



SECONDARY EDUCATION IN OECD COUNTRIES

COMMON CHALLENGES, DIFFERING
SOLUTIONS



etf
SHARING EXPERTISE
IN TRAINING

SECONDARY EDUCATION IN OECD COUNTRIES

Common challenges, differing solutions

Pasi Sahlberg, Ph.D., European Training Foundation

Prepared for “Seminário Internacional sobre Ensino Médio Diversificado” , Brasília, Brazil, 17 Sept, 2007
© European Training Foundation, 2007. Reproduction is authorised, provided the source is acknowledged, except for commercial purposes.

Executive summary

Demand for secondary education is on the increase worldwide. More young people complete primary schooling and an increasing number seek opportunities to continue learning in secondary schools. Modern economies and their labour markets need people with sophisticated knowledge, skills and competences that cannot be developed only in primary school or in low-quality secondary schools. Therefore secondary education has an important role in the development of education around the world.

In most developed countries today approximately 90% of the lower secondary school leaving age cohort enrol in upper secondary education. The ratio of upper secondary graduates to the population at the typical age of graduation in these countries is over 70%. Most students study in programmes that provide access to tertiary education. However, this doesn't mean that all these students study in general secondary schools. In about half of the OECD countries the majority of upper secondary students attend vocational or apprenticeship programmes that also lead to a professional qualification. Many of these programmes also offer access to tertiary education. Today, 53% of young people in OECD countries will enter tertiary-type A programmes and about 16% tertiary-type B programmes during their lifetime.

On average across OECD countries 42% of the adult population have only completed upper secondary education. Less than one-third of adults (30%) have obtained only the primary or lower secondary levels of education and one-quarter (25%) have achieved a tertiary level of education. However, countries differ widely in the distribution of educational attainment across their populations.

The organisation of upper secondary education is not unified. There are three principal ways to organise upper secondary education in OECD countries:

- (i) *Divided school-based upper secondary school system* whereby upper secondary education is divided into general and vocational schools.
- (ii) *Unified upper secondary school system* whereby upper secondary education is organised within one school offering different programmes.
- (iii) *Parallel school-based and work-based upper secondary school system* whereby upper secondary education has school-based general and work-based vocational education options.

These organisational structures in most countries are a result of historical tradition rather than intentional design.

One of the main issues in education policy discussion today is how to secure access to better quality secondary education for all students. Policymakers need to be aware of different alternatives in order to have a responsive and flexible upper secondary education system that simultaneously serves the needs of employers and lifelong learning. Policymakers should:

- guarantee real opportunities for all young people to continue learning in upper secondary education of their choice after completing compulsory education;
- avoid making upper secondary vocational education programmes a choice for lower achievers linked to poor-quality jobs and no access to tertiary education;
- create credible pathways from secondary vocational education to tertiary education and encourage a significant proportion of students to follow that path; and
- establish systematic student counselling and career guidance services in all basic schools to prevent a lack of awareness of future options, and in all upper secondary schools to help students to overcome their troubles and prevent dropout.

OECD countries vary greatly in terms of organisation and performance of secondary education. They provide an interesting arena to learn from different experiences. The education system in Finland is an example that shows how good educational performance is attainable at reasonable cost using education policies that emphasise equity, early intervention, teacher professionalism, school autonomy and trust unlike many other countries of the OECD. Improving the quality of secondary education requires sustainable leadership and cross-sector policies that address the importance of creating good knowledge and skills already in primary school for all pupils. The Finnish model also demonstrates how preparing pupils well for the transition from basic to upper secondary school can increase the rate of successful career decisions and hence reduce student failure in upper secondary school.

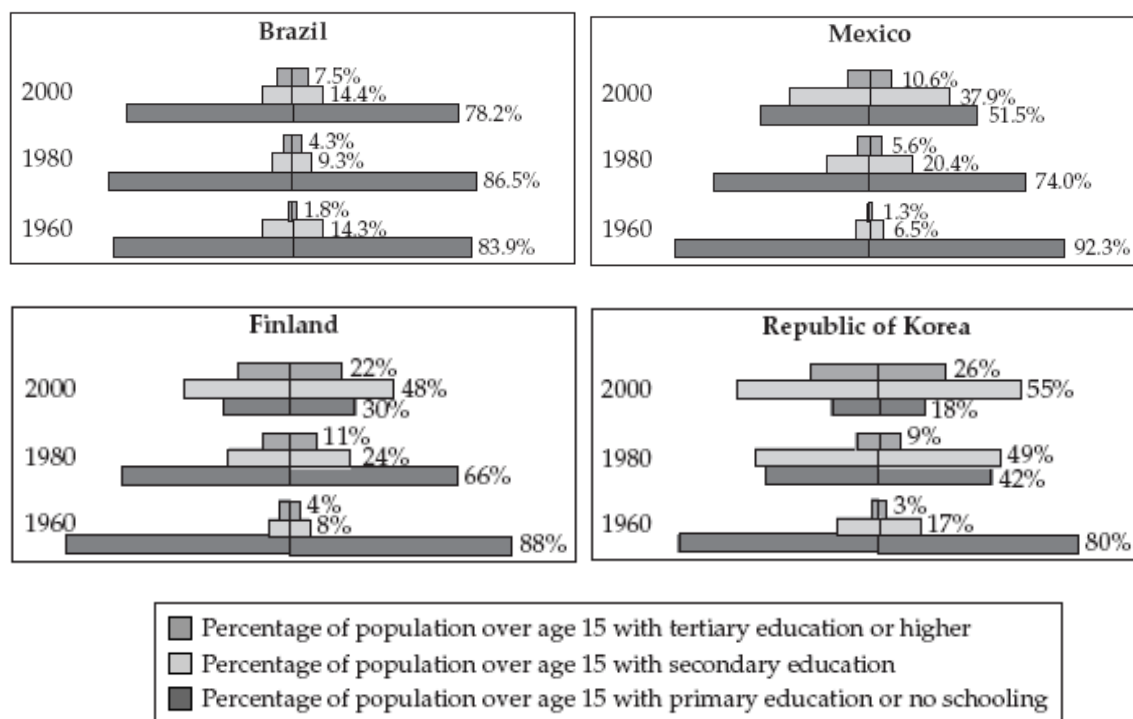
1. Introduction: The changing face of secondary education

Secondary education plays a dual role in today's education systems. On one hand, it serves as an extended platform for all young people to further develop the knowledge and skills that are needed in civic society and the knowledge economy. On the other hand it provides many young people with qualifications for the labour market and further learning. In the past, secondary education primarily served the elite as an educational transition to higher education. Today, in contrast, the great majority of the population enrolls in secondary education as lifelong learning is becoming a condition for successful employment and life. Secondary level education is the last stage of education that is open to all, with on average around three quarters of young people in OECD (Organisation for Economic Co-operation and Development) countries receiving upper-secondary qualifications, compared to just one quarter gaining tertiary-level qualifications.

Traditionally, secondary education has not been at the centre of attention in education policies until very recently. Education reforms, especially those financed by donors or international development institutions, have focused on improving access to and raising enrollments in primary education. Similarly, in national education policies the financing of higher education has often been put before secondary education. One reason for this is a belief that rates of return are relatively higher for basic and higher education and this often justifies the investment policies.

Today, in the international perspective the situation has changed. Demand for secondary education is on the increase and the need for improving the quality and relevance of secondary schooling has been made loud and clear. An international review of secondary education recently identified three factors for shifting secondary education to the policy spotlight (World Bank, 2005). First, as more young people complete primary schooling, an increasing number of them seek opportunities to continue formal learning in secondary schools. Parents throughout the world are also looking for better education for their children than they had themselves. Second, the secondary school age cohort of young people is larger than ever before. These young people are clearly going to be the key in shaping our future. Turning what some perceive as a social risk to a future hope requires that good and relevant options at the secondary level of formal education is offered to all young people who want to continue learning after compulsory schooling. Third, modern economies and dynamic labour markets need people with more sophisticated knowledge, skills and competences that cannot be developed only in primary school or in low-quality secondary schools. Lifelong learning requires extended and better quality basic education that consists of primary education and secondary education that fits the learning needs of young people.

Figure 1. Distribution of the population over age 15 by educational attainment in Brazil, Mexico, Finland and Korea



Source: World Bank (2005)

Some countries have implemented active secondary education policies since the late 1960s to provide better opportunities for more young people to gain secondary education. For example, in Korea and Finland (that are both performing very well today in international student assessments) the government strategies first focused on raising completion rates and improving the quality of primary education, and then, from 1970s policy emphasis shifted to secondary education. Figure 1 shows how systematic efforts to improve the quality of primary education and then open secondary education to all lead to an education pyramid that today is typical of many leading knowledge economies.

During the past four decades some significant changes have shaped secondary education. Bearing in mind that secondary education was initially created to serve academic higher education (educational orientation, curriculum, instructional methods, teachers, etc.) the following trends have emerged:

- secondary education is becoming an extension to primary (or compulsory) education rather than terminal phase to prepare students for higher education;
- secondary education curriculum is becoming more like primary school curriculum with broader range of subjects, less specialisation and more integrated themes;
- modes of instruction in secondary schools are becoming similar to those increasingly used in primary schools: project work, cooperative learning, alternative assessment methods etc.; and
- teachers teaching in secondary schools are being trained and recruited as primary school teachers, some of them teaching at secondary and lower secondary levels.

Knowledge economies and globalised world of today require different knowledge and skills from young people as they leave school and enrol in further studies or labour markets. Although the challenges in secondary education vary from one (OECD) country to another, there are several common challenges that most, if not all education systems are facing today. As enrollment in secondary education increases, enhancing the quality of teaching and learning becomes more difficult. There is a lot of evidence that better access and higher participation rates in secondary education alone will not solve the problem, indeed, they may create new ones. Herein is the main challenge: to secure good quality and meaningful learning for all students.

In the following sections I discuss in more detail the changing secondary education policies in OECD countries and describe various types of secondary education, enrollment patterns and provide some suggestions for policy development. In the closing section I also offer a more detailed look at one country, Finland, in order to show concretely which secondary education policies were used to get the system performing well.

2. Secondary education in the knowledge society

The traditional structure of secondary education as a parallel bridge between primary education on one side, and higher education and world of work on the other, is changing. Workforce in this millennium is less involved in industrial production and isolated professions, and increasingly involved in knowledge work, services, communication and innovation. Economies and societies are therefore looking for ways to have their education systems more concentrated in building meta-cognitive and creative capitals that both are necessary resources for both individuals and nations to succeed in competitive knowledge-based and innovation-intensive world.

The need to redesign education systems, including secondary education, comes from the notion that changing economic, social and ecological circumstances have created the need for individuals who are flexible, able to adjust to changing situations, to learn effectively and creatively and to create ideas productively. Social and creative capitals are becoming increasingly important and sought after characteristics of successful nations, just as basic knowledge and generic manual skills were the drivers of industrial countries. A good example of the changing skills requirement is illustrated by research carried out by Levy and Murnane (2004). In that study they divided the tasks performed by workers into five categories (also in World Bank, 2005):

Expert thinking: solving problems for which there are no rule-based solutions;

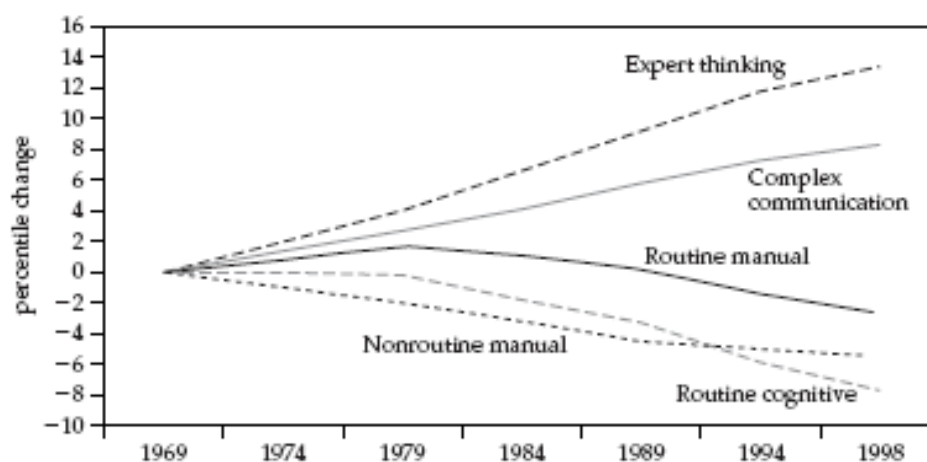
Complex communication: interacting with others to acquire information, to explain it, or to persuade others of its implications for action;

Routine cognitive tasks: mental tasks that are well described by logical rules;

Routine manual tasks: physical tasks that can be well described using rules;

Non-routine manual tasks: physical tasks that cannot be well described as following set of “if-then-do” rules and that are difficult to computerise.

Figure 2. Trends of routine and non-routine task input in the US economy (1969 - 1998)



Source: Levy and Murnane (2004)

Trends in the United States labour market since 1970 of each of these categories are presented in figure 2. Each trend reflects changes in the numbers of people employed in occupations emphasising that task. Trends are similar in many OECD countries and hence have been reflected in education policies. Secondary education is commonly seen as the cycle of education that consolidates and further develops young peoples' thinking skills, interpersonal and communication skills and strengthens lifelong learning attitudes. In many countries, therefore, secondary education regardless of its organisation and structure has become a continuation of primary (and lower secondary) schooling for the vast majority of young people in OECD countries. This has shifted away from its role as a terminal phase for higher education or employment.

