulutusta suomen kielellä ja antoi alkusysäyksen koulutusjärjestelmän kehittämiselle. Alueelliseen tasa-arvoon ja kouluverkon saavutettavuuteen kiinnitettiin huomioita kansakoululaitoksen alkutaipaleella. Myöhemmin tasa-arvo koulutuksessa riippumatta sosioekonomisesta asemasta tai sukupuolesta ovat nousseet peruskoulun myötä koko koulutuspolitiikka ohjaaviksi periaatteiksi. Keskusteluaiheen kolmannen osan muodostaa katsaus tasa-arvoa koulutusjärjestelmässä käsittelevään empiiriseen kirjallisuuteen, jossa käsitellään kaikki koulutusjärjestelmän tasot esiopetuksesta korkean asteen koulutukseen. Johtopäätöksenä on, että eriarvoisuudelle altistavia tekijöitä on kaikilla koulutustasoilla sosioekonomisen aseman, alueen tai sukupuolen suhteen. Suomen koulutusjärjestelmä näyttäytyy kuitenkin hyvin tasa-arvoisena kansainvälisissä vertailuissa erityisesti sosioekonomisen aseman suhteen.

Avainsanat: Koulutusjärjestelmä, tasa-arvoisuus

1. The education system in Finland

1.1. The current education system in brief[1]

The Finnish education system begins with basic education in comprehensive schools, which is compulsory for everyone. It includes primary school and lower secondary school, and takes nine years to complete. School usually starts in the same year a child turns seven, and it is mandatory for the child to attend school until age sixteen, or completion of the basic education. Before primary school, many children receive pre-primary education in day care facilities or schools, but this is not a requirement.

At secondary level, there are two kinds of schools. Upper secondary schools provide education that prepares students for the matriculation examination and studies at tertiary level. It takes two to four years to complete upper secondary school. Vocational schools offer study programmes that provide the students with about 75 different professional qualifications. On average, they take 3 years to complete. All secondary level education grants eligibility for education in institutions of higher learning.

There are two types of institutions of higher learning: universities and polytechnics. Universities are traditional academic institutions, with close connections between scientific research and teaching. Lower (Bachelor's) and higher (Master's) academic degrees, as well as further education leading to Licentiate and Doctoral degrees, are offered. The average time to complete a Master's degree is six years, but no time limit is enforced. There are 20 universities in Finland, spread across the country according to population distribution. Ten of the universities are multidisciplinary institutions, and the other ten consist of three technical universities, three schools of economics, and four schools of arts.

Polytechnics emphasise their connections to work and practice. The research conducted in polytechnics involves co-operation with private and public enterprises and often assists in regional development (Ministry of Education 2003b). There are 29 polytechnic institutions in Finland. The degrees awarded are professional higher education degrees, equivalent to Bachelor's degrees from universities. The polytechnic programmes usually take four years to complete. Currently, postgraduate studies leading to a Master's degree are available in some fields in polytechnics.

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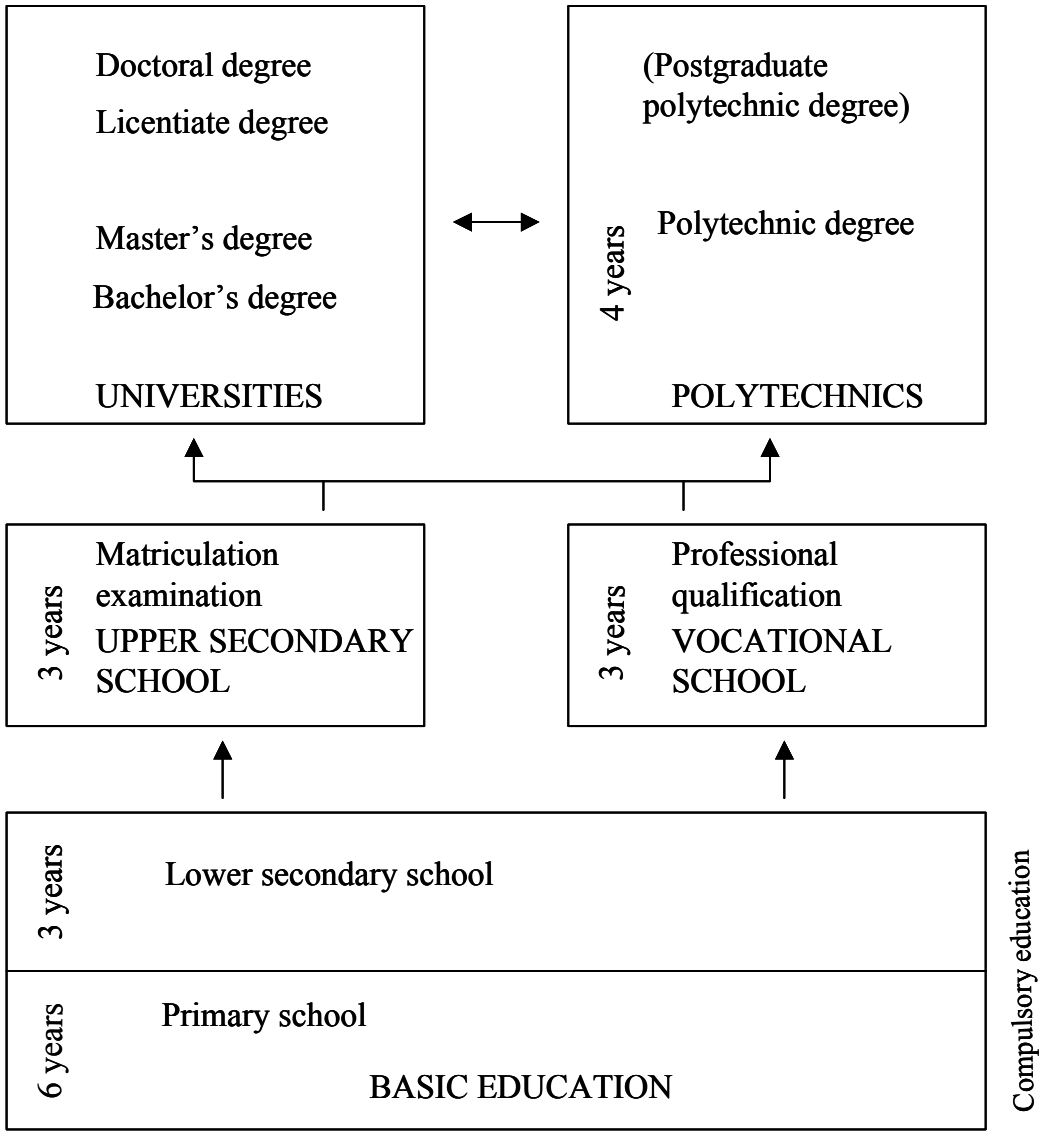
[1] Description on the education system is based on Ministry of Education (2003a): The Finnish education system (http//www.minedu.fi/mined/education/education_system.html), unless stated otherwise.