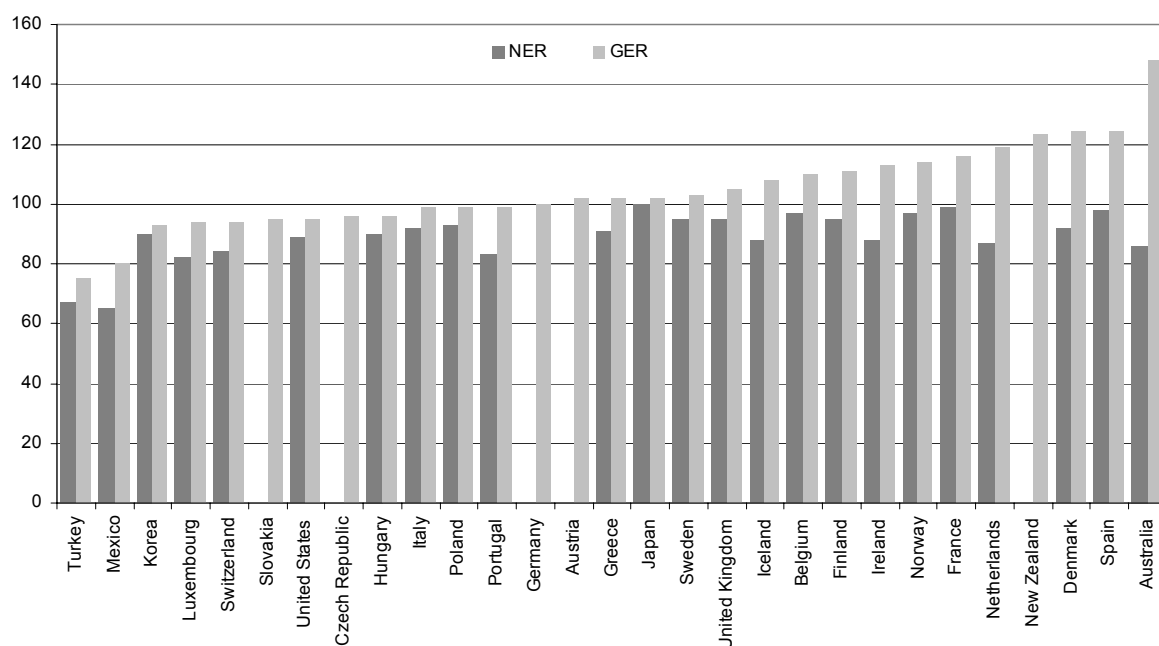
In the 1960s a majority of adults in almost all societies had only basic education or less. For example, in Finland, the Netherlands, Spain and Italy 80–90% of the adult population of 15 years or older had only basic education and 10–20%, some type of secondary education qualification. Changing labour markets in many OECD countries as shown in figure 2 called for a better educated labour force with different knowledge, skills and competencies compared to those educated before the 1970s. A common policy principle in industrialised countries was to increase access to secondary education by expanding general secondary education to more primary school leavers and also by introducing new vocational and technical training options parallel to academic secondary school with a path to tertiary education. Due to this expansion of secondary education that started in the 1970s and continued until the turn of the millennium, many countries were able to reshape their education attainment pyramids. For example, as shown in figure 1, Korea and Finland went from having a relatively poorly educated adult population in the 1960s to what is considered a typical educational attainment shape in a knowledge society with about half the adult population with a secondary education qualification and at least a further quarter with a higher education degree.

There are different ways to describe how many students participate in secondary education in OECD countries. In order to have a reliable picture of the situation one needs to look at net enrollment rates, gross enrollment rates and also graduation rates in each country. Because, as we see later, the structure of secondary education varies significantly from one country to another, comparable statistics are difficult to establish. For example, the international classification system for levels of education was not unified before 1997 and hence earlier statistics are not always comparable. The other factor that makes the statistical analysis of secondary education difficult is that in many countries upper secondary school is not compulsory and therefore students enrol in upper secondary education at different ages. That is the reason why we also need to look at gross enrollment rates in order to see how many students actually participate in secondary education in total. The next paragraphs will look at some of the key indicators of secondary education in 30 OECD countries and four partner countries (Brazil, Chile, Israel and the Russian Federation). This includes typical enrollment rates in different secondary education programmes, how students are distributed among different secondary education programmes, what are the typical graduation patterns from secondary schools, and estimates of education attainment level of the adult population. Chapter three then discusses some qualitative aspects of secondary education in OECD countries.

2.1 Participation in secondary education in OECD countries

In many OECD countries the transition from education to employment has become a more complex process that often requires better education than before. It is thereby also providing an opportunity – or sometimes obligation – for young people to prolong their education in order to obtain the necessary competences for work. Furthermore, the successful completion of upper secondary education has become a norm in most OECD countries that raises the chances of better employment. In OECD and four partner countries the age at which compulsory education ends ranges from 14 (in Korea, Portugal, Turkey, Brazil and Chile) to 18 (in Germany, the Netherlands and Belgium). All other countries fall between these extremes.

Figure 3. Total net (NER) and gross (GER) enrollment rates in upper secondary programmes in the OECD countries in 2004 (as available)



Source: OECD (2006)

The organisation of upper secondary education differs greatly among OECD countries. In brief, there are typically three options: general upper secondary school that primarily prepares students to further learning in tertiary education institutions, vocational and technical schools that lead students to a qualification or certification for employment in the labour market, and alternative apprenticeship programmes that are mostly work-based learning options also providing a recognised qualification. Students enrol in these upper secondary studies at different ages, however, usually immediately after completing lower secondary education. Using net and gross enrollment rates (as available), figure 3 shows that in OECD countries approximately 90% of lower secondary school leaving age cohort enrolls in upper secondary education.

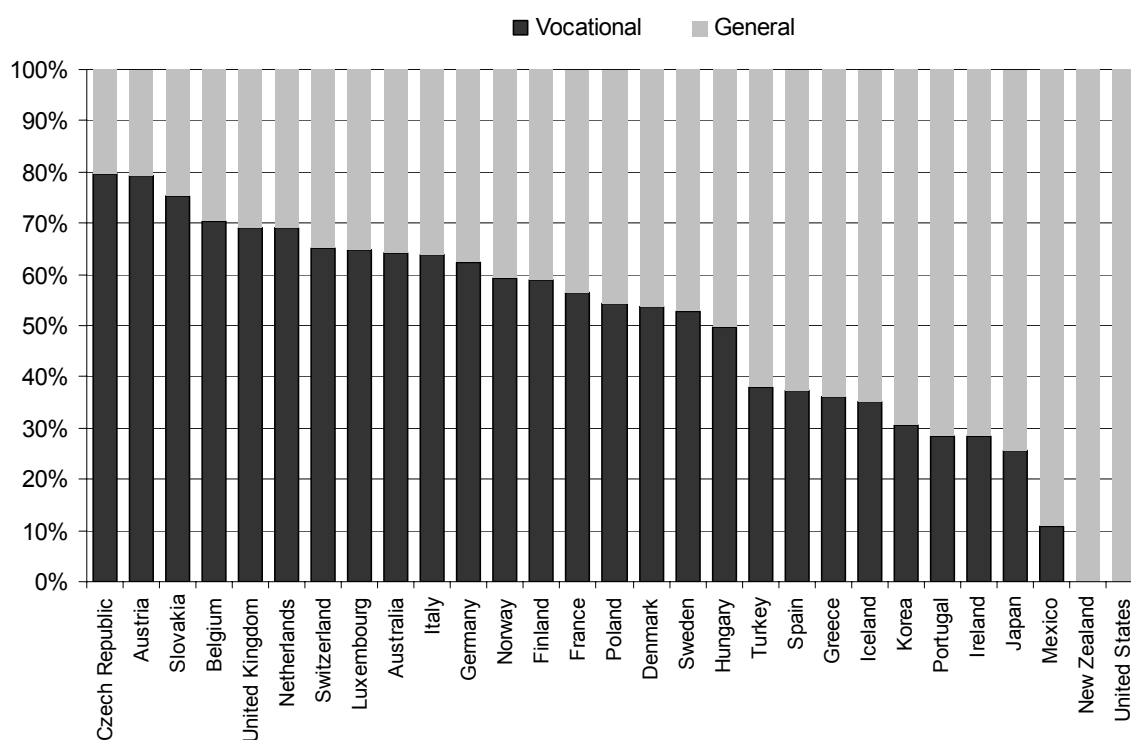
Gross enrollment rates are sometimes higher than 100 due to the fact that enrollment numbers include students returning to upper secondary school later on in life. In most OECD countries upper secondary education is non-compulsory and offers students optional education paths. Programmes at the upper secondary level are subdivided into three categories (OECD, 2006):

1. **General education programmes** are not designed explicitly to prepare participants for specific occupations or for entry into further vocational or technical education programmes. Less than 25% of programme content is vocational or technical.
2. **Pre-vocational or pre-technical education programmes** are mainly designed to introduce participants to the world of work and to prepare them for entry into further vocational or technical education programmes. Successful completion of such programmes does not lead to a labour-market relevant vocational or technical qualification. At least 25% of the programme content should be vocational or technical.

- Vocational or technical education programmes** prepare participants for direct entry into specific occupations without further training. Successful completion of such programmes leads to a labour market relevant vocational or technical qualification.

Most students in OECD countries enrol in upper secondary programmes that provide access to tertiary education. However, choosing any of the three educational paths doesn't necessarily determine whether students have access to tertiary education. In about half of the OECD countries, a majority of upper secondary students attend vocational or apprenticeship programmes. These programmes typically offer a blend of alternative learning opportunities with close link to world of work. Figure 4 illustrates the diverse balance between enrollment in vocational and general upper secondary programmes in OECD countries.

Figure 4. Percentage of students attending vocational and general upper secondary programmes in OECD countries (as available) in 2004

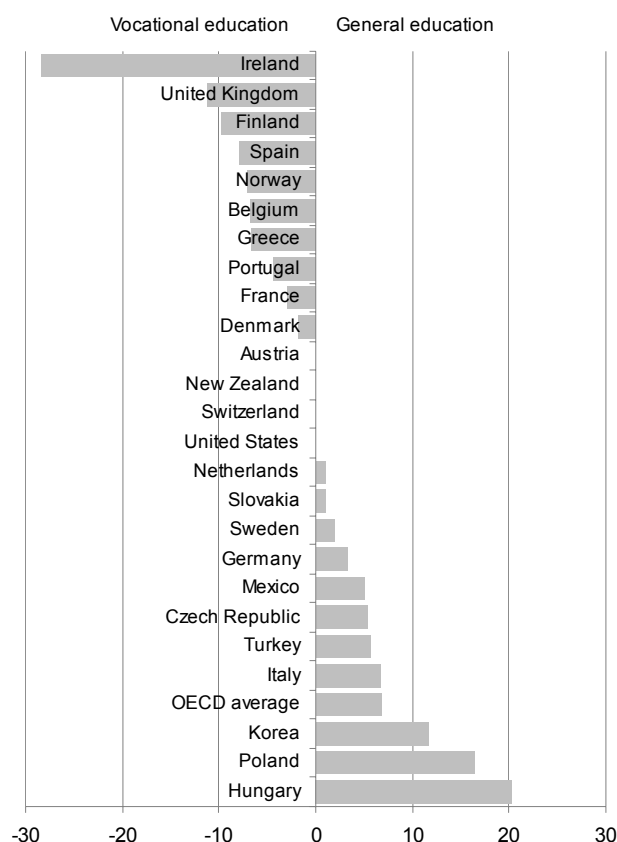


Source: OECD (2006)

Vocational education has been at the core of secondary education policies in OECD countries, and especially in the European Union, for a decade. In most OECD countries vocational education is traditionally offered in schools, except in the United Kingdom where many vocational programmes are actually labelled as further education. In other countries, such as Austria, Iceland and Czech Republic, however, about half of vocational and technical programmes are combination of school and work based elements. In many countries new structures and alternative forms of vocational education have attracted more students to attend vocational programmes. In Finland, for example, a campaign to promote vocational education as an alternative to general education has led to a slow but sustainable increase of vocational education enrollments since the mid-1990s. Interestingly, many advanced knowledge economies have witnessed similar trends as shown in figure 5. Raising the quality of professional knowledge and skills has been seen as one of the preconditions for sustainable economic growth and social development in these countries.

Upper secondary education in OECD countries is anything but unified. The structure of upper secondary education is determined by tradition, economic structure and the overall social policies of each country. One thing is common to most OECD countries: upper secondary education has become more flexible and open to the key partners in their societies. Flexibility means first and foremost the ways in which students have opportunities to choose and adjust their learning needs regardless of programme or institutional boundaries.

Figure 5. Change in the net enrollment rate (in percentage units) between vocational and general upper secondary programmes from 1995 to 2003 in some OECD countries (length of bar indicates the growth of that particular programme)



Source: UNESCO Institute for Statistics (2006), OECD (2006), World Education Indicators (2007)

2.2 Graduation from upper secondary schools in OECD countries

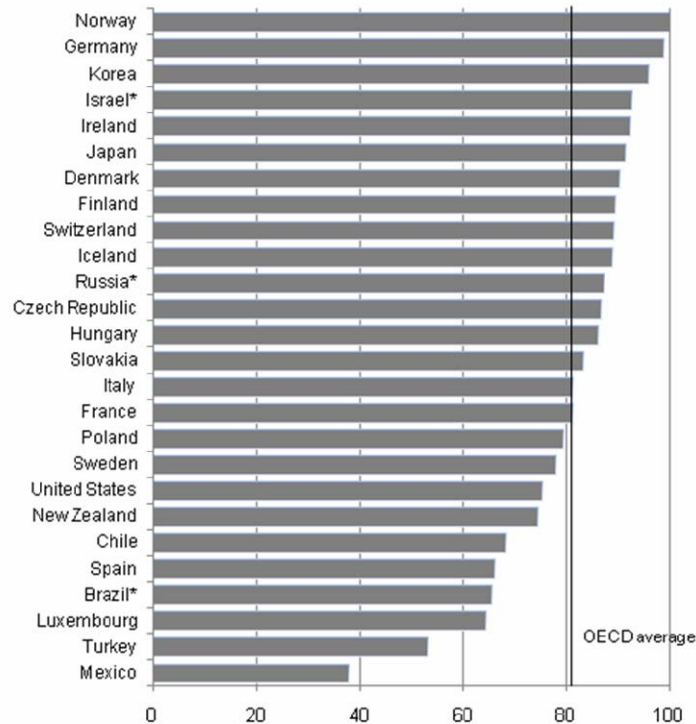
Upper secondary education serves as the foundation for lifelong learning and further training opportunities, as well as preparation for entry into the labour market. As mentioned earlier, although many OECD countries do allow students to leave the education system at the end of the lower secondary level, the vast majority of them choose to continue their learning in upper secondary schools. The main motive for doing so is the fact that those who leave without an upper secondary qualification tend to face severe difficulties in finding a good job.

High enrollment figures are not enough. It is important to look at how many students successfully complete the upper secondary school that they started. There is a relatively large loss of students between the beginning and intended end of upper secondary school in Mexico, Turkey, Spain and Luxembourg. Some students leave the education system for good, some will return later if the education system offers the opportunity. Overall, one in five upper secondary students in OECD countries drops out from school before graduation. This is an economic loss to society and gives an indication of low quality or poor relevance of secondary schools. Better access and higher quality together form what is known as a twin challenge to secondary education (World Bank, 2005).

Figure 6 compares gross upper secondary education graduation rates in a number of countries. The figure shows the number of students completing upper secondary education programmes for the first time, as a percentage of the age group normally completing this level. Although not all of the graduates are in this age band, this calculation gives an indication of how many of today's young people are completing upper secondary education. In 18 out of 22 OECD countries for which comparable data are available, the ratio of upper secondary graduates to the population at typical graduation age is over 70%. In Denmark, Finland, Germany, Ireland, Japan, Korea and Norway graduation rates are at or above 90%. In each of these

countries an upper secondary qualification of some kind is a common minimum requirement for any further studies or permanent employment. The challenge is now to ensure that the remaining fraction is not left behind, with the risk of limited job prospects that this may entail. Various student counselling and career guidance structures have been introduced to many of these education systems with high graduation rates.

Figure 6. Combined upper secondary graduation rates (2004) in OECD countries and the partner states (*)



Source: OECD (2006)

However, high graduation rates do not mean that the education system has equipped its students with the knowledge, skills and competences that they need in labour markets. There are no reliable, internationally comparable data about the quality of upper secondary school graduates. But these graduation rates perhaps indicate the extent to which education systems are able to prepare students to meet the minimum expectations of the labour market.

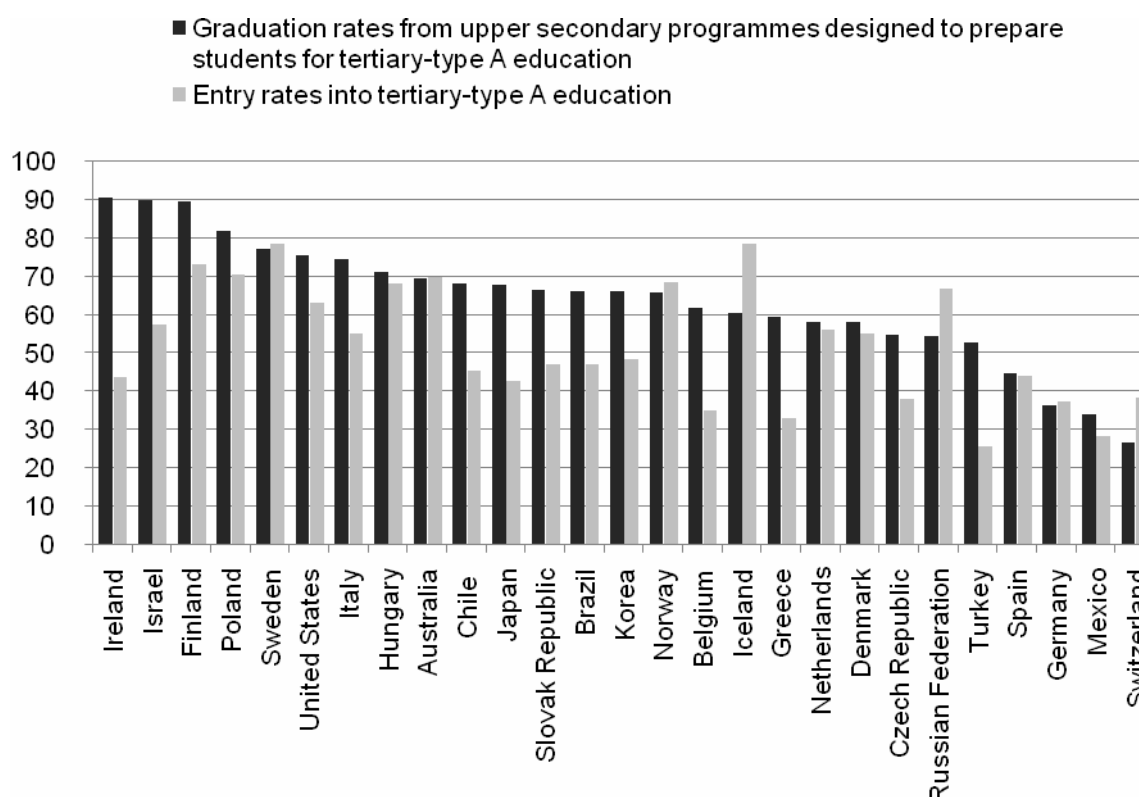
Most upper secondary programmes in OECD countries are designed primarily to prepare students for tertiary studies. Their orientation, however, can be general, pre-vocational or vocational. Most students who graduate from upper secondary programmes in OECD countries graduate from programmes that are designed to provide access to further higher education, i.e. in academic universities. Studies to facilitate direct entry into tertiary-type A¹ education are preferred by students in all OECD countries, except in Germany and Switzerland where students are more likely to graduate from upper secondary programmes leading to tertiary-type B² programmes.

Figure 7 provides comparison of graduation rates from upper secondary programmes designed for tertiary-type A entry with actual entry rates to tertiary-type A education. According to OECD (2006) definition gross graduation rates refer to “the total number of graduates (the graduates themselves may be of any age) at the specified level of education divided by the population at the typical graduation age from the specified level. In many countries, defining a typical age of graduation is difficult, however, because graduates are dispersed over a wide range of ages”. It should be noted that there are several upper secondary level paths to tertiary-type A education, not only the traditional academic upper secondary school.

As figure 7 shows, not all students who graduate from upper secondary programmes preparing them for tertiary-type A education enrol in these institutions. For example, in Ireland, Belgium and Greece only about half of upper secondary school graduates with qualification to access tertiary-type A institutions enrol in these institutions. Today, 53% of young people in OECD countries will enter tertiary-type A programmes during their lifetime. According to available data, 16% of young people will enter tertiary-type B

programmes. This latter participation rate ranges from 4% or less (in Italy, Norway and Mexico, for example) to more than 30% (in Korea, New Zealand and Japan).

Figure 7. Access to tertiary type-A education for upper secondary graduates (2004)



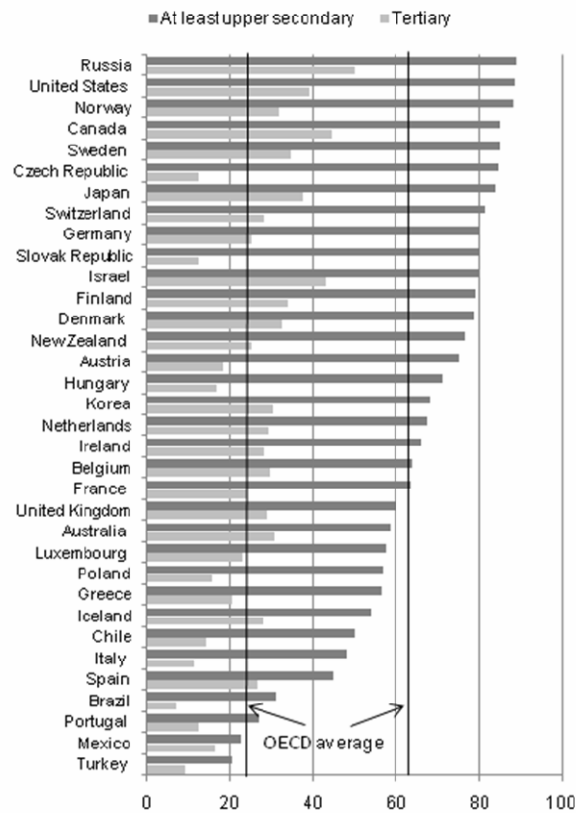
Source: OECD (2006)

2.3 Educational attainment level of adult population in OECD countries

The level of educational attainment of the adult population is a commonly used proxy for the stock of “human capital”, in other words, the knowledge, skills and competences available in the population and labour force. Because education practices differ from one country to another it is necessary to assume that if one year of education is equivalent at all levels, the educational attainment of the adult population can be presented by the average number of years of schooling completed. The average educational attainment of the adult population in OECD countries is 11.9 years. For the 17 countries above the OECD average in figure 8, the average number of years of schooling ranges from 12 to 13.9 years. For the 13 countries below, the variation is greater, ranging from 8.5 to 11.8 years. Figure 8 describes the proportion of population of age 24 to 65 that has attained at least upper secondary education and those who have tertiary education.

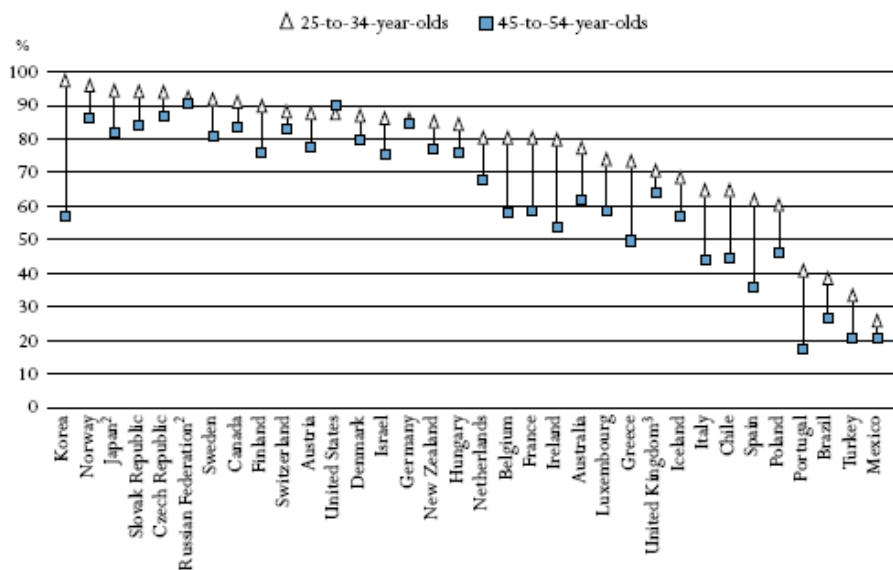
The proportion of individuals who have completed upper secondary education has been growing in nearly all OECD countries. Among 25 to 34 year-olds in most OECD countries the proportion ranges from 70 to 97%. Many countries with traditionally educational low attainment levels are now rapidly catching up with more developed countries. The official target in the European Union, for example, is to have at least 85% of all young adults with at least an upper secondary education qualification.

Figure 8. Population of age 24 – 65 years that has attained at least upper secondary education and those who have tertiary education in 2004 in OECD countries and partner states.



Source: OECD (2006)

Figure 9. Comparison of older and younger age groups of population that has attained at least upper secondary in 2004 (percentage by age group)



Source: OECD (2006)

On average across OECD countries 42% of the adult population have completed only upper secondary education. Less than one-third of adults (30%) have obtained only the primary or lower secondary levels of

education and one-quarter (25%) have achieved a tertiary level of education. However, countries differ widely in the distribution of educational attainment across their populations. The national educational attainment profile in any advanced knowledge economy should have most adult citizens with completed secondary education and the proportion of those with tertiary education should be larger than the proportion of the population with the lowest levels of education (see figure 1 as an example).

Figure 9 shows, for curiosity, how the educational attainment levels of different age groups vary from one country to another. For example, in Korea, Portugal and Spain there is a significant difference in educational attainment between the younger and older population groups. In general, as shown in figure 9, comparison of the levels of educational attainment in younger and older age groups suggests marked progress with regard to the achievement of upper secondary education. On average, in OECD countries the proportion of 25 to 34 year-olds having attained upper secondary education is 13 percentage points higher compared to the 45 to 54 age group.

3. Issues and trends in secondary education

This section focuses on qualitative aspects of secondary education in OECD countries. We first look at the intake in secondary education especially in terms of students' readiness to study at upper secondary level, then discuss the options between general and vocational education, and finally look at various models of organising general and vocational upper secondary education in practice.

3.1 What do students know when they enter secondary schools in OECD countries?

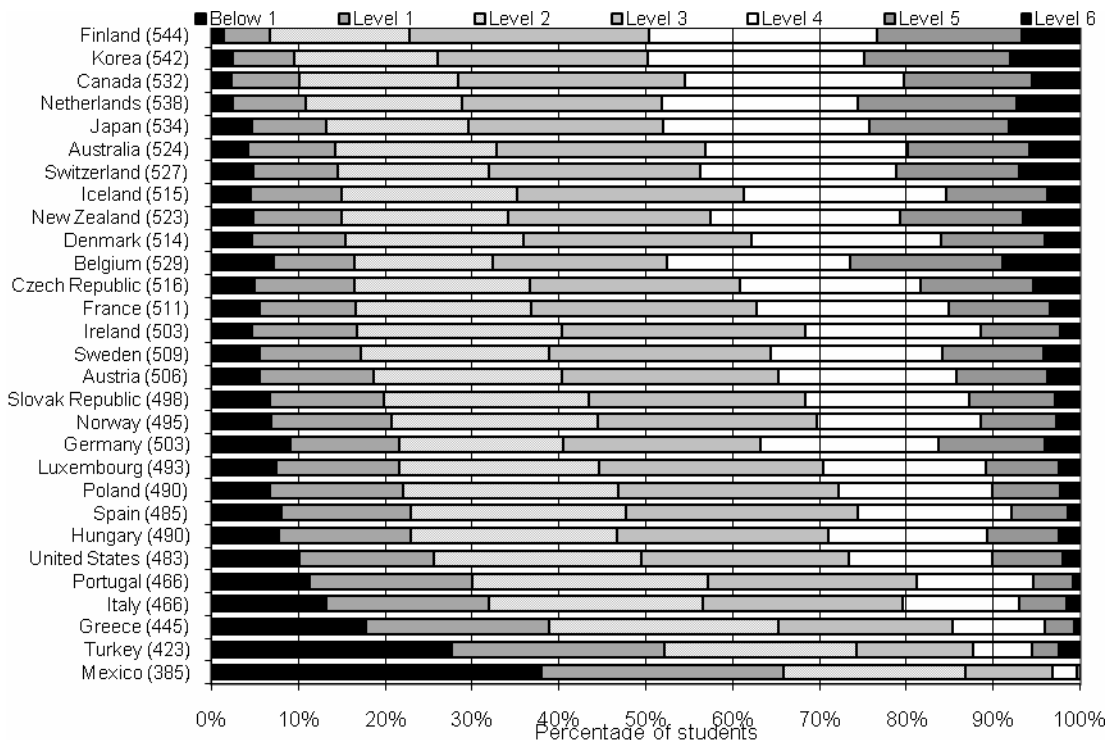
Completion rates of lower secondary education in OECD countries are high which means that most countries experience universal completion rates, i.e. at least 95% gross completion rates. Countries vary greatly by policies regarding class repetition and delaying studies and hence net completion rates have greater variation. In many countries even net completion rates of basic education are close to 100. It is commonly accepted in most OECD countries that anyone without an upper secondary qualification will experience great difficulties in labour markets. As a consequence of increased basic education completion rates students are entering upper secondary schools with different knowledge and skills that are needed in further studies.

There are no universally agreed knowledge and skills that students should have when entering upper secondary schools. However, it is commonly expected that all students should have proficiency in literacy, numeracy, scientific and digital literacy as well as having advanced learning skills. This has shifted the emphasis to these basic subjects and introduced information and communication technologies as a basic requirement for all. As enrollment to upper secondary education has increased, also questions of what students actually know and are able to do as they enter secondary schools have become louder.

In order to respond to the increased concerns of what students who are completing basic education (typically at the age of 15) can do with the knowledge and skills they have learned, OECD launched the Programme for International Student Assessment (PISA). The first of the three-year cycle data collections was done in 2000 in literacy (i.e. reading comprehension and writing), and in mathematical and scientific literacy (OECD 2004a). PISA looks particularly at what young people can do with what they have learnt rather than how much they can recall from the curriculum that has been taught to them. Therefore PISA for the first time offers a more systematic look at young people's readiness in terms of knowledge and skills for both further learning in secondary schools and being successful in changing world of work.

PISA 2003 assessed student performance in three key areas mentioned above but it had a particular focus on mathematical literacy, i.e. understanding concepts, applying knowledge and problem solving skills (OECD 2004a). Figure 10 shows, first, how different countries perform in mathematics. The OECD average score is 500 with a standard deviation of 100. At the top are Finland, Korea and Canada. Figure 10 also describes the proportions of students in each country who reached each of the six levels of proficiency. Level 2 represents a baseline proficiency at which students begin to demonstrate skills that enable them to actively use mathematics. At Level 2, they can use direct inference to recognise the mathematical elements of a situation, are able to use a single representation to help explore and understand a situation, can use basic algorithms, formulae and procedures, and can make literal interpretations and apply direct reasoning. According to PISA 2003, a quarter or more of students fail to reach Level 2 in Greece, Italy, Mexico, Portugal, Turkey and the United States. In Finland, less than 7% of students perform below this threshold. Figure 10 shows that over 20% of students in OECD countries demonstrate a limited level of mathematical literacy i.e. they are able to perform only the most routine mathematical functions in the most familiar contexts.