Subsequent to the Bologna process harmonising the structure of university degrees in Europe, a two-cycle degree structure with an obligatory Bachelor's degree will be applied in universities, starting from the academic year 2005–2006 (Ministry of Education 2003c). The decision on the structure of polytechnic degrees is pending. It is likely that either a two-cycle system will be adopted, or the transition from polytechnics to second-cycle programmes in universities will become more flexible than it is today.

Half of the working age population attends some kind of adult education, according to the adult education survey by Statistics Finland (1999). Adult education takes place either informally or within the vocational adult education system. Informal adult education involves open colleges, workers' institutes, and other organisations whose courses people attend at their own expense and on their own time. Some of these institutions receive public funding, but their curricula are not regulated by government education policy. Vocational adult education includes further education programmes in vocational schools and universities, education supplied by employers, and courses organised by private education providers but paid for by employers. Adult education policy aims to improve employment and provide employees with abilities to deal with the demands of the modern working life. The differences between age groups in educational experience remain high in Finnish society, and adult education has been a tool to equalise these differences and help the ageing workforce to keep up with the developments and changes happening in work places. Information technology and computer skills are the most popular subjects within employer-sponsored education and training (Statistics Finland 1999). In this review, adult education will be touched upon in a later section mainly with respect to employer provided training. A major reason for leaving out informal adult education is that little, if anything, is known about its possible effects on income and wage inequality.

Figure 1 presents the structure of the current education system in Finland. In subsequent sections, basic education refers to primary and lower secondary schools, secondary education includes upper secondary school and vocational education, and the terms "higher education" and "tertiary education" are used interchangeably.

Figure 1. Education system in Finland



Source: Ministry of Education (2003a)

1.2. Financing education

The education system in Finland is publicly funded and run. Municipalities are responsible for providing pre-primary and basic education and upper secondary schools. Vocational education is co-financed by the government and local authorities. Universities are state-owned institutions with constitutional autonomy. Polytechnic institutions are mainly funded by municipalities and foundations.

Financial aid to secondary and tertiary level students is administered and paid for by the Social Insurance Institute of Finland (KELA). Financial aid includes three components:

study grants, housing supplements and student loans guaranteed by the government. A university student can receive up to 650.56 euros per month in financial aid. Of this amount, 259.01 euros are for the study grant, the housing supplement can be 171.55 euros at its maximum, and a student can take out a loan worth 220 euros per month. The housing supplement covers 80 % of rent up to 214.44 euros per month (KELA 2003). In order to receive the full student financial aid, a student is allowed to earn up to 505 euros per month while receiving government aid. In months when they do not get assistance, the income limit is 1 515 euros. In order to qualify for full financial aid for the nine-month academic year, a student's gross earnings can be up to 9 090 euros a year. In effect, the income is monitored across the calendar year, and all students are required to return any excess government assistance received if his/her work income exceeds this limit by the end of the year (KELA 2003).

2. Development of the education system

2.1. Ideological basis for development

The development of the education system in Finland since the early 19th century has involved three simultaneous lines: *expansion*, *increase,* and *integration* (Lampinen 2000). The respective ideological viewpoints to educational policy have been those of *nationalism*, *economic growth,* and *equality*. The emergence of national education system in the mid 19th century was powered by nationalistic sentiment, and schooling expanded to be available to virtually everyone by the time of Finnish independence in 1917. Immediately after independence education policy was not in the centre stage of national politics, but in the 1960s increasing the educational level of the population became a public concern. The connection between education and economic growth was acknowledged, and appeared as an argument for investing in the education of the population. The gradual introduction of universal basic education in primary and lower secondary schools in the 1970s was a reflection of the idea of equality, and this era was that of integrating the filed of education. This decade also witnessed the birth of formal secondary education, and rapid expansion of the higher education network in Finland. The latest development in the educational system has been polytechnic institutes, first introduced in 1994 as an experiment, and currently an established form of higher education. The following subsections describe the development of the levels of the education system in more detail.

2.2. Basic education: from privilege of the few to right and duty of all

Sweden acquired the region that today constitutes Finland in the 12th century through crusades. At this time, education was in the hands of the church and was given in monastery schools and in the cathedral school of Turku. There was no schooling for the common people, since all instruction was in Latin and was exclusive to those aspiring a career in the clergy or the government (Ministry of Education 2004). The Lutheran reform introduced the use of the mother tongue in church activities, and inspired the first textbook in the Finnish language, which was issued in 1543. Literacy became a highly appreciated ability in the congregation, and was even a precondition for the permission to marry until the beginning of the 20th century. Education system in Finland thus started within the state church, and began to take a secular and more organised form in the 19th century.

As the nationalistic sentiment rose throughout Europe in the 19th century, it found a welcoming ground in Finland, which was since 1809 an autonomous region of Russia by a treaty between Sweden and Russia. However, the social and political elite belonged to the Swedish-speaking minority. Educating the Finnish-speaking common people became an instrument in the development of the nation state and in establishing the Finnish language as the language of the state. This development lead, besides to the eventual independence in 1917, also to the expansion of education among the common people. The law of common schools was given in 1866, and education administration separate from the church was created in 1869. This was preceded by a statute on uniform education in 1842, which recognised common schools, gymnasiums and schools for girls and women. Setting up secondary schools that operated in Finnish was the initial phase, and by the turn of the century there was a Finnish secondary school in every Finnish-speaking city. Developing the basic education of the common people was a parallel line of progress. Early on, the common schools were operated on the municipal level, and were no longer affiliated with the church. In 1898, school districts were created so that no pupil would have more than two kilometre's journey to school. Organising the education of teachers in a uniform manner contributed to the development of the basic education system (Lampinen 2000).

Initially, the secondary school and the common school were parallel to each other. Secondary school attracted the young elite, while common schools served the agrarian population. Studies begun in the common school could be continued in civic schools that were created to allow the rural students to get further education. This remain of elitism in the education system faded out when common schools gained in popularity as the initial schooling also for the children of the upper class in the early years of the 20th century, and four years of common school became the primary education shared by all.

The education system and policy remained rather stagnant for the first half on the 1900s, during which period war and recovery from it were the first priority. In 1921, attending school was legislated as a basic right and the duty of everyone aged between 7 and 12. By the 1960s, the primary education of the Finnish children had come to consist of 6 years of common school, after which some students applied for secondary school, which was divided into five years of middle school and three years of gymnasium.

In the 1960s and the 70s, the next reform was initiated, and the result was the foundation for the current basic education system. Common school and middle school formed the basic education, divided into six years of primary and three years of lower secondary education. Gymnasium was developed in to the current upper secondary school. Attending nine years of schooling, or going to school from the age of seven until the age of sixteen, or acquiring respective education elsewhere, constituted the educational duty.

2.3. Vocational education

The nationalistic motivation of the 19th century behind the initial development of basic and upper secondary education did not promote vocational or professional education because of the line drawn between "book education" and practical knowledge and ability. However, agricultural schools were established early on in the rural areas to educate people in this important livelihood. Schools in crafts and home economics institutes emerged also in urban areas. The first commercial schools were founded in the end of the 19th century. It was only after World War II when schools granting qualifications in manual industry occupations were introduced at a larger scale.

After the adoption of the uniform basic education in the 1970s, also the secondary level vocational education was reformed. Further schooling after basic education was to be available to everyone finishing basic education, according to the principle of educational equality. In addition to this quantitative goal, the fragmented field of vocational education needed integration. The system evolved into the current structure, where after basic education, secondary education can be pursued either in upper secondary schools or vocational institutions. Vocational education is given in vocational schools and in vocational colleges. Students enter vocational education straight after basic education (usually vocational schools), or after having completed upper secondary school (vocational colleges). Integration was the trend in the reform in the 1970s. Today, the field of vocational schools may be diverging again, and specialisation is the trend of the day

2.4. Higher education

2.4.1. Universities

The first university in Finland was founded in 1640 in Turku, then the capital city. It remained the only institution of higher education until the early 20th century. In 1828 it was moved to Helsinki, which had become the capital at this time. Lampinen (2000) mentions *expansion*, *specialisation* and *elevation* as the themes in the development of the university system in Finland.

The system expanded by gaining new multidisciplinary universities starting with Turku (1920) and Oulu (1958). The network was built based on regional development objectives, and the universities are distributed across the country. Specialisation has occurred through the emergence of specialised institutions in e.g. economics and technical fields, and universities offering education in the Swedish language. Some institutions have joined the university network through elevation in status. For example, as the quality of teaching and research in the teachers' seminar in Jyväskylä qualified it for university status first as pedagogical higher education institute in 1934 and then as the multidisciplinary University of Jyväskylä in 1966.

2.4.2. Polytechnics

Polytechnic institutes were introduced to the Finnish educational field in the 1990s. The increase in the numbers of upper secondary school graduates contributed to the need of a new higher education track, as the universities could not absorb all of them. It was decided in 1991 that first polytechnic institutes were to be launched as an experiment, which was to last until 1999. Twenty-two vocational institutes were granted permission to start new programmes as temporary polytechnic institutes, which were to offer degrees comparable to but separate to university degrees. Permanent polytechnic status was granted to institutions in several waves during the 1990s, and the current network took its shape at the beginning of the 21st century. Together, universities and polytechnics are now able to take in 60-65% of the number of new upper secondary school graduates each year (Lampinen 2000).