Figure 10. Percentages of students at different proficiency levels on the OECD PISA mathematics scale in 2003 (level 2 indicates the lowest or baseline proficiency and 6 is the highest)



Source: OECD (2004a)

Similar performance patterns were found in literacy and scientific literacy in PISA 2000 and 2003 studies. These findings suggest that in OECD countries a significant proportion of students who are enrolling in upper secondary schools, or who decide to look for employment do not have sufficient knowledge and skills to be successful. Many countries have established new student counselling and special education services to basic schools in order to prevent failure and in upper secondary schools to look after those students with learning difficulties.

3.2 Balancing general and vocational upper secondary education

As described earlier, most young people in OECD countries today continue studying at upper secondary education level. There is enough evidence to claim that those who don't will experience severe difficulties in finding permanent employment. In all of these countries upper secondary schools serve two main purposes. One, they prepare young people for further studies in tertiary education. Two, and equally important, they provide young people with basic professional qualifications to enter the labour market. However, upper secondary education in OECD countries is not uniform. There are significant differences in the organisation of secondary education from one country to another (World Bank, 2005, 2006; UNESCO, 2006).

Secondary vocational education in many countries has been characterised by four common trends since the 1990s (World Bank, 2005; UNESCO, 2006).

1. Vocational education at the upper secondary level has been tailored to serve specific technical and professional requirements of employers that has led to very specialised training programmes and curricula. Vocational education has been broken down into hundreds of special qualifications that have led to fragmented skills profiles even within the same craft. Reducing the number of vocational education fields and programmes by broadening qualifications is also a consequence of changing labour markets where broader competences are needed as opposed to narrow specialisation. Flexibility to move from one profession to another and the ability to learn have become integral objectives of new vocational qualifications. Broader competences refer, for instance, to the knowledge and skills that are needed in the paper industry by a paper process operator. Previously, qualifications were issued separately for pulping, paper manufacturing, cardboard manufacturing and paper conversion. Now there is a vocational qualification for the paper industry that includes different sub-fields of this profession. Similarly qualifications have become broader in social and health care, metal work and machinery and

construction, to mention a few. Specialisation in these qualifications is still offered but it takes place in the later stage of studies rather than at the beginning as it was before.

2. Emphasis on lifelong learning at all levels of education has brought vocational and general education closer together. Building bridges between these two tracks of upper secondary education has increased the number of general subjects (especially foreign languages, social sciences and ICT) in vocational education curricula, and on the other hand, introduced vocational elements to traditional academic general education curricula (e.g. in France, Finland, England and Wales). In some countries, like in Finland for example, students can select upper secondary courses freely from both types of school.
3. Two traditional secondary vocational education organisations, namely school-based and work-based, are being merged in many countries. Countries that have traditionally had a school-based secondary vocational education system (Nordic countries, Eastern European countries) have increased work-based elements in their programmes. Countries where secondary vocational education has been organised mostly in workplaces (Germany, Austria) are putting more emphasis on general school-based learning and delaying academic and occupational specialisation within education programmes.
4. The need to continuously raise the level of educational attainment of the population in OECD countries has opened doors to more young people to continue studying in tertiary education institutions. In many countries the expansion of tertiary education is happening by increasing the professionally oriented higher education sector, i.e. polytechnics and technical universities. There is now pressure to provide all upper secondary graduates access to tertiary education. The modern upper secondary education system therefore offers students a path to tertiary education regardless of which upper secondary track they selected.

In figure 4 we saw that approximately half of all upper secondary students in OECD countries choose vocationally oriented programmes. However, this varies greatly from one country to another. The vast majority of all upper secondary students in OECD countries study in programmes that enable them to continue studying in tertiary education. Adjusting upper secondary education to serve changing needs and expectations is a difficult task for policymakers. It is important to note that there is no one best solution to what should be the balance between general and vocational education in upper secondary schools. On one hand, the emerging knowledge economy requires stronger emphasis on learning how to learn and manage knowledge which would suggest expansion of general education. On the other hand, changing labour markets call for dynamic skills and competences that, in turn, would indicate shifting focus of secondary schooling toward vocational education. Policymakers need to be aware of different alternatives in order to have a responsive and flexible upper secondary education system that simultaneously serves the needs of employers and further learning. In any circumstances policymakers should:

1. guarantee real opportunities for all young people to continue learning after completing compulsory (or lower secondary education) in upper secondary education of their choice;
2. avoid making upper secondary vocational education programmes a choice for lower achievers linked to poor-quality jobs and no access to tertiary education;
3. create credible pathways from secondary vocational education to tertiary education and encourage a significant proportion of students to take that route; and
4. establish systematic student counselling and career guidance services in all basic schools to prevent lack of awareness of future options, and in all upper secondary schools to assist students to overcome their troubles (and prevent dropout).

Many OECD countries are still suffering from the low status that vocational education has among young people. Many students view it as a second or third option and often as a sign of educational failure. As the role of vocational education has become more important, many countries have campaigned to raise the reputation of secondary vocational education. As shown in figure 5, many advanced knowledge economies, such as Ireland, United Kingdom, Finland and Norway, have experienced significant growth in their secondary vocational education sector over the last decade. Much of this increase is happening outside traditional vocational schools, i.e. in general upper secondary and alternative schools. Vocational and technical education is by no means a thing of the past that is disappearing. Quite the contrary, it is becoming an integral part of any modern secondary education system that wants to provide the best for society and the economy.

3.3 Organisation of secondary education

The rate of return is a commonly used proxy to determine the economic impact of various types of education³. The higher the rate of return is, the more valuable the type of education is to the individual and to the public. One may ask if there are differences between rates of return for general and vocational

secondary education. There is, indeed, research that suggests that rates of return for academic secondary level are higher than those for vocational (World Bank, 2005). As a result, many (developing) countries are reducing traditional vocational education and steering most or all students to general secondary schools. But there is also research that provides the opposite view. For example Mundle (1998) describes how today's economic powers in Asia created their secondary education systems. The main policy was to target investments in upper secondary vocational education until the per capita income reached about US\$8,000 (in 1992) and only then to shift the focus to general curricula. In conclusion, using rates of return as a justification for secondary education policies offers little more than contradictory advice.

There are three principal ways to organise upper secondary education in OECD countries. Most of the structural features that exist are justified by tradition rather than strategic vision. Most efforts to reform upper secondary system are also blocked by these existing historic structures and habits. The three main organisational schemes are:

1. ***Divided school-based upper secondary school system.*** Upper secondary education is divided into parallel general and vocational schools. This is a conventional arrangement as a result of historical tradition. General secondary schools were created to prepare young people for university. Vocational secondary schools appeared to train workers for new professions in the labour market. In many OECD countries general and vocational upper secondary education have evolved separately. There is also an administrative distinction between these two types of school. General schools belong to the mandate of the Ministry of Education whereas vocational schools are often administrated by other sector ministries, or are under regional or local authorities. In many OECD countries today all upper secondary schools are under same ministry (normally education), governed by same legislation and steered through coherent education and training sector strategies. Countries with this organisation include Finland, France, Italy and Norway.
2. ***Unified upper secondary school system.*** Upper secondary education is organised within one school. This normally means that upper secondary school offers various programmes or tracks that are combinations of different courses and fields of study. In some countries, like the United States and New Zealand, all students complete upper secondary general education. Vocational training is only offered as post-secondary (but non-tertiary) education in parallel to higher education. In some other countries upper secondary education is organised in schools that offer both general and vocational programmes. In Sweden, for example, there are 17 national programmes aiming to provide broad-based general education. Of these 14 have a more vocational orientation.
3. ***Parallel school-based and work-based upper secondary school system.*** Upper secondary education has school-based general education and work-based vocational education options. The purpose of general upper secondary schools is to prepare students for university. Others are offered vocational or technical training in specific training centres combined with practical learning in the workplace or apprenticeships. Typically this dual system of vocational education consists of 20 to 30% school-based studies. There is no or only a little interaction between the vocational and general education systems. This arrangement can be found in Germany, Austria and Switzerland.

One of the main issues within education policy discussion today is how upper secondary education should be organised in order to raise the quality but also secure access for all. There is still debate on whether vocational education should be arranged only after general upper secondary school in order to secure higher basic knowledge and skills to all people. But it is becoming more widely accepted that if upper secondary level is flexible enough to provide students with opportunities to choose between different programmes and orientations, many of the challenges facing vocational education today could be avoided. The solution to the twin challenge of secondary education – that is to raise quality and access – is not to do more of same that has been done in the past. It is important to look for new ways of offering meaningful learning opportunities to increasing numbers of students who are enrolling in upper secondary schools to enhance their chances of getting good and sustainable employment.

4. Building a learning society: Secondary education policies in Finland*

4.1 Background

The Finnish education system has undergone significant development since the beginning of 1970s. It has been transformed from an inequitable parallel system with modest participation rates, to practically full enrollment, considerably higher completion rates and recognized system-wide student achievement and equity. However, it should be stressed that the parallel structure has remained in the upper secondary education system in Finland despite some efforts to close the social status gap between general and vocational education. I conclude that education policies that focus on upper secondary education alone, whether structural or pedagogical issues, are not likely to improve the quality of secondary education significantly even in the long run. Moreover, I claim that unlike many other countries that have followed the market-oriented standardization and accountability movements in education development, secondary school teachers in Finland are teaching in an environment that has only *loosely defined standards* and instead *high trust on teachers' and schools' capacities* to identify the best means to achieve national education goals.

In Finland most children start their compulsory nine-year basic education in August of the year when they turn seven. At the moment, however, over 95% of first grade pupils have completed optional pre-school year that is commonly recognized as an important factor of good student performance later. This is also the crucial transition point when they decide their further educational paths. Secondary education in Finland consists of compulsory lower secondary level (grades 7 to 9) and non-compulsory upper secondary level (grades 10 to 12). In principle, after completing compulsory basic school at the age of 16 a young person has five options: general upper-secondary school, vocational upper-secondary school, other post-compulsory education or training (e.g. apprenticeship training), voluntary additional 10th grade of basic school, or employment. Annually more than 99% of ninth grade pupils successfully complete their compulsory education and only about five percent do not immediately continue learning.

4.2 Policy developments and reform principles

Since December 2001 when the first results of the PISA were launched by the OECD hundreds of education experts have wondered what could be the secret of good education performance in Finland. Scores of factors thought to affect the improved quality of education in general and student learning in particular have ranged from a well-trained teaching force, to a culturally homogeneous society (Väljärvi et al. 2002; Simola 2005; Schleicher 2006; Sahlberg 2006a; Sahlberg 2007). PISA measures education performance on the basis of 15-year-old students' ability 'to complete tasks relating to real life, depending on a broad understanding of key concepts, rather than assessing the possession of specific knowledge' (OECD, 2001, p. 19). Thus it also indicates how the domains of reading, mathematical, and scientific literacy are taught and learned in lower stage of secondary education. In our recent policy analysis of education in Finland we (Aho et al. 2006) concluded that:

comprehensive school that offers all children the same high quality, publicly financed education—not only excellent teaching but counselling, health, nutrition and special-education services as well—seems to play a key role in building a high-performing education system. Good schooling for all, not for some, is the core value that drives education in Finland. (p. 2)

What is significant in this conclusion is that it puts strong emphasis on good basic education for all as a necessary—but not sufficient—condition to achieving good results at the upper levels of schooling. Many efforts to improve the quality of secondary education are failing because the levels of knowledge and skill of students who are entering upper secondary education are not compatible with what is required. As a result, many countries have been forced to maintain selective and often elitist upper secondary systems where students are grouped based on what their schools were like in elementary and lower secondary levels rather than according to their talents and interests. The following is a short review of the key ideas in developing equity-based nine-year comprehensive school that provides a common education foundation for all pupils in Finland.

* This section is based on my article *Subiendo el listón: ¿Como responde Finlandia al doble reto de la educación secundaria?* that was published in *Profesorado*, 10(1), 1-26. See Sahlberg (2006a) for details.

The structure and basic values of the current education system in Finland were created in the 1960s when a political consensus was reached to abolish the parallel basic education structure that divided students into two educational streams at the age of ten (Hirvi, 1996; Lampinen, 1998; Aho et al., 2006). Until the beginning of the 1970s the most able pupils after fourth grade were selected for an academic stream that was the only path to higher education, and for a practically-oriented vocational stream that completed the educational path of youth at the age of 16 with education cul-de-sac. The 1968 Act on School System that created the foundation for the new nine-year comprehensive school insisted that municipalities provide all pupils with equal opportunities to receive a publicly financed high-quality basic education regardless of age, domicile, economic situation, gender, or mother tongue. Together with the equity principle this new legislation put a strong accent on raising the quality of learning and the education level of the entire nation. As a consequence, the government decided to launch planning of an upper secondary education system into which newly educated youth would start to enter soon.

The new nine-year comprehensive school that consisted of six-year primary school and three-year lower secondary school became a permanent system for all pupils by the beginning of 1980s. The ambition to integrate the educationally divided nation with this new school was high, but it was also bitterly criticized by politicians, media and many parents, too. The opponents argued that the common comprehensive school would lower academic expectations and hence gradually lead to poorer educational attainment, especially among more able and talented pupils (Aho et al., 2006). Hence, this new school quickly became highly political issue. However, the Law on Teacher Education from 1979 that upgraded all teacher education to Masters Degree level and the new Comprehensive School Curriculum (1971) provided the needed professional and pedagogical boost. In fact, early investments in developing instructional technologies, teaching methods and improving teachers' knowledge and skills helped to prove many of the critics wrong.

In Finnish society, the teaching profession has always enjoyed great public respect and appreciation. Teaching is considered an independent, high status profession that attracts some of the best secondary school graduates to enrol in university-based and hence research-oriented teacher preparation programmes (Väljjarvi et al. 2002; Simola 2005; Westbury et al. 2005). Indeed, only about 10% of some 6 000 primary school teacher applicants are accepted annually to the Faculties of Education within Finnish universities. The main reason for the high appeal for becoming a teacher is the fact that the Masters degree is the basic requirement to be permanently employed as a teacher in Finnish school. For primary schools, this has had several positive consequences for teachers and for society at large. One important factor is that a Masters degree in education not only qualifies one to teach school but opens the door to employment in public administration or in the private sector. Most importantly, however, a Masters degree guarantees access to post-graduate studies made widely available in most Finnish universities today. During the past decade, Finnish schools have noted an upsurge in school principals and teachers possessing a Ph.D. in education.

In international comparisons, Finnish teacher education programs are distinguished by their depth and scope (Jussila & Saari, 2000; Westbury et. al., 2005). All teacher education takes place in the Faculties of Education in seven universities. The balance between the theoretical and practical content in these programs helps young teachers master various teaching methods as well as understanding the foundations of good teaching and learning. National Curriculum reform for Finnish schools in the mid-1990s revealed that teachers with high professional competency are quite motivated and easy to engage in school development processes in their own schools as well as in national and international projects. They also tend to work just as seriously at developing their own personal professional knowledge and skills.

Finnish teachers are conscious, critical consumers of professional development and in-service training services. Just as the professional level of the teaching cadre has increased over the past two decades, so has the quality of teacher professional development support. Most compulsory, traditional in-service training has disappeared. In its place are school- or municipality-based longer-term programs and professional development opportunities. Continuous upgrading of teachers' pedagogical professionalism has become a right rather than an obligation.

This shift in teachers' learning conditions and styles often reflects ways that classroom learning is arranged for pupils. As a consequence of strengthened professionalism in schools, teachers and schools are responsible for their own work and also solve most problems rather than shift them elsewhere. Today teaching as a profession is on par with other professional workers in Finland; teachers can diagnose problems in their classrooms and schools, apply evidence-based and often alternative solutions to them and evaluate and analyze the impact of implemented procedures. Parents trust teachers as professionals who know what is best for their children.

As the comprehensive school reform began to show results by the end of 1980s, the logical next step in reforming the education system was to extend the reform efforts to post-compulsory education. Upper secondary education constituted of two sectors: the general school that was a general path to higher education, and the vocational school that led to professional qualifications. The vocational education sector had two tracks. The first funneled students into school-level studies, while the second provided college-level vocational education. School-level education and training varied from six months to two years. The more

advanced college-level studies lasted three to four years. According to today's international classification, college level vocational education would fall between upper-secondary and higher education.

The major area of secondary school reform since the 1980s concerned vocational education. In practice, upper secondary education was – and has remained until today – a parallel educational structure with two sectors with different educational and social status. The purpose of the reform was to make vocational education more attractive to students who are transferring from basic school to upper secondary school. Vocational school graduates were also made eligible for higher education institutions. Along with opening the vocational education as an alternative route to higher education, policymakers aimed to decrease the number of students in general upper-secondary education and close the existing status gap between the two sectors. Interestingly, in 1981 the Ministry of Education set a target of 20,000 to 22,000 students to enter general upper secondary education annually which represents approximately one third of the age group. However, this goal fell short as in 1988 there were already 32,200 new students enrolled in the first year of general upper secondary education, or about 55% of the age cohort.

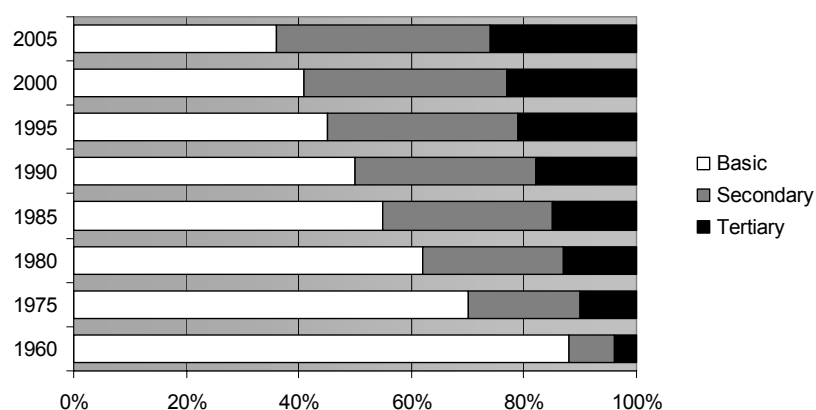
From 1985, upper-secondary general education went through fundamental structural and pedagogical changes. The aim in developing a new upper-secondary general school curriculum was to create a more flexible pedagogical structure for municipalities and schools. At the same time, an experimental project did away with class-based organization of schooling and introduced course-based and later non-graded general upper secondary schools where students were not bound by time and age group but rather studied according to their own pace and interest. The course-based upper-secondary general school made its debut throughout Finland in 1982 and the entire system became non-graded by the end of 1990s. This is unique structure in upper-secondary schools internationally. Interestingly, China has been interested in restructuring its secondary education in the non-graded way.

A main objective of the secondary school reform was to offer all graduates from basic school a meaningful option to continue studies at the upper secondary level. In 1988, there was a study place at the upper secondary vocational school, college or higher education level for practically all school leavers from basic and upper-secondary general school. General upper secondary school received 55% of the basic school graduates; in 1972, that figure was 40%. Thus, vocational education institutions and colleges received the bulk of students who had completed upper-secondary general education but were not enrolling in higher education. Special study programs were designed for them with courses of shorter duration than for basic-school graduates.

One of the policy options in increasing educational equity and improving the quality of upper secondary education in Finland in the 1980s was the idea of so called 'youth school'. This referred to an integrated upper secondary school that had general and vocational education programs within in one structure, as it was in Sweden. Lessons from experiments implemented throughout the country in 1990s concluded that although this 'youth school' has several advantages, such as providing more opportunities for small municipalities and enriching the range of optional study programs for students, it did not become a system-wide structural solution (Virolainen 1996). Instead, the legislation and the official education policies insisted that cooperation between general and vocational schools has to be arranged in a way that will enable students with flexible vertical transition and mobility. Compatible non-graded general upper-secondary school and modular-based vocational school have provided technical opportunities for further cooperation.

In Finnish society 'the third sector' that is an amalgamation of nonprofit and non-governmental organizations and the volunteer activities and donations that sustain them has played an increasingly important role in creating a secondary education sector that is more responsive to the needs and interests of all individuals. During the 1990s, when the education system was undergoing a major cultural transformation, youth groups and other organizations played an active role in the education policy dialogue as well as in implementation of reforms. For instance, youth organizations and sports associations focused on the learning and educational aspects of their activities in order to harmonize their goals with those of formal education provided by schools. This also was another avenue for involving more parents and other adults in the overall upbringing and education of youth.

Figure 11. Level of education of adult population (15 years or more) in Finland since 1960



Source: Statistics Finland (2006)

Implementation period of the secondary school reform lasted from 1974 to 1992. Over those two decades, enrollment in secondary education expanded significantly. In 1970 some 25% of Finland's adult population had graduated from upper-secondary education or universities. By 1990, half of the adult population had at least an upper-secondary level of qualification (figure 11). However, secondary school reform was not able to narrow the gap between the popularity of general and vocational schools as was expected.

The development of the current secondary education system in Finland is a result of systematic improvement of quality, access, efficiency and flexibility of, not only secondary education but the entire education system as a whole (Hirvi 1996; Lampinen 1998; Aho et al. 2006). The main development policies and reform principles were already agreed decades ago and have not changed much since. For example, the target of providing meaningful choice for all those pupils who are leaving basic school to continue education in upper secondary level has its roots in the education policies and plans of 1970s. Education authorities have set the education policy target for the rate of transition from basic to further education so that in 2009 at least 97.5% of basic school leavers will continue studying in the field of their own choice.

4.3 Secondary education in competitive knowledge society

Finland went through a fundamental economic and cultural transformation during the last three decades of the 20th century. In 1950, according to Routti and Ylä-Anttila (2006), the Finnish economic structure corresponded quite closely to that of Sweden in 1910. Since the 1950s industrial and economic development in Finland was based on an investment-driven economy in which the main elements of economic production were machinery, engineering, and forestry-based industries. The late 1980s marked the beginning of the specialization of production, trade and research and development in the Finnish economy. The emerging knowledge-based economy coincided with the opening of the economy and deregulation of capital flows. Routti and Ylä-Anttila (2006) describe this transformation by saying that

there are few, if any, other examples of natural resource-abundant countries that have managed to transform their industrial structures toward higher knowledge intensity and value added so rapidly and successfully as Finland. (p. 6)

Transition to the knowledge-based economy has significantly increased domestic knowledge generation. In the late 1970s Finland ranked at the lower end of the OECD countries in research and development intensity. According to the OECD, today Finland invests 3.5% of GDP in research and development (R&D) which is the second highest in OECD after Sweden (Routti & Ylä-Anttila, 2006). Interestingly, during the biggest economic recession of peacetime in the early 1990s R&D investments were kept in agreed levels and private investment even increased (Castells & Himanen, 2002). It is noteworthy that the building of an equity-based and well-performing Finnish education system has occurred with relatively modest education spending. Moreover, the education system is primarily financed from public sources. In 2002, 2.2% of total education expenditure came from private sources, while 99.2% of primary and secondary education expenditure was publicly financed (OECD, 2005a). Indeed, total expenditure on educational institutions as a percentage of GDP for all levels of education declined from 7.9% in 1992 to 6.3% in 1995 and most recently to 6.0% in 2002 (Hirvi, 1996; OECD, 2005a). This indicates that high participation rates and equity coupled with good learning achievement have been established

without increasing educational spending, quite the contrary. Since the economic crisis of 1990s, local education authorities have increasingly struggled with shrinking budgets, leading to enlarged class sizes, reducing some school-support services, and, in many cases, also merging and closing of schools to gain efficiency (Rinne et al., 2002). The number of comprehensive schools (grades 1 to 9) has declined by 20% over the last ten years. Nevertheless, basic conditions for good secondary level schooling for all have been made available throughout the country. I argue that securing necessary resources for and investments in initial preparation of teachers in the universities has contributed positively later on to teaching force that has not only been adoptive to necessary school improvement but also capable to look for scientifically-based solutions to common problems in their schools.

In Finland for primary to tertiary education, annual expenditure on educational institutions per student in 2002 (in equivalent US dollars using purchasing power parities (PPP) for GDP) was US\$7,300 (OECD average US\$7,400). Per pupil expenditure in secondary education was US\$7,100 (OECD average US\$7,000). Comparing the actual spending per student, on average, from the beginning of primary education to age 15, with average student performance in mathematics at age 15, provides further support for the argument that good educational performance in Finland is attained at reasonable cost (Sahlberg 2007). In Finland the cumulative cost (US\$ using PPP) is US\$59,000 whereas in Spain the same figure is US\$52,000 and in the United States US\$84,000.

4.3.1 Participation in upper secondary education

As shown by table 1, 3,400 young people, or some 5.5% of all basic school leavers in 2003 decided not to continue education immediately after completing compulsory education at the age of 16 (Committee Report 2005). This high number of youth dropping out of education is considered as one of the biggest problems in the Finnish education system today. Still, rather than solving that problem by issuing legislation that would make upper-secondary education compulsory, the education authorities are working together to find ways of providing a meaningful educational option for all. Table 1 indicates how the options that basic school leavers confront have been selected by pupils between 2000 and 2006.

Table 1. Enrollment in upper secondary education of basic school leavers in Finland between 2000 and 2006

	2000	2003	2006
Basic school leavers	66,250	60,850	66,700
Total number of young people continuing education after compulsory basic school	93.0%	94.5%	95.0%
- general upper secondary education	61,650	57,450	63,350
- vocational education	53.7%	55.1%	54.5%
- voluntary additional 10 th grade	35,600	33,500	36,350
Drop-outs from the formal education system	36.3%	37.0%	37.5%
	24,050	22,500	25,000
	3.0%	2.4%	3.0%
	2,000	1,450	2,000
	7.0%	5.5%	5.0%
	4,600	3,400	3,350

Source: Statistics Finland 2006

Table 1 also predicts that in 2006 about 95% of those who completed compulsory basic education will continue their studies at upper secondary level or in the additional 10th grade of basic school. In 2003, the ratio between students who enrolled in general and vocational upper secondary education was 55.1% and 37.0% respectively of entire enrolling student cohort. It is expected that in 2006 less than five percent or 3,350 basic school leavers will opt not to continue studying in formal upper secondary education. Some of them would enroll in other post-compulsory educational programs.

The voluntary additional 10th grade of basic school has proved to be a useful option for most young Finns who chose that option after comprehensive school: in 2002 out of 1800 of those who studied one additional year in basic school 83% enrolled in general or vocational secondary education (35 and 48% respectively). Fewer than two percent of pupils who enroll in additional 10th grade drop out from the education system

during the school year. The agreed education policy target of having only 2.5% basic school leavers not immediately continue education in upper secondary level is ambitious and requires systematic measures from education authorities as well as from schools. According to current education policies (Committee Report, 2005), the voluntary additional 10th grade of basic school will be made available for more pupils who would benefit from that, student guidance and career counseling will be made available for all students and methods of teaching will be developed in both basic and secondary schools.

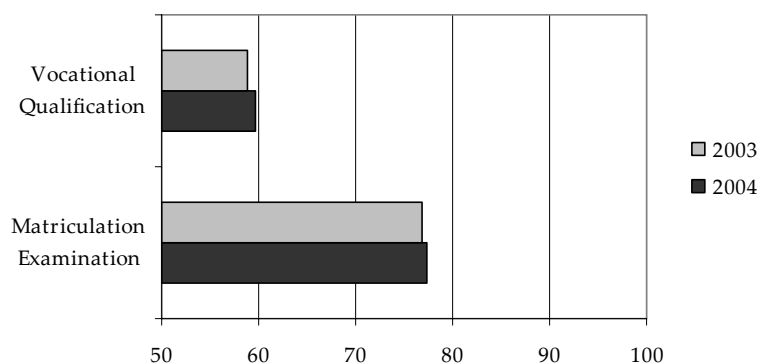
4.3.2 Completion rates of upper secondary education

It is noteworthy that in Finland all education after the nine-year basic school is non-compulsory—for both providers and students. Rather than making upper secondary education part of compulsory education, Finnish education policies have relied on developing equal opportunities for all to participate in the secondary education of their individual choice and, at the same time, creating incentives for young people to stay on in the education system after completion of compulsory education. Since the introduction of the comprehensive basic school in the 1970s the education policy target has been to provide a place of study in post-compulsory education institution for all young people (Aho et al., 2006). Since most of the general and vocational upper secondary schools today are under municipal education administration, they will decide on the provision and accession policies of post-compulsory education. However, this doesn't mean that municipalities would have complete freedom in education provision. Curricula, teachers' professional requirements and expectations regarding overall pedagogical environments are fairly unified throughout the country that create common culture of schooling in Finland.

Educational planning is based on schools and municipalities (who are administrating all schools in Finland) responsibilities to craft the optimum curriculum to their needs and regional characteristics. The most recent National Framework Curriculum was introduced in 2003 and it follows the philosophy of the 1994 National Curriculum Framework of prioritizing educational flexibility, broad-based general education and trust to teachers and school principals in choosing the best ways to organize learning environments for students. National Curriculum Framework is an educational and pedagogical guideline to curriculum planners (teachers, principals, parents, among others) that specifies the content of teaching only broadly but provides more detailed description of general objectives of teaching. Because upper secondary school is non-graded, National Curriculum Framework doesn't make in reference to grades or other sequence of how subjects should be taught.

Due to the non-compulsory nature of upper secondary education, one of the criteria of both quality and effectiveness of post-compulsory education is the completion rate. As part of the newly introduced education efficiency system in Finland, since 1999 the state authorities have collected systematic data and analyzed completion rates in upper secondary education. If ideal completion time of vocational or general upper secondary studies is set at 3.5 years, then about three out of four general education students and three out of five vocational education students successfully completed their studies in that desired time (figure 12).