Lampinen sees the future of the polytechnics as dependent on the doctrine they adopt. The best scenario would be to distinguish polytechnics clearly from the university sector by emphasising the differences between polytechnic and university degrees, orientation with respect to the labour markets, and the academic characteristics of the faculty. Namely, polytechnics could draw from their practical and professional orientation, and tighter

connections to the their respective industries. Remodelling the degree structure is going to pose a challenge to this development, because adopting a structure similar to the universities would ease the general acceptability and appreciation of polytechnic degrees, yet bring them closer to the university degrees.

2.5. Adult education

Adult education was introduced in Finland in the 19th century along with the general trend towards appreciation of education. Formal, vocational adult education was created in the 1930s in order to fight massive unemployment. In the 1940s and 1950s adult vocational education reincorporated those who had fought in the war into the civilian society with professional qualifications. Since the 1960s, employer-organised vocational education has increased the most among the forms of adult education (Lampinen 2000).

The motivation for work-related or vocational adult education include the desire to get more challenging tasks or to change jobs altogether. Better pay and general self-improvement are also among the most common reasons given by survey respondents for participating in adult education. For those not employed, vocational adult education is a path to securing employment. Perceived benefits from taking part reveal that adult education in general is viewed effective and successful: 46% of participant in job- or occupation-related training (aged 18 to 64) reported that they had received new tasks at work as a result, 38% were promoted to more demanding tasks, and 34% said that training helped secure their jobs (Statistics Finland 1999).

2.6. Financial aid to students

The student financial aid system was born in 1969 when the government began guaranteeing and providing interest subsidies for study loans. Prior to this, loan guarantees and small grants were available for a limited number of poor and talented students. University studies had to be financed by family funds or – like today – by working. The new study loan system was aimed at equalizing the opportunity to study; parental income or wealth no longer played a role in qualifying for financial aid (Blomster 2000). A study grant was added to the financial aid to students in 1972, and in 1977 a system much like the current took shape. In addition to the study grant and the loan, there was also a housing supplement available to students living in rented housing and with no family. There was a time limit of seven years for financial aid.

Much like today, there was pressure for improving the financial situation of students, as well as for making the financial aid system more efficient in the 1980s. In 1992, the system was remodeled to consist of a study grant double the previous amount, housing supplement and market based study loans with a government guarantee. The time limit for aid became 55 months, and the upper limit for income from work was lowered to encourage full-time studying (Blomster 2000). The current income restrictions took effect in 1998 making the system more flexible and tolerant for working while studying.

In 2004, a new system was introduced where the amount of loan guaranteed by the government will increase. After graduation, the payments of the loan capital will be deductible in taxation. The new system will take effect in 2005. Financial aid to students and its effects on equality are discussed further in section 3.6.

2.7. Equality in the developing education system

The ideal of educating everyone regardless of their social status was visible in the very early developments of the education system in Finland, and the emergence of common schools further improved the equality in educational opportunity significantly. However, the education system remained divided by the standards of the class society until 1921, when the law of the educational duty was passed. With the introduction of the basic education system in the 1970s, inequality in educational opportunity was further improved.

In the early stages of the basic education system, students were, however, divided into aptitude level groups in mathematics and foreign languages. As equality in the society at large became more of a concern, these level groups were abandoned in 1985 and everyone received the same level and amount of education. Increasing freedom of choice in the subjects studied in basic education and in upper secondary schools has brought more variation in the content of the schooling of individuals. In this sense basic education is not identical across cohorts of students, but the possibility to direct one's studies according to own interest and talent can be seen as equalising the opportunity to maximise the individual utility from schooling.

Regional equality was addressed in the development of the Finnish education system before social equality. The network of common schools expanded rapidly, and it was looked after by legislative means that physical accessibility was not an obstacle for attending school for anyone in the late 19th century. In a country with vast sparsely

populated areas, a landscape fragmented with water systems, and a poorly developed transportation network this required considerable effort and public investment.

The regional higher education policy has decreased the regional differences in attainment of higher education, and created new economic, technological, and cultural capital to university regions. Another factor has been the link between the development of the society and higher education policy. In the 1940s and 50s there was a rapid increase in the number of university graduates, the focus being on traditional humanistic fields as well as natural sciences. Development of the welfare state in the 1960s and 70s increased the demand for social sciences and employees in public services. After this, the focus shifted to fields promoting technological and economic development.

The current discussion on the connection between higher education policy and the economy at large deals mainly with the ability of the university system to produce graduates to enter the labour force efficiently. Goals of providing half of the students of each age cohort with a higher education degree and concern for over education seem to take turns in the analysis of the current development. Equality remains an issue, not so much in terms of physical accessibility as before, but in terms of socio-economic characteristics of the student body, as well as financing one's studies and employment outcomes after graduation. However, the emergence of polytechnic institutes has increased the regional availability of higher education in Finland. This optional track of higher education could also ease the competition for places in tertiary level education.

Participation in work-related education is more common among the highly educated and white-collar employees. Women and those residing in urban areas are more likely take part in work-related education as well. Overall, participation in adult education and training increased from 32 per cent of the population aged 18 to 64 in 1980 to 48 per cent in 1995. The increase was greater among blue-collar workers and among those with a lower level education relative to white-collar workers and tertiary degree holders. Older, previously more inactive, age groups have also increased their participation by more than the younger groups. Thus, the trend in adult education is that of greater equality.

All in all, the introduction of the basic education system has been credited for the general equality in education in Finland. It has decreased the differences in the lifetime educational attainment between socio-economic groups and regions. Inequality in educational opportunity arguably exists, however, and evidence for this in Finland is presented in the next chapter.

3. Equality of educational opportunity

3.1. Principle of equality

Equality by gender, region, and socio-economic background are fundamental principles of the Finnish basic education system (Ministry of Education 2003d). All basic, and most of higher education, is public in Finland, and thus free of charge to the student and his/her family. As mentioned earlier, basic education pupils received different amounts of basic education in certain subjects according to their placement in aptitude levels until the latest educational reform in 1985. Since then, everyone receives the same basic education and, furthermore, it is the goal of the educational system that no one relies on basic education alone. Previously, equality was considered quantitatively, and the distribution of schools and access to them were measures of equality. Nowadays, equal quality of education for everyone is the goal, and individual learning results are the measure of interest (Jakku-Sihvonen 2002).

Some characteristics of the social security system in Finland exert strong incentives to acquire further education after this, since anyone younger than 18 is not eligible for benefits during unemployment (Ministry of Labour 2003). Applying to and/or accepting secondary education or training appointed by the unemployment agency is a prerequisite for unemployment benefits for young people aged 18 to 24 since 1997. Increasing youth unemployment, and the alarmingly high proportion of individuals with basic education alone among the unemployed, 90% of recipients of unemployment benefits younger than 20 years of age in 1995 for example, gave rise to this in the nineties (Government of Finland 1995). Only 7% of all students finishing basic education in 1996 did not apply to further education the following year (Statistics Finland 1998), so the concentration of those without further education among the unemployed is notable.

Empirical research on inequality in education in Finland has mainly examined cross-sections or cohorts of students in a certain level or field of education. Most studies find some inequality due to socio-economic background. Concerns over regional inequality are also often raised. Strong selection among schools at a local level is a potential source of inequality, but school-level differences do not necessarily seem to determine individual success or learning results. Most of the work cited here evaluates the education system, with the principle of equality as the point of departure.

3.2. Pre-primary education

Every child has the right to participate in pre-primary education for a total of 700 hours before entering primary school. Municipalities are responsible for providing pre-primary education, and it is free of charge to families. Participation in pre-primary education has increased rapidly since the early 1990s, and the participation rate was 70% in 1998 (Statistics Finland 2003). According to the Ministry of Education (2003e), 75% of six-year-olds received pre-primary education in 2003.

In 1998, 94% of pre-primary education took place in day care centres, and the remaining 6% in comprehensive schools. Every child younger than school age is entitled to public day care organised by the municipality either in a day care centre (public or private) or by a family care provider. The public day care fees depend on family income, and vary between 18 and 200 euros per month per child (Ministry of Social Affairs and Health 2003). Parents taking care of their children at home or buying child-care services from a private provider receive a subsidy for their expenses. The pre-primary education is included in the day care fees.

Those children who are being cared for by family care providers or by their parent(s) at home are less likely to enter pre-primary education. When the larger proportion of pre-primary education is connected to public day-care, an alternative child-care arrangement presents a potential source of inequality. Children in Finland may start their primary school with different initial capabilities. Some have attended the 700 hours of pre-primary education, while others may not have been exposed to interaction in a group or teaching situations.

Research on the equality of pre-primary education is virtually non-existent in Finland. International comparisons of participation are also difficult because the commonly accepted definition for participation in pre-primary education concerns children aged 3 to 6 (Statistics Finland 1998). In Finland, although provided in day care centres, formal pre-primary education usually occurs during the year immediately preceding the beginning of school. Children cared for elsewhere until five years old may enter a day care centre in order to receive pre-primary education

3.3. Basic education

While pre-primary education is voluntary, primary and lower secondary schools constitute the mandatory basic education of Finnish children. Jakku-Sihvonen (2002) examines the

ability of the Finnish schooling system to reach the goal of equality in basic education. Her main research question is whether there are differences between lower secondary schools in school-specific learning results and students' attitudes towards learning. She considers equality between genders and different socio-economic backgrounds, as well as regional equality.

The data in the study is derived from national assessments of the national curriculum framework. Tests were administered in different subjects to students in the ninth grade, i.e. the last year of basic education, in 1998–2001. The tests were given to a nationally representative sample of students, and Jakku-Sihvonen (2002) created a meta-data set from the individual test scores. In her data, each school gets a school-specific performance score, which tells in percentage terms how well the students in the school did on average compared to the maximum score. The schools are then ranked according to the average scores, and schools in the highest and the lowest quartile are used in the comparison of learning results. Distributions of individual test scores within the upper and lower quartiles show that there are students who go to a lower quartile school and do well in the tests, and vice versa. However, the differences in subject-specific tests between the upper and lower quartile schools vary between 13 and 21 percentage points. The difference is highly significant, and translates into a deviation of one or two numerical grades out of ten in each school's average. Jakku-Sihvonen (2002) concludes that a difference as great as this can create inequality in the students' opportunities to pursue further education after lower secondary school, given that the national assessment test scores predict grades in the students' final reports.

Jakku-Sihvonen (2002) also examines inequality in school-specific learning results between boys and girls, and finds that girls perform better than boys in both upper and lower quartile schools. The differences are not as pronounced in the upper quartile; while upper quartile girls perform better in language subjects, boys receive results as good as this or better in science and mathematics. In the lower quartile, girls perform better in all subjects.

The national assessment tests include questions about how important students find a particular subject, whether they enjoy studying it, and how they feel they are succeeding. In general, girls' attitudes towards school and learning have been found to be more positive than boys'. Similarly, students who perform better, generally have a more positive attitude. Accordingly, Jakku-Sihvonen (2002) finds that there are differences between the upper and lower quartile schools in the average attitude scores. Between boys and girls, she finds a statistically significant difference in attitudes only in the lower quartile schools. Her

conclusion is that the psychological learning atmosphere may differ according to the performance level of the school. Moreover, it seems that a low level of the school's average performance may increase the risk of gender inequality to the disadvantage of boys.