Figure 12. Proportion of upper secondary school students who successfully completed their studies by the target time (3.5 years) in 2003 and 2004



Source: Statistics Finland (2006)

Because individual study plans are not tied to age groups or classes many students will take more time to complete their studies than others. Some of them, however, will leave the education system without a

qualification or diploma. Therefore, a look at the drop-out rates provides an alternative view on the quality and efficiency of secondary education. According to national statistics (Committee Report 2005), during recent years about two percent of general upper secondary school students terminate their studies annually without moving to any other upper secondary education or training. Approximately the same number of students moves from general to vocational secondary education and complete their studies there. In vocational secondary education the situation is worse. For example, in 2003 11.5% of vocational school students terminated their initial studies of whom 1.5% continued education in some other school or institution.

Dropout from formal education and training in Finland is slowly declining and in Upper secondary education, drop-out rates are substantially lower compared with most other countries (OECD 2005a). As far as all upper secondary education is concerned, 5.6% of students terminated their studies during the academic year 2003-04. The need for preventing educational failure and drop-out from the education system is biggest in secondary and tertiary vocational education. Keeping students in education has become a particular incentive to schools through the results-based central government funding scheme that was introduced in upper secondary vocational education earlier this decade. When the results-based financing index for education and training provider is calculated, reduced drop-out rates and thus improved completion rates have a weight of 28%. Although the financing index regards a fairly small part of overall education budgets, this has rapidly focused the attention of schools and teachers on the measures that would on one hand improve the early recognition and prevention of problems that might lead to drop-out, and on the other hand strengthen direct support to students' learning and overall well-being in school. Vocational schools in particular have developed innovative solutions for those students whose learning styles prefer a more practically oriented curriculum. For example, practice-oriented 'innovation workshops' have become a popular way to increase the attractiveness and relevance of secondary education for many students who are at risk of leaving school.

4.3.3 Participation in post-secondary education

There are no studies of international comparisons with which to judge the achievement level of Finnish students when they leave upper secondary school. Therefore, assessing the quality of secondary education is complicated. One factor that indicates quality of education—in tandem with secondary education completion rates—is the tendency of secondary school graduates to continue learning in tertiary level institutions. Tertiary education institutions in Finland have increased their number of entrants. The education policy target today is to provide a publicly financed tertiary level study places for 65% of the age cohort (Ministry of Education, 2004). In 2005 there were nearly 180,000 students in Finnish universities and 133,000 in polytechnics. Compared with the situation 20 years before, the number of tertiary education students has tripled. The average age of new tertiary education students in Finland is 21 years. Critics argue, among them academics and business leaders that highly educated and trained Finns enter the labor market too late and that traditional academic degrees are suffering from inflation due to lowering the academic expectations regarding entrants.

High participation rates and good completion of intended education in all levels of education in Finland does not mean that all would be satisfied with the situation. There are two sources of criticism that mostly concern the quality of knowledge and skills of upper secondary school graduates when they enter tertiary education or labor markets. Universities have continuously complained that too many students begin their studies at university with insufficient basic knowledge, inappropriate attitudes and undeveloped independent learning skills. One reason for this reaction is the increasing intake in tertiary education institutes. Another reason is the universities' inability to adjust to different competencies that students have when they enter higher education.

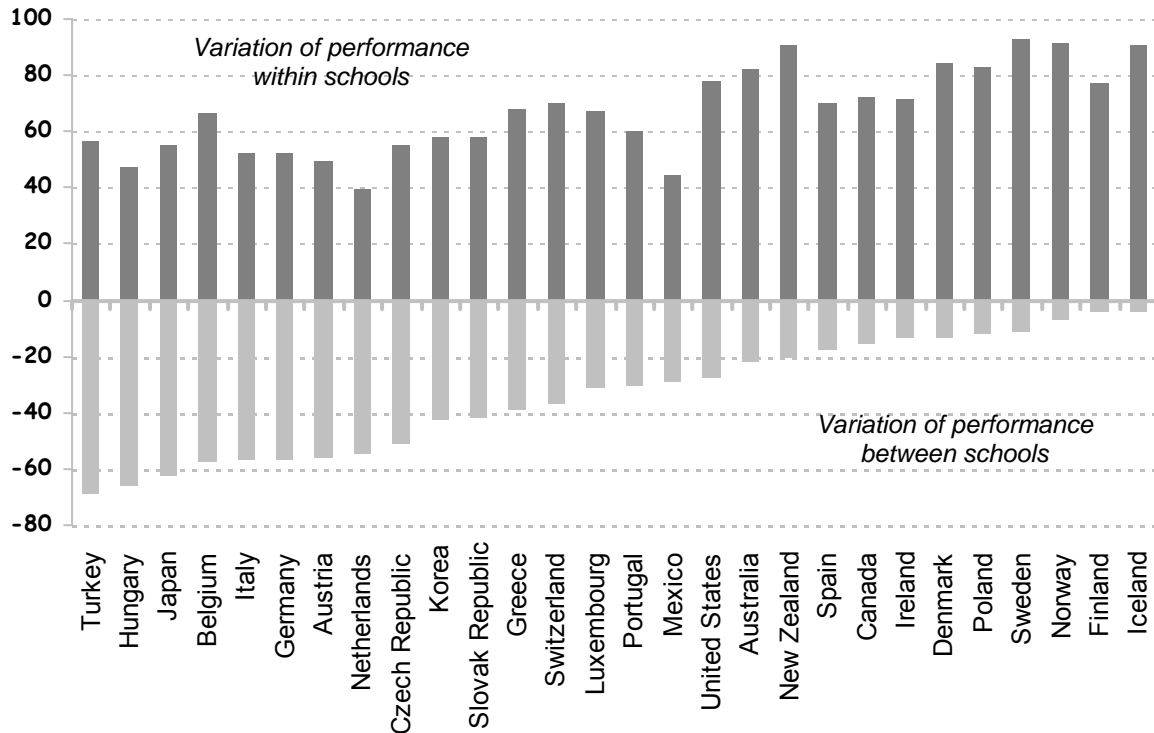
The complaints by employers have a similar tone. Although there are no reliable studies to determine how common dissatisfaction among employers is, anecdotal evidence from the feedback from business leaders indicates that focus on more general occupational knowledge, skills and competencies does not always prepare people for jobs that require very specified skills. Making on-the-job-learning as a part of all vocational programs and including employers as a third party in performance-based assessment for qualifications have eased the criticism and improved the compatibility between vocational education and labor market requirements.

4.4 Organisation of secondary education

The most commonly used international indicator of student learning at the end of lower secondary education is PISA that assesses reading, mathematical, and scientific literacy of 15-year old pupils who are in the last grade of their lower secondary school, i.e. in the middle of their secondary education cycle. In both PISA

cycles in 2000 and 2003 Finnish pupils have been rated among the best in all OECD countries (OECD 2001; OECD 2004a; Sahlberg 2006b). Moreover, the gap between low and high performing students is the smallest in Finland if measured using between school and within school variation from previous PISA data (figure 13).

Figure 13. Within and between school variations (percentage) in 15-year-old students' performance on the mathematics scale (OECD 2004a)



The fact that almost all inequality in Finland is within school as shown in figure 13 means that the inequality that remains is probably mostly due to students' natural talent variation. Accordingly, variation between schools mostly corresponds to sociological inequality. Since this is a small source of variation in Finland, it suggests that schools deal with sociological inequality very successfully.

System-wide excellence in student learning in lower secondary level indicates that the majority of basic school leavers have developed sufficient knowledge and learning skills to continue studying in upper secondary level successfully. Relying on the PISA 2003 data, the percentage of those students who reached only proficiency level 1 or 0 in mathematics was 6.8% in Finland. The same indicator in the USA was 25.7% and in the OECD countries on average 21.4%. Furthermore, a total of 77% of Finnish students, the percentage being the highest among OECD countries/regions (OECD average is 57%), reached proficiency level 3 or higher and seem to have acquired the literacy skills needed to cope with the demands of further learning and work posed by today's knowledge societies (OECD, 2004a). Similar trends were observed in reading literacy in PISA 2000 (OECD, 2001). Nevertheless, some national studies (National Board of Education, 2005) warn that 15 to 20% of basic school leavers have severe gaps in basic knowledge and skills that are general requirements for further secondary education. It is often argued that proficiency requirement in basic school subjects in Finland is higher than PISA proficiency level 1.

4.4.1 Transition to upper secondary education

There are two factors that affect on students' lifelong learning path. First, when entering upper secondary education Finnish students have no experience of high-stake standardized testing in school unlike their peers in many other countries where testing has become an integral element of school life. In a comparative study on teachers' experiences in different accountability policies we concluded that "the pressure of a structured instructional model of teaching and external assessment of pupils' achievement is having dramatic consequences according to some teachers" (Berry & Sahlberg, 2006, p. 24). This study also suggests that in Finland most basic school teachers teach in order to help their students to learn, not to pass tests. The PISA 2003 study provides some evidence for this argument: Finnish students experience less anxiety in mathematics compared to their peers in other countries (OECD, 2004a; Kupari & Välijärvi,

2005; Sahlberg, 2007). Second, students are well prepared to make their decision regarding post-compulsory education options because of widely available counselling and career guidance in the basic school. During the three-year lower secondary school all students are entitled to have two hours a week educational guidance and counselling. This reduces the risk that students make ill-informed decisions regarding their further studies. It also helps students to put more effort on those areas of their studies that are particularly needed in upper secondary school.

Students today enter the transition point between basic and upper secondary education with different knowledge, skills and attitudes than before. The changing student population has been one driver to help the developing upper secondary education system to better reflect the new situation. Implemented reforms of upper secondary education in Finland have had a fundamental impact on school organization, especially regarding teaching and learning. Traditional school organization that is based on presentation-recitation models of instruction, age-grouping, fixed teaching schedules and dominantly classroom-based seatwork has been gradually transformed to more flexible, open and interaction-rich (communication, ICT, teamwork) learning environments where an active role for students comes first (Aho et al. 2006). This means that various student-centred teaching methods (co-operative learning, project work, debates, problem-solving, and so on) have become more common in classrooms. Ongoing school improvement has been facilitated by implementing structural changes in upper secondary school and by enriching schools and classroom with alternative instructional arrangements and teaching methods.

4.4.2 General upper secondary education

The general upper secondary school had a traditional organization until 1985 when the new Act on General Upper Secondary Education abolished the old system and introduced a modular curriculum structure. This change enabled schools to rearrange time scheduling of teaching. Two annual semesters were replaced by five or six periods. This, in turn, changed local curriculum planning because schools had more flexibility to allocate lessons into different periods (Väljijärvi 2004). The next phase of development was to replace age cohort-based grouping of students with a non-graded and course-based (or modular) organizational system. The non-graded general upper secondary school brought more choice to students in planning their own studies – both regarding the content and time sequencing. The new curriculum framework placed a stronger emphasis on understanding students' cognitive development and also invited schools to make the best use of their own and their community's strengths. Although students have more freedom in terms of their studies, all students are obliged to study 18 compulsory subjects (mathematics, mother tongue (2), natural sciences (4), social sciences (3), foreign languages (2), physical education, arts (2), career guidance, health studies, philosophy and ethics) within minimum of 75 compulsory courses that are required in general upper secondary education diploma. One course consists of 38 lessons (45 minutes each) including end-of-course exam. Students typically complete 30 to 35 courses in one year. After studying the basics in 18 compulsory subjects (normally one or two courses per each subject) students can build their learning plans from the courses offered by their school, or any other upper secondary school. On average, students continue studying at least ten different subjects after compulsory subjects. Vocational upper secondary curriculum is of similar structure except that the number of compulsory subjects is less, normally about 10 (including mathematics, natural sciences, foreign languages, ICT and some social sciences).

An important factor affecting the nature of teaching and learning in general upper secondary school is the nature of student assessments and school evaluation. Teachers assess the achievement of each student at the end of each course which means approximately five or six times per subject per school year. The National Matriculation Examination that students take after successfully completing all required courses is a high-stake examination and has therefore a visible affect on curriculum and instruction. This is International Baccalaureate type of examination that is a common requirement to academic universities (tertiary-type A studies). Practically all students who successfully complete upper general secondary school (graduation rate is about 95) take this examination. Annually approximately 93 percent of students pass it. Nevertheless, general secondary school can be characterized by having a strong focus on learning, creativity and various methods of studying rather than concentrating on passing tests and exams.

4.4.3 Vocational upper secondary education

Vocational secondary education has been adapted to fit better to the new economic and political situations. The structure, curricula and methodology of vocational education have been renewed according to the expectations of knowledge-based economy and required labor knowledge and skills. One of the key policy targets has been to increase the attractiveness of vocational education in upper secondary level (Ministry of Education 2004). Currently, approximately 37.5% of new upper secondary school students start their studies in vocational schools.

The *structure* of vocational education was simplified and all initial vocational qualifications today consist of 120 credits which equals to three years of full time study. One quarter of the study time is allocated to general or optional courses. The number of vocational qualifications was reduced to 52 and related programs of study to 113. In principle, vocational school students are eligible to take the Matriculation Examination but only very few do. Moreover, providers of secondary education are required to promote that students will have access to general secondary schools from vocational schools, and vice versa, if they wish to include courses from other schools to their learning plans.

The *curriculum and student assessment* were revised to match the structural changes as well as the needs of labour markets and the knowledge society. The new curriculum was balanced between specific occupational needs and the expectations of increased professional flexibility and related lifelong learning policies. Performance assessment of achieved professional knowledge and skills is arranged in collaboration with three key stakeholders: school with employers and employees representatives.

Methods of instruction and training are gradually changing in vocational secondary schools. At least one sixth of the training has to be arranged as on-the-job learning that is an integral part of the curriculum. Alternative workshops, apprenticeship training and virtual learning have become commonplace in secondary education. The result-based part of the funding system allocates a factor of six percent on the top of the school's core funding for staff development. Vocational schools are increasingly investing these funds to upgrade their teachers' pedagogical knowledge and skills.

4.5 Strategies for raising the quality of secondary education in Finland

Education reforms in general and improvement of quality of education systems in particular are complex and slow processes. Previous research and policy analysis suggest that rather than investing in single innovations and randomly designed reforms, evolution of education should be seen as systemic process and built upon the ideas of sustainable leadership (Fullan 2005; Hargreaves & Fink 2006; Hargreaves & Goodson 2006). Aho and colleagues (2006) suggest that

while the principle of justice, i.e. equity and equal opportunity, have been the leading values of Finland's long-range education vision, strong and systematic emphasis on leadership at all levels of education began to emerge in the 1980s. Throughout the decades it has been clear that education policies need to be based on depth, length, and breadth of leadership, and that diversity and resourcefulness are the conservative drivers of educational change. Finally, one of Finland's key success factors has been the early recognition that learning from past experiences can build a better future. (p. 134)

Secondary education has been for long time the least interesting and attractive topic for policymakers. Recently, due to the increasing number of young people who want to extend their educational paths, the emerging needs of knowledge society, and new policies on lifelong learning, secondary education has become a focus of policy analysis and debate globally. A study conducted by the World Bank suggests that one reason for the growing demand for secondary education is that "economies increasingly need a more sophisticated labor force equipped with competences, knowledge and workplace skills that cannot be developed only in primary school or in low-quality secondary school programs" (World Bank 2005, p. xvi). As a consequence, research on secondary school improvement is gradually increasing but is still less common than research on primary and lower secondary schools.