In order to investigate regional inequality in learning results, Jakku-Sihvonen (2002) divides the country into three regions: the Capital city area, Northern Finland, and other districts. First, she finds that the distribution of the upper and lower quartile schools is uneven in Finland. There are fewer upper quartile schools in the Northern part of the country than would be expected if the distribution were random. She observes a North-South gradient both among the upper and the lower quartile schools: for the upper quartile schools, the average performance increases from north to south, but decreases for lower quartile schools. This leads to polarisation of learning results across schools, especially in the capital city area. There, the best schools are very good and the poorest performing schools include the worst in the country. The differences between the three regions in average scores are statistically significant, and Jakku-Sihvonen (2002) concludes that there is evidence for regional inequality in learning results.

Looking at boys' and girls' performances in the regional setting, no gender-specific differences appear in the upper quartile schools in the capital city region, and differences in boys' and girls' performances in the lower quartile are smaller than in other parts of the country (Jakku-Sihvonen 2002). Thus, Jakku-Sihvonen concludes that the region-specific operating environment is found connected to learning results. Furthermore, it seems that inequality in terms of some aspect of the goals of equality tends to hinder achievement of the other equality goals. In the Northern and other districts where the school-specific averages are lower, differences between boys and girls are greater than in the capital city area, while the capital city area with higher average scores in turn exhibits greater differences between schools.

Despite these results, the Finnish basic education stands out as one of the most equal in learning results in international comparisons. In the PISA 2000 study, the Finnish students were the best among over 30 countries participating in reading literacy tests with the smallest variation in the scores. Furthermore, among students with the poorest reading skills, the Finnish students scored the best with even a bigger difference. Similar results were reported for mathematics and science. It is also noteworthy, that the effect of students' socio-economic backgrounds on performance is among the smallest in Finland (Välijärvi 2003). Välijärvi (2003) offers the general consensus on the importance of equality in education in the society as one explanation for Finland's success in the

international comparisons. In addition, no selection into different educational tracks occurs in basic education in Finland, and students of different skill levels are taught together. According to Välijärvi (2003) this promotes equality in learning results.

3.4. Secondary level education

3.4.1. Upper secondary schools

According to the Board of Education (2003), 55% of students completing basic education in 1999 entered upper secondary school the following year and 35% entered vocational education. Three per cent entered 10th grade, a voluntary arrangement for those students whose school leaving reports or skills do not enable them to enter the next level of schooling or the labour market. Seven per cent of students did not continue schooling the following year. The fact that upper secondary school is the choice of more than half of the students finishing basic education is in accordance with the general goal of Finnish education policy to increase the average level of education of the population.

The available evidence on notable regional differences in learning results and polarisation of school performance in the capital city area has prompted further investigation of the selection process of students into schools. Upper secondary schools admit students based on a "cream-skimming" process among the applicants. The lowest grade point averages granting admission to the most popular upper secondary schools are very high (above 9 on the scale from 4 to 10), while there is virtually no screening for the least popular schools. Kuusela (2003) examines the factors creating differences in learning results between upper secondary schools. Kuusela's (2003) data includes matriculation examination results for years 2000–2002, a measure of the average level of education of parents of upper secondary school students, parents' unemployment rate, average household income, and the share of households residing in tight living quarters.

Socio-demographic factors have a significant effect on the differences in performance in success in matriculation examinations, and they operate through a selection mechanism. The selection mechanism is twofold: First, there is regional selection as families' material and non-material resources to support their children's education differ regionally (Kuusela 2003). The second selection is spontaneous, and refers to the choice of school. Some children attend the closest school to their home, while others choose another school. According to Kuusela (2003), those who transfer to a school other than their local school between the 6th and 7th grade, i.e. when moving from primary to lower secondary school, perform better, on average in lower secondary school, than students who choose their local

school. Spontaneous selection is stronger among students heading for upper secondary school because school specialisation is more common in higher levels, and upper secondary education is considered more relevant with respect to further studies and career.

It is found that half of the observed differences between schools can be explained by socio-demographic factors, of which mothers' education serves as a proxy in Kuusela's (2003) analyses. The effect of mothers' education is the greatest in large urban areas, where there are several upper secondary schools to choose from and greater variation in the educational attainment of parents. Thus, the variation in learning results that otherwise would occur within schools becomes between-school variation (Kuusela, 2003). In municipalities that only have one upper secondary school, the socio-demographic factors do not come out as significant. However, despite the selection of the best students into the best schools, especially in the capital city area, Kuusela (2003) does not find any evidence for this affecting an individual student's success or learning results. It is worth noting that selection does create some potential sources for inequality in education, despite the fact that individual results are not determined by the school-specific average results. Upper, and in some cases also lower secondary schools, which specialise in some subjects, e.g. sports, arts, or music, select their students to some extent based on skills in their special fields. Such hobbies can be exclusive to students from more affluent families.

Kirjavainen and Loikkanen (1995) study the effects of school resources on learning results in upper secondary schools, and also find that parents' educational level has a significant effect on average matriculation examination results in schools. They also find that the proportion of female students in a school is associated with better matriculation examination results, which can be seen as further evidence for girls' more positive attitudes towards learning, and that reflects on the results. Interestingly, Kirjavainen and Loikkanen's regional results show that schools in urban regions do worse than schools in less urban regions. They do not treat the capital city area separately, however, as Kuusela (2003) does, which may explain this somewhat contradictory result. There seems to be a threshold level in the size of the urban area, above which polarisation occurs, while the average results catch up to or surpass the national average. The two studies are also several years apart, and this development may have taken place after the first study. Kirjavainen and Loikkanen (1995) find no evidence for the effect of teachers' experience or education on matriculation examination results. Neither are teaching expenditures per student found unambiguously significant in determining the schools' results. This is not surprising, considering that virtually all upper secondary schools in Finland are public with nationally set curricula. Education and qualifications required of teachers are uniform, so drastic differences in characteristics of teaching staff are not likely to occur across schools.

Evidence on the connection between parents' and children's education is strong and abundant, and also a potential source of inequality. Attributing this inequality to the education system is not straightforward, though. Parental education can be considered a characteristic of the socio-cultural environment of the student, to which also the general level of education and attitudes towards education in the community contribute. Kuusela (2003) conducted a survey among the principals of a sample of schools whose good results in matriculation examinations he was not able to explain with statistical analyses. A close-knit community and communication between school and families were among the explanations they gave (Kuusela 2003). Such positive environmental and cultural factors seem to decrease the effect of family background in determining the academic performance of upper secondary school students.

3.4.2. Vocational education

There is an increasing trend for young people to acquire "double" education at the secondary level. Students, on average, start at universities four years after completing upper secondary school (Government of Finland 2003), and they often pursue a second (vocational) degree at the secondary level. This may in some fields ameliorate their chances in the competition for university entrance, but is in other cases a clear inefficiency. This is also noted by Nurmi (1998) in a study on students entering tertiary education. Hämäläinen (2003) finds further evidence for the inefficiency regarding secondary and tertiary level education. Of university graduates, 30% already hold some other degree, either from secondary or tertiary level (Hämäläinen 2003). These individuals are more likely to end up in jobs that do not match their university degrees. Consequently, they rather seem to follow the lifetime earnings profile of the secondary level graduates, suggesting that vocational education is an obstacle to realizing the returns of higher education.

3.5. Higher education

3.5.1.1. Entrance examinations

There are two main sources of inequality in higher education. First, the selection of students among applicants occurs in most universities and fields in entrance examinations. In 2003, the average entrance rate among applicants to universities who took the entrance examinations was 40% (KOTA online database). The possibility to prepare for the examinations differs and may create inequality. Second, the financing of studies at

university level may put students in unequal positions. Financial assistance from family is not available to everyone, and working while studying may limit the public support a student is entitled to. Issues of financing one's studies are dealt with in Section 3.6.

The qualification process for entrance to universities differs across institutions and fields of study. The general rule is that an applicant receives points towards qualification based on the matriculation examination results and an entrance examination. The examinations cover the upper secondary school curriculum and usually some additional literature, and/or in some cases material distributed in the exam situation. Interviews and tests of suitability for the field in question are applied in some fields and institutions (e.g. pedagogics, social work). Universities are free to set the requirements for entrance. Co-operation in the entrance examination procedure takes place between universities. For example, the same exam is taken at one institution, and can qualify the applicant for studies in several universities (e.g. biology in five, engineering and architecture in eight universities). In some fields and universities, outstanding results in the matriculation examination can grant "free" entry without having to take the entrance examination (e.g. mathematics, physics and chemistry in the University of Helsinki). In polytechnic institutes, interviews and suitability/aptitude tests are more common, as the education is more closely related to professional qualifications. Matriculation examination results are accounted for, as in the entrance process to universities.

3.5.2. Universities: Preparation courses

Preparation courses provided by private organisations are an increasingly popular way of preparing for the rigorous entrance examinations to universities. Participation requires money for fees and materials, and preparing for entrance exams, whether attending a course or not, often prevents a student from working full time, and he/she may need family financial assistance. This creates inequality between prospective students. The costs of attending a preparation course can be hundreds, or even thousands of euros, depending on the field and provider of the class.

Ahola and Kokko (2000) report the results of a survey among applicants to Finnish higher education programmes in business. They find a clear difference in the participation in preparation courses in favour of those from families with high educational and socio-economic status. Of applicants with fathers who hold a higher education degree, 40% attended a preparation course; while of those whose fathers only have received basic education, 20% attended a preparation course (Ahola and Kokko 2000). There is a clear advantage from a preparation course: 47% of applicants who had, in addition to reading the

books required in the entrance examination, taken a course, were accepted. The acceptance rate of those who only studied the books was 17% (Ahola and Kokko 2000). Intermediate strategies, including cramming with previous years' entrance exam problems, produced outcomes in between these two extremes.

Moreover, there seems to be a connection between educational and socio-economic background and the effectiveness of a preparation course. Applicants from white-collar families who took the course had a 49% acceptance rate, while only 22% of those who did not attend were accepted. For blue-collar applicants, the course yielded a 27% acceptance rate, and 20% of them entered universities without a preparation course (Ahola and Kokko 2002). Thus, not only are applicants from wealthier and more highly educated families more likely to take preparation courses, but they also benefit from them more than do applicants with lower socio-economic status and less educated parents. This creates a source of inequality based on economic resources, as well as regional inequality: Private providers of preparation courses generally operate in large (university) cities.