The following five policy principles have been included in Finnish education policy to secure equal access for all to and raise the quality of secondary education.

(1) Policy development has emphasized long-term vision and realistic target setting. The present secondary education system in Finland that was described in the earlier sections of this article is a result of long-term policies and systematic development of the education system that has its roots in the values and principles set up four decades ago. It is quite remarkable how the decision-makers at the dawn of the major education reform in Finland envisaged the need for making upper-secondary education more responsive to the changing needs as stated by the Parliament in 1968:

Working life and technological development demand more and more from society and the workforce, and therefore the Parliament requires that the Government presses forward with plans and arrangements which aim to develop technical, commercial, agricultural and other special schools and fields of study, which would open channels to corresponding higher education. (Aho et al. 2006, p. 48)

As early as in 1974 the Government set an education policy target that would encourage all basic school leavers to continue studies at the upper secondary level. This was natural because the new comprehensive nine-year basic school would quickly increase the number of young people with upgraded knowledge and skills for further education. It was envisaged in the 1970s that the key basis of the Finnish economy—including forestry and the heavy metal industry—would be knowledge. Quite correctly the policymakers assumed that the emerging knowledge society would require better educated people, both as workers in

information industry and as citizens consuming information products. In 1975, as figure 1 shows, about 70% of the Finnish adult population had only completed basic education or less which was an extremely low education level for the knowledge-driven future scenario.

The longer-term vision that has been driving the education policies since early 1970s has set a target to have most young people successfully complete some type of upper secondary education. Moreover, from early on, policymakers thought that whatever decisions student makes at the transition from basic education to upper-secondary school, the path to tertiary education should be clear. One of the most significant policy decisions made at the beginning of secondary education reform in 1974 was that the structure of the upper secondary school will consist of these two streams (Aho et al. 2006). This shifted the focus of education policies and targeting of increasing financing to developing the quality of secondary education, especially the further training of teachers. I have also noted that some of the changes in upper secondary education policies and schools have been reactions to unpredictably emerged conditions and happened due to changing needs and expectations of youth and their parents rather than results of intentional reforms. For example, general secondary education sector developed since 1930s much larger than any committee or policy target had expected.

(2) Priority has been in building high educational quality in primary school that is equally accessible to all pupils. Primary education, that is the first six years of basic school, is often seen as the foundation for good performance in later phases of education (Väljörvi et al. 2002; Simola 2005; Sahlberg 2007). Primary school and related policies, such as curriculum, assessment, teacher training and textbooks, have been at the core of national education development policies and reform strategies since early 1970s (Aho et al. 2006). The New Comprehensive School Curriculum Framework of 1971 laid the groundwork for new pedagogic approaches and educational content to be included in teaching all pupils regardless of their social-economic background, domicile or individual characteristics. Student assessment analyzed to obtain results to inform national education policies and local decision-making and to support teaching, learning and school development. These same principles of assessment are still included in the current education legislation of 1998. Finnish educational assessment policies differ from those in many other systems, for example the United States, where the purpose of increased student testing is to understand and compare performance of schools of schools against the standards determining the proficiency. The fact that pupil achievement is not defined and assessed from a competitive perspective has also direct affect on how teachers teach: teaching is typically aimed at promoting deeper learning and creating interest to know ahead of achievement. Teachers in Finland are working with loosely defined standards (as in many elite private schools in other countries) but high teacher professionalism, trust and creativity.

Primary school teacher education takes place in universities and leads to Masters Degree. Teacher preparation was converted from a three-year program at teachers' colleges to five-year university programs in the late 1970s. Hence, most primary school teachers today possess higher university degrees. Westbury and colleagues (2005) point out that preparing teachers for a research-based profession has been the central idea of teacher education developments in Finland since the mid-1970s. Higher academic qualification has enabled schools to have increasingly active role in curriculum planning, evaluating the education outcomes and leading overall school improvement. The OECD review on equity in education in Finland (OECD, 2005b) describes how Finland has created a virtuous circle surrounding teaching:

High status and good working conditions—small classes, adequate support for counsellors and special needs teachers, a voice in school decisions, low levels of discipline problems, high levels of professional autonomy—create large pools of applicants, leading to highly selective and intensive teacher preparation programs. This in turn leads to success in the early years of teaching, relative stability of the teacher workforce, and success in teaching (of which PISA results are only one example), and a continuation of the high status of teaching. (p. 21)

Teachers enjoy social respect and professional freedom. Professional trust has become one of the recognized characteristics of Finnish education recently (Väljörvi et al. 2002; Kupari & Väljörvi 2005; Schleicher, 2006; Aho et al., 2006). Primary school teaching is considered to be a profession that compares to any other high-profession in society, such as medical doctor, lawyer or economist. There is relatively little teacher mobility from one primary school to another which means that most pupils will have the same well-trained teacher for the first six years of schooling.

(3) Designing a system of early intervention and educational counselling and guidance in primary and in secondary schools. Vertical transition refers to the process that connects two levels of education. Finnish education policies have included several equity-oriented measures to support successful transition from basic school to upper secondary education. First, the policy of early recognition and intervention related to learning difficulties have been included as part of school practice and classroom pedagogy throughout the education system. All teacher education curricula have modules that aim at improving knowledge and skills teachers need in identifying and addressing deficits that may lead to student failure. Assistant teachers, special needs education experts and multi-disciplinary teams in schools are all prepared

to minimize the number of students falling behind. Strengthening these early intervention structures has been a long-term aspect of education development plans (see Ministry of Education 2004).

Second, educational guidance and counselling have been integral part of the basic education curriculum since 1970s. According to current legislation all pupils in lower secondary school are subject to educational guidance and counselling two lessons per week. In fact, appropriate educational counselling and guidance is every student's right in all types of schools. Although studies have found that there are serious shortcomings regarding access to educational guidance and counselling, it has significant impact on helping students to make appropriate decisions (Numminen & Kasurinen, 2003; OECD, 2005b).

Third, special needs education services have been extended to cover all types of schools. Early intervention policies have been implemented especially in basic school. For example, in Finland as in the United States, students with reading, writing and mathematics learning problems comprise approximately 40% of the special needs education population in grades 1 to 6. However, in Finland the respective percentage in grades 7 to 9 is 13 whereas in the United States it is 62. As Itkonen and Jahnukainen (2006) state, that "the Finnish school system provides interventions in the primary grades and then exits the majority of students, especially those with speech, reading and writing, and mathematics disabilities" (p. 22). Despite tightening education budgets the number of students in special needs education at all levels of education is increasing: seven percent of basic education students and five percent of vocational secondary education students were included in special needs education programs. Almost one of every four basic school pupil was in part time special needs education during the school year 2004-05.

Fourth, performance-based school financing of vocational education has created new incentives for schools to address each student's successful completion of their studies and to combat drop-outs. Reduced drop-out rates and thus improved completion rates have a significant weight when the financing formula to education institutions is applied. In most cases it is financially more beneficial for a school to invest in preventive measures, such as student counselling and special needs education services, than to experience numerous dropouts.

Horizontal transition in upper secondary education refers to student mobility between general and vocational streams. In principle, after enrolling in one or the other type of upper secondary education a student has the right to move to another stream. Although this is made possible by legislation it rarely happens. More often, however, students select courses from other education institutions for their individual study plans. The basic premise of Finnish secondary education policy is to make upper secondary education as flexible as possible in terms of students' choices and mobility.

(4) Help all students to be successful in transition from primary to secondary education and create second chance paths to increase the rate of success. Since the late 1970s the comprehensive school has provided equal opportunities for all pupils for further studies. Therefore transition from basic to upper secondary education has become an important junction in young people's lives. Education policies and development strategies have recognized that transition from basic to secondary education is more than a shift from one level of education to another. As the Committee on Transition from Basic to Upper Secondary Education and Training stated, "it must be seen as a longer transition phase in which a young person gradually clarifies his or her preferences and aims regarding further education and future career" (Committee Report 2005). Success in this transition is of utmost importance to a student's further studies. Therefore, student counselling and career guidance during the lower secondary education can play significant role in providing pupils with better information about educational and career opportunities.

The additional 10th grade of basic school was created in 1977 as an experiment to help those pupils who were not accepted in upper secondary school due to the limited number of study places. Approximately three percent of basic school leavers enrol in the 10th grade, most of them to improve their marks and chances to be accepted by the upper secondary school of their choice (Committee Report, 2005). The 10th grade curriculum focuses on providing students with positive learning experiences and securing necessary educational guidance and counselling to support students' further education and career planning. Annually, approximately four out of five students who complete additional 10th grade immediately continue their education in upper secondary level.

(5) Promoting lateral capacity building in which schools and municipalities learn from each other. Finland's comparative strength in developing the quality of education has been the key role given to local innovation and sharing of good practices within the system (Sahlberg 2006a). Education policies in general have promoted strategies that Fullan (2005) calls 'lateral capacity building' in which schools learn from each other, and at the same time municipalities share their educational change knowledge. I believe, however, that this is not a well developed strategy in Finland yet, and thus represents an underutilized resource in education system development. Lateral capacity building mobilizes two important change forces: knowledge and innovation about educational change and productive practices on one hand, and shared identity on the other.

Reliance on lateral capacity building and learning from the past in school improvement has also raised the role of leadership and school management in Finland. Increasingly, school principals and education authorities in the municipalities have been recruited according to professional excellence criteria rather than that of political reward as it used to be. School principals have become the key facilitators of professional development of their teaching staff and lateral cooperation with other schools. It is commonly recognized among school principals in Finland that promotion of cooperation rather than between-school competition has been the key strategy in reaching out for better schools. School principals are seen as educational leaders rather than merely school administrators.

4.6 Intelligent secondary education policies

Teaching in Finland, especially in secondary schools, is recognised as a high profession. Part of that recognition raises from initial training of teachers that is based on Masters Degrees and has strong scientific orientation. Hence, all teachers are prepared for research-based teaching practice. The balance between the theoretical and practical knowledge in these programs helps young teachers master various teaching methods as well as the science of effective teaching and learning. Secondary school curriculum reform in the mid-1990s revealed that teachers with high professional competency are quite motivated and easy to engage in school development processes in their own schools as well as in national and international projects (Sahlberg, 2007). They also tend to work just as seriously at developing their own personal professional knowledge and skills. Strengthened teacher and principal professionalism gradually shifted the authority and locus of control from central administration to schools.

Many of the current education policies in Finland, including the teacher professionalism movement, are relevant only when parents, students, and authorities trust teachers and schools. One should remember that the Finnish education system was very centralised when the education reforms in the 1970s were implemented nationwide. Schools were regulated by the national and regional agencies often to the smallest detail. The shift toward trust-based education management and stronger teacher professionalism began in the 1980s, when the major phases of the initial reform agenda were put in practice and consolidated in the education system. In the early 1990s, the culture of trust had penetrated into public sector management in Finland. However, since then the neo-liberal public sector management policies have slowly begun to replace trust with competition, productivity and other market values.

The culture of trust means that the system, that is, the Ministry of Education and the National Board of Education, believes that teachers together with principals, parents, and their communities know how to provide the best possible education for their children and youth (O'Neill, 2002; Aho et al., 2006). Or, as Tschannen-Moran (2004) says, "trust is manifest in situations in which we must rely on the competence of others and their willingness to look after what is precious to us" (p. 15). In Finland, the transition from bureaucratic central administration to the decentralized culture of trust happened at a time of deep economic crisis and public budget cuts. Fortunately, depending on local wisdom to decide what is best for the people seemed to work well even with the most difficult issues, such as reducing expenditure and realigning existing operations to new budgeting realities.

The culture of trust can only exist in an environment that is built upon good governance, or openness, and close-to-zero corruption, or honesty. Although collective value of social networks and the inclinations that arise from these networks to do things for each other may be declining in Finland as in many western societies, social capital that is a key component to building and maintaining democracy has a central place in Finnish society. Indeed, Finland performs extraordinarily well in international good governance and corruption perception rankings. Transparency International has named Finland as one of the least corrupt nations among 146 countries included in the annual comparison. Public institutions generally enjoy high trust and regard in Finland. Trusting schools and teachers is therefore a natural consequence of an effectively functioning civil society. As Lewis (2005) has observed, honesty and trust are often seen as some of the most basic values of Finnish society.

Inviting teachers and schools to take part in social development had an enormously positive impact on the education sector in the 1990s. Emerging trust in schools, and strengthened school autonomy and professional independence of teachers, had two important consequences (Kupari & Välijärvi 2005; Aho et al. 2006). First, teachers realized that the system believed that schools and communities were the places where decisions concerning the curriculum and the overall arrangement of schooling should be done. Teachers, with their high professional and moral qualifications, mostly welcomed this new responsibility. Second, schools very quickly embraced new roles in leading change through the culture of trust. School improvement not only exploded in Finland as a consequence of this new trust, but also became much more diverse than before. Each school, at least in principle, could design its own change strategy with mission statements, vision, and implementation methodologies and schedules. It is this latter dimension of trust that has had the most significant role in propelling Finland's education system past those of many other countries.

Teacher professionalism and society trust in schools and teachers have protected the Finnish secondary education system from many consequential accountability policies that are common in the United States, England and Canada. Instead, national curriculum and evaluation strategies are designed according to intelligent accountability principles (Secondary Heads Association 2003; Crooks 2003; Fullan 2005). Intelligent accountability in the Finnish secondary education context preserves and enhances trust among teachers, students, school leaders and education authorities in the accountability processes and involves them in the process, offering them a strong sense of professional responsibility and initiative. For example, vocational education performance-based assessments are based on collective judgment and feedback from teachers, employers and employees in tandem with the voice of the student. Intelligent accountability designs in Finland also require that evaluation and assessment leads to deep, worthwhile responses rather than bold statistics and technical reports. In many cases schools and teachers have access to the assessment evidence concerning their own school in order to track down the areas of improvement. Finally, the Finnish intelligent accountability, using Crooks' (2003) formulation, recognizes and attempts to compensate for the severe limitations of our ability to capture educational quality in performance indicators. These indicators are often chosen "for ease of measurement and control rather than because they measure quality of performance accurately" (O'Neill 2002, p.54). National sample-based assessments in lower secondary school together with continuous teacher-made classroom assessments provide well-founded and immediate feedback that promotes insight into performance and supports planning and decision making about what works and what should be improved. Indeed, the national Matriculation examination at the end of general upper secondary school is the only high-stake accountability measure in Finland.

The new education legislation (1998) stipulates that the education providers, i.e. in most cases municipalities, are obliged to conduct self-evaluation in their own jurisdiction. During the recent years one of the key areas of improved capacities in education system have been those related to self-evaluation, peer assessment and benchmarking. Moreover, the national curriculum frameworks require that school curriculum must describe how the performance of each school is done. External assessments of student achievement, school performance and productivity indicators together with various forms of self-assessments provide what Fullan (2005) calls an integrated approach of intelligent accountability where assessment of and for learning are combined.