3.5.3. Polytechnics: The second best choice?

Nurmi (1998) examines the relationship between polytechnics and universities in his work *Keiden koulutusväylät? (Whose Tracks?).* Selection into different educational paths is a central theme is his work, but he also touches upon the issue of equality in his discussion of the socio-demographic backgrounds and career goals of students. His data come from a 1994 survey, which was administered on applicants to polytechnics and universities in the Häme province in the fields of economics, social work, and technology. At this point, polytechnics still operated on a temporary basis, and this track had not fully established its position in the educational field. Nurmi (1998) applies principal components analysis in order to explore the effects of family background, previous education, and personal orientation regarding status or profession.

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order to explore the effects of family background, previous education, and personal orientation regarding status or profession.

Nevertheless, Nurmi (1998) finds that the selection that occurs before the decision to apply to a polytechnic or a university has more effect on the student bodies of higher education institutions than the entrance examinations themselves. Both tracks seem to prefer students from families of higher socio-economic status and educational capital in their qualification procedures. Nurmi expects status orientation to be associated with university studies, and task orientation to be a characteristic of polytechnic students. Status orientation, i.e. a student considering the organisational position and salary of the potential future occupation obtained through the chosen education, was significant in identifying the university-bound individuals among the pool of applicants. Task orientation, against expectations, did not turn out to be a significant factor in choosing the polytechnic track. Thus, family background and the traditional connection between university education and high socio-economic status drive the decision to enter higher education, and seem to be more closely associated with university education than polytechnic education.

Polytechnic graduates are faced with a more uncertain labour market. This form of education is relatively new, and the niche for graduates in the labour market remains somewhat undefined. According to Statistics Finland, marked differences exist in the average earnings of graduates from universities and polytechnic institutions (Partanen 2002). Engineers with a university degree completed in 1996-1997 earned on average 27 500 euros in 1998, while engineers with a polytechnic degree from the same year earned 24 200 euros. The difference was larger for business graduates, the average earnings being 25 000 and 18 000 euros, respectively. Interestingly, Nurmi (1998) finds that while educational capital in the family (parents' education) was important in entering higher education in general, in polytechnics, high socio-economic background improved the entrance rate among business students by less than among engineering students, and was not statistically significant. Less inequality in entrance to education in business would seem to be associated with more inequality in wages across the two tracks of higher education. This may imply an emergence of segregated fields in the labour markets for those with university and polytechnic degrees.

3.6. Financial aid to students and equality

Financial assistance from family does not affect the amount of financial aid, and thus those who have to work because no family funds are available may receive less financial aid despite the larger need. Second, in large cities, the capital city region especially, housing

expenditures are higher than in other parts of the country. In addition, subsidized student housing is scarcer in large cities and many students have to rent from the private, and more costly, markets. This leads to regional inequality in the housing supplement. Third, lack of capital against which to borrow, and uncertainty of employment opportunities and earnings after graduation may put students with poorer socio-economic background in a worse position in the markets for student loans. They may end up taking larger loans than those whose families are better-off and taking bigger risks relative to those with family funds as an insurance against uncertainty.

In 2004, a new system was announced to take effect in august 2005 (Government of Finland 2004). The monthly amount of student loan will increase from 220 to 300 euros, by 11%. After graduation, the payments of the loan are deductible from taxes up to 30 percent of the loan amount exceeding 2 500 euros. Completing one's degree in the target time of five years is a condition for qualifying for the deduction. The tax subsidy system addresses some of the inequality issues better than pure market-based loans. An insurance component in the system against uncertainty is needed, however, because real benefits from the subsidy will require subsequent employment.

3.7. Conclusions

Quality of education, measured by learning results and assessed with respect to socio-economic background and gender, as well as region, and the equal opportunity to pursue higher education after mandatory basic education are the principles of equality in the Finnish schooling system. Based on this review of the empirical literature on equality in education, there are some potential sources of inequality regarding all three aspects of equality (Table 1).

Selection stemming from socio-economic factors and regional variation in them still seem to be a key source of inequality in the Finnish schooling system. First, in basic and upper secondary education, significant differences in school performance in national assessments have been shown to exist. Second, the transition phases between levels of education are crucial. Upper secondary schools select their students based on grades, and universities and polytechnics give entrance examinations to applicants. A family background of higher education and socio-economic status is associated with better outcomes in the assessment of learning results in basic and upper secondary education, as well as better success in entrance examinations to higher education. Inequality within institutions or regions is not of an alarming magnitude. However, inequality between schools and regions may be increasing and a source of inequality in the labour market. Potential interactions between

the three kinds of inequality can be identified, and offer a field for future empirical research.

Table 1. Inequality in the education system in Finland.

Education level	Characteristics	Inequality	References
Pre-primary	Voluntary, public and free (700 hrs), participation rate 75%	May create inequality in initial capabilities at start of primary school	
Primary	Mandatory, public and free, classes 1 to 6 (ages 7 to 12)	Girls perform better, socio-economic background associated with learning results, some regional diffferences, specialisation of schools and selection	Jakku-Sihvonen (2002), Välijärvi (2003)
Lower secondary	Mandatory, public and free, classes 7 to 9 (ages 13 to 15)		
Secondary	Upper secondary schools and vocational schools, public and free	Strong selection into upper secondary schools, differences between schools in learning results; Vocational and professional degrees associated with lower earnings and higher risk of unemployment	Kuusela (2003), Kirjavainen and Loikkanen (1995), Uusitalo and Hämäläinen (2003)
Tertiary	Universities and polytechnic institutions, mainly public and free	Inequality enforcing factors are entrance examinations, preparation classes, socio-economic background, financial assistance from family	Ahola and Kokko (2000), Nurmi (1998)

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LÖNNROTINKATU 4 B, FIN-00120 HELSINKI

Puh./Tel. (09) 609 900 Telefax (09) 601753
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