4.7 Is Finland a special case?

A reader may argue that Finland is a special country in many ways and that therefore the findings above are not relevant to any other education system. Indeed, Finland is a relatively small country with a culturally and socially homogeneous population. It has highly trained teachers who enjoy substantive professional freedom and prestige. For example, among the general upper-secondary school leavers, the teaching profession is on the top of the list of most admired career choice: according to a poll conducted in 2004 over 26% of general upper secondary school graduates rated the teaching profession as the most desirable (Helsingin Sanomat 2004). Despite of these features there are several lessons that may be useful in developing quality of secondary education elsewhere.

How successfully Finland has responded to the twin challenge of secondary education requires answering two questions: (1) Is the quality of secondary education better than in other countries?; and (2) Are more young people enrolling in and graduating from secondary education than elsewhere? Since there is no reliable and commonly applied measure for quality of secondary education specifically, we need to look at some of the aspects of education system performance that indicate good performance and quality overall. In this article I have included transition rate from basic to secondary education, completion rates of various types of upper secondary education and student achievement in the middle of secondary education cycle, i.e. at the age of 15 in reading, mathematical and scientific literacy. In Finland approximately 95% of the basic school leavers' age cohort transit immediately to upper secondary education or the additional 10th grade of basic school. It should be noted that more than 99% of pupils complete basic school. Completion rates in upper secondary education are fairly high: 90% in vocational education and 98% in general secondary education. This means that close to 90% of the age cohort completes some type of secondary education. Finally, two cycles of PISA studies suggest that the Finnish 15-year olds learning achievement in reading, mathematics and science is internationally of very high quality. If it is accepted that these aspects indicate something about the quality of secondary education, then the answer to the questions are short: 'yes'.

The Finnish approach to secondary education development shows that good performance in access, completion and quality is attainable at reasonable cost, using education policies that are built upon equity, early intervention and helping students to plan their future and take a lead in their own learning. Finland has systematically build trust in its education system by promoting teacher professionalism, school autonomy and good leadership as the key drivers of change and improvement. Moreover, according to the Finnish experience, improving the quality of secondary education requires development of sustainable policies that address the importance of creating good knowledge, skills and lifelong learning attitudes as early as

possible in primary school for all pupils. The Finnish secondary education model also shows how preparing pupils well for the transition from basic to upper secondary school can increase the rate of successful career decisions and hence reduce student failure in upper secondary school. Finally, education development strategies must benefit from already existing good practices and innovations through lateral capacity building and thereby systematically enhance and enrich the learning environments in upper secondary schools.

Despite good overall quality of secondary education, the parallel and socially and educationally dividing structure of upper secondary education has remained in Finland. Furthermore, there are some commonly recognised problems that need attention. First, although employers and business leaders are participating in curriculum development and quality assurance of vocational secondary education, some specific occupations suffer from inadequate education and training. As the number of vocational qualifications has decreased and curricula become more general, employers are still expecting fairly specialized knowledge and skills from newly trained young workers. Second, the status gap between general and vocational upper secondary education remains wide despite the efforts to make vocational education more attractive among youth. This is also an equity issue because many students still seem to make their educational career choices based on the status of the available educational options. This means that educational performance rather than intrinsic interest determines students' upper secondary school choice. Moreover, only about 17% of students who complete vocational secondary education continue education at tertiary level. Third, expanding number of students who require special needs education services is raising worries. Nearly every fourth basic school student has been included at some point in special needs education. This may be part of the strengthened early intervention strategy but more likely it indicates growing social and behavioural problems in society that are reflected in schools. Education policies are continuously addressing the urgency of arranging appropriate special needs education at all levels of schooling. However, when local education authorities are struggling with shrinking public budgets, special needs education is often the area that suffers the most. Finally, it seems like secondary education is becoming a particular challenge for young men. Almost one of every five young Finnish men is without secondary education degree. Closing the gender gap in secondary education has become the next task for the Finnish policymakers in raising the bar of secondary education even higher in the future.

5. Conclusions

The main message of this paper is that secondary education has become to the focus of education policies and reforms in the OECD countries and beyond. In order to secure employment and better life about 90% of young people continue their education without delay to upper secondary education. Half of these students choose programmes that have vocational or technical orientation. Still, most students who graduate from upper secondary schools are qualified and have access to enter tertiary education. There are, however, significant differences in structure, content and organisation of upper secondary education in OECD countries. In most countries upper secondary education is still determined by historical tradition rather than the needs of modern knowledge societies.

There are four conclusions that can be drawn from this paper.

1. *General and vocational upper secondary education have come closer to each other.* In most OECD countries both types of upper secondary schools provide students with opportunities to tertiary education. In general, vocational education programmes have become more general and general education programmes have more vocational and technical elements in them. Many countries are looking for a sustainable balance between the proportion of students enrolling in general and vocational upper secondary programmes. However, it is impossible to determine what the balance between vocational and general education should be because the content and structures are not unified. Student mobility, i.e. transition between these two types of schools has remained a policy challenge in many countries.
2. *Traditional forms of schooling are giving a way to alternative ways to learn.* Learning for a profession only in school is becoming rare in OECD countries. Traditional totally school-based vocational programmes are disappearing and more learning is taking place in workplaces under the supervision of experienced professionals. There is, however, a big variation in terms of the balance between school-based and work-based learning time in OECD countries. Blending vocational and general education programmes is also becoming more common by offering students opportunities to choose their studies from different schools. As the flexibility increases, students have more freedom to build their learning plans in a way that fits them best. There are also interesting experiments in some OECD countries (Australia, Canada and Finland) of using virtual school (mostly technology-based distance learning) for those who want to attain secondary education without attending normal school.

3. *Quality and relevance of upper secondary education remain a major challenge.* In short, curricula and educational programmes in upper secondary schools in many OECD countries are relics from the past rather than tools that would provide young people with inspiring and interesting opportunities to learn for life and for work. Many OECD countries are currently revising both overall structure and curricula of their upper secondary schools but much of this change is rather cosmetic. As a result, as more young people start upper secondary school with high hopes many of them drop-out, move to learn somewhere else or simply fail to graduate on time. Recent international student assessments also indicate that the quality of knowledge and skills that many young people have as they move from lower to upper secondary school is far from adequate to enable them to be successful in their learning. Therefore, better quality basic education is a necessary condition for raising quality of upper secondary education.
4. *There is a lot to learn from other countries.* As mentioned before, OECD countries offer a diverse array of ways to organise upper secondary education. There is no one way or country that would have done that 'in the right way'. Organisation of secondary education in any country is – at least to some extent – a result of cultural, historical and social determinants and hence often difficult to understand in isolation from those contexts. This paper offered an example of a Nordic welfare state that differs in many ways from Latin American countries and also from other OECD countries. Still, education policies should never be adapted or borrowed from elsewhere but learned and improved by understanding what has been done and why in other countries. However, Finland can teach one lesson to all: getting secondary education system to perform well requires – among other things – time and systemic view to how education functions as a part of society. It requires sustainable leadership, cross-sector strategies and equity-oriented education policies that focus on all students, not just some.

There are clear signals that secondary education is becoming an important part of education systems around the world as more young people seek opportunities to learn those knowledge and skills that they need in their lives. Experiences from many OECD countries suggest that doing more of the same is not going to solve the current problems of secondary education. There is also a view among many teachers and students as well that making upper secondary education mandatory for all would perhaps create more problems than it would actually solve. Policymakers, education practitioners, students and researchers need to come together in order to find new solutions that will provide sustainable, intelligent and economic ways to offer productive learning opportunities for all young people. Leaving some youth behind in education by not offering them interesting and meaningful educational options will not only be politically short-sighted but it will be a social mistake that many generations to come will have to bare the consequences. Mark Twain once said that "it ain't what you don't know that gets you into trouble. It is what you know for sure that just ain't so". Keeping this in mind as we seek new ways to educate our citizens – not only the youngest ones – will take us a long way toward better solutions.

Notes

¹ Tertiary-type A programmes (ISCED 5A) are largely theory-based and are designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine, dentistry or architecture. These programmes have a minimum cumulative theoretical duration (at tertiary level) of three years' full-time equivalent, although they typically last four or more years and are not exclusively offered at universities.

² Tertiary-type B programmes (ISCED 5B) are typically shorter than those of tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered in the respective programmes. They have a minimum duration of two years full-time equivalent at the tertiary level.

³ The rate of return represents a measure of the returns obtained, over time, relative to the costs of the initial investment in education. More specifically, the fiscal internal rate of return is equal to the discount rate that equalises the costs of education to the benefits of education for the public sector.

6. References

Aho, E., Pitkänen, K. & Sahlberg, P. (2006). Policy development and reform principles of basic and secondary education in Finland since 1968. Washington, DC: World Bank.

Berry, J. & Sahlberg, P. (2006). Accountability affects the use of small group learning in school mathematics. *Nordic Studies in Mathematics Education*, 11(1), 5–31.

Castells, M. & Himanen, P. (2002). The information society and the welfare state. The Finnish model. Oxford: Oxford University Press.

Committee Report (2005). Report of the committee on transition from basic to secondary education and training. Reports of Ministry of Education, 2005:33. Helsinki: Ministry of Education.

- Crooks, T. (2003). Some criteria for intelligent accountability applied to accountability in New Zealand. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, Illinois.
- Fullan, M. (2005). *Leadership and sustainability. System thinkers in action*. Thousand Oaks: Corwin Press.
- Hargreaves, A. & Fink, D. (2006). *Sustainable leadership*. San Francisco: Jossey-Bass.
- Hargreaves, A. & Goodson, I. (2006). Educational change over time? The sustainability and nonsustainability of three decades of secondary school change and continuity. *Educational Administration Quarterly*, 42(1), 3-41.
- Helsingin Sanomat (2004). Ykkössuosikki: Opettajan ammatti. [Top favorite: Teaching profession] February 11.
- Hirvi, V. (1996). Koulutuksen rytminvaihdos. 1990-luvun koulutuspolitiikka Suomessa [The rhythm change in education. Finnish education policy in the 1990s]. Helsinki: Otava.
- Itkonen, T. & Jahnukainen, M. (2006). An analysis of accountability policies in Finland and the United States. Paper presented at the Annual Meeting of American Educational Research Association, San Francisco.
- Jussila, J. & Saari, S. (Eds) (2000). *Teacher education as a future-molding factor: International evaluation of teacher education in Finnish universities*. Helsinki: Higher Education Evaluation Council.
- Kupari, P. & Välijärvi, J. (Eds.) (2005). *Osaaminen kestäväällä pohjalla. PISA 2003 Suomessa [Competencies in on the solid ground. PISA 2003 in Finland]*. Jyväskylä: Institute for Educational Research, University of Jyväskylä.
- Lampinen, O. (1998). *Suomen koulutusjärjestelmän kehitys [Development of the Finnish education system]*. Tampere: Tammer-paino.
- Lewis, R. (2005). *Finland, cultural lone wolf*. Yarmouth: Intercultural Press.
- Ministry of Education (2004). *Development plan for education and research 2003 – 2008*. Helsinki: Ministry of Education.
- Mundle, S. (1998). Financing human development: Some lessons from advanced Asian countries. *World Development*, 26(4), 659-672.
- National Board of Education (2005). *Perusopetuksen matematiikan kansalliset oppimistulokset 9. vuosiluokalla 2004. National assessment in mathematics in the 9th grade of basic education in 2004*. Helsinki: National Board of Education.
- Numminen, U. & Kasurinen, H. (2003). *Evaluation of educational guidance and counselling in Finland*. Helsinki: National Board of Education.
- OECD (2001). *Knowledge and skills for life: First results from PISA 2000*. Paris: OECD.
- OECD (2004a). *Learning for tomorrow's world. First results from PISA 2003*. Paris: OECD.
- OECD (2004b). *Completing the foundation for lifelong learning. An OECD survey of upper secondary schools*. OECD: Paris.
- OECD (2005a). *Education at a glance. OECD indicators 2005*. Paris: OECD.
- OECD (2005b). *Equity in education. Thematic review of Finland*. Retrieved from the Internet: www.oecd.org on 16 July, 2006.
- OECD (2006). *Education at a glance. OECD indicators 2006*. Paris: OECD.
- O'Neill, O. (2002). *A question of trust*. Cambridge: Cambridge University Press.
- Rinne, R., Kivirauma, J. & Simola, H. (2002). Shoots of revisionist education policy or just slow readjustment? *Journal of Education Policy*, 17(6), 643-659.
- Routti, J. & Ylä-Anttila, P. (2006). *Finland as a knowledge economy. Elements of success and lessons learned*. Washington, DC: World Bank.
- Sahlberg, P. (2006a). *Subiendo el listón: ¿Como responde Finlandia al doble reto de la educación secundaria? Profesorado*, 10(1), 1-26. (Also in English: Raising the bar: How Finland responds to the twin challenge of secondary education?)
- Sahlberg, P. (2006b). Education reform for raising economic competitiveness. *Journal of Educational Change*, 7(4), 259-287.

- Sahlberg, P. (2007). Education policies for raising student learning: The Finnish approach. *Journal of Education Policy*, 22(2), 147-171.
- Schleicher, A. (2006). The economics of knowledge: Why education is key for Europe's success. Brussels: The Lisbon Council.
- Secondary Heads Association (2003). Towards intelligent accountability for schools: A policy statement on school accountability, Policy Paper 5. Leicester: SHA.
- Simola, H. (2005). The Finnish miracle of PISA: Historical and sociological remarks on teaching and teacher education. *Comparative Education*, 41(4), 455-470.
- Tschannen-Moran, M. (2004). Trust matters: Leadership for successful schools. San Francisco: Jossey-Bass.
- UNESCO (2006). Participation in Formal Technical and Vocational Education and Training Programmes Worldwide: An Initial Statistical Study Bonn, Germany: UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training.
- Väljjarvi, J. (2004). Implications of the modular curriculum in the secondary school in Finland. In J. van den Akker, W. Kuiper & U. Hameyer (Eds.) *Curriculum landscapes and trends*. Dordrecht: Kluwer, 101-116.
- Väljjarvi, J., Linnakylä, P., Kupari, P., Reinikainen, P. & Arffman, I. (2002). Finnish success in PISA. Some reasons behind it. Jyväskylä: Institute for Educational Research, University of Jyväskylä.
- Virolainen, M. (1996). Post-15 strategies and the experimental reform of Finnish upper secondary schools. In J. Lasonen (Ed.) *Reforming upper secondary education*. Jyväskylä: Institute for Educational Research, University of Jyväskylä.
- Westbury, I., Hansen, S-E., Kansanen, P. & Björkvist, O. (2005). Teacher education for research-based practice in expanded roles: Finland's experience. *Scandinavian Journal of Educational Research*, 49(5), 475-485.
- World Bank (2005). Expanding opportunities and building competencies for young people. A new agenda for secondary education. Washington, DC: World Bank.
- World Bank (2006). Meeting the challenges of secondary education in Latin America and East Asia. Improving efficiency and resource mobilization. Washington, DC: World Bank.

HOW TO CONTACT US

Further information on our activities, calls for tender and job opportunities can be found on our website: www.etf.europa.eu.

For any additional information, please contact:

External Communication Unit
European Training Foundation
viale Settimio Severo 65
I - 10133 Torino
E: info@etf.europa.eu
T: +39 011 630 2222
F: +39 011 630 2200