

Finland

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National context

Population, economic and social characteristics

Finland, a democratic welfare state and the northernmost member of the European Union is an example of a nation that has been able to transform its traditional economy into a modern knowledge economy within relatively short period of time. Education has played important role in this process. This chapter argues that system-wide excellence in student learning is attainable at reasonable cost, using education policies differing from conventional market-oriented reform strategies prevalent in many other countries. Unlike many other education systems, test-based accountability and externally determined learning standards have not been part of Finnish education policies. Relying on data from international student assessments, indicators and earlier policy studies, this chapter describes how steady improvement in student learning has been attained through Finnish education policies based on equity, flexibility, creativity, teacher professionalism, and mutual trust. The conclusion is that educational reform in Finland has been built upon ideas of good leadership that place an emphasis on teaching and learning, encouraging schools to craft optimal learning environments and implement educational content that best helps their students reach the general goals of schooling, and professional leadership of schools.

Finland went through a fundamental economic and cultural transformation during the last three decades of the 20th century. For the sake of curiosity, 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.

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 (Organisation for Economic Co-operation and Development) countries in research and development intensity. According to the OECD, Finland invests 3.5 percent of GDP in research and development (R&D) which is the second highest in OECD after Sweden (OECD, 2008; 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 2006, some two percent of total education expenditure came from private sources, while 99 percent of primary and secondary education expenditure was publicly financed (OECD, 2008). Indeed, total expenditure on educational institutions as a percentage of GDP for all levels of education declined from 7.9 percent in 1992 to 6.3 percent in 1995 and most recently to 6.0 percent in 2002 (Hirvi, 1996). 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, Kivirauma & Simola, 2002). The number of comprehensive schools (grades 1 to 9) has declined by 20 percent 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 the 1980s the Finnish education system had only a few features that attracted any interest among international educators and many aspects of education were adopted from its wealthier western neighbour, Sweden. Indeed, Finland's education system was recognized internationally exceptional on only one account: However, the Finnish 10-year-olds were among the best readers in the world (Allerup & Mejding, 2003; Elley, 1992). Other than that, international education indicators left Finland in the shadows of traditional education superpowers, such as Sweden, England, USA, and Germany. This chapter shows how Finland has been able to upgrade its human capital by transforming its education system from less-than-average to one of the best international performers since the 1980s. It also discusses how that success has been achieved by implementing education reforms that differ from those in many other nations. Finally, it suggests some education reform principles that may have been significant drivers of today's good educational performance.

As Finland attracts global attention due to its high-performing education system, it is worth asking whether there was any progress in this performance since the 1980s. If progress can be reliably identified, then, consequently, the question becomes what factors might be behind successful education reform? In my recent analysis of educational reform policies in Finland (Sahlberg, 2007), I describe how Finland changed its traditional education system, with little to celebrate in terms of international comparisons, into a model of a modern, publicly financed education system with widespread equity, good quality, large participation – all of this at reasonable cost (OECD, 2008; Sahlberg, 2007; Schleicher, 2006). What is significant from this analysis is the steady progress during the past three decades within four main domains: (1) increased level of educational attainment of the adult population, (2) widespread equity in terms of learning outcomes and performance of schools, (3) a good level of student learning as measured by international student assessments, and (4) moderate overall spending and efficiency, almost solely from public sources.

Description of the types of education and training (formal and informal) that occur in a country

A central objective of Finnish education policy is to provide all citizens with equal opportunities to receive education irrespective of age, domicile, sex, mother tongue and economic situation. The right to free basic education for all residents of Finland – and not just for Finnish citizens – is guaranteed by statutes. In addition, everyone has the right to post-basic education and the Finnish education system gives everyone access to upper secondary education or higher education. General education alone is not regarded as being sufficient. The concept of lifelong learning reflects the whole national education system, because it covers peoples' lives from early childhood to old age. Lifelong learning takes place both in official learning environments, such as schools, and also less officially through the Internet and as on-the-job learning.

The education system promotes implementation of the principles of lifelong learning by giving young people a high level of education and, at the same time, the ability to participate in continuing education later in life. Additionally, the education system in Finland supports the education needs of adults so they may participate easily in versatile continuing education, which will be useful in their working lives. A short overview of the Finnish Educational system will provide the basic insights that will be required to also understand the qualities of the Finnish Learning-to-Learn context that are addressed in the later parts of this Finnish national report.

Pre-school education in Finland

Before compulsory education, children have a subjective right to pre-primary education at the age of six. Participation in pre-primary education is voluntary and is provided for 6-year-olds at day-care centres and in pre-primary classes operating in conjunction with comprehensive schools. In 2007, almost all 6-year-olds participated in pre-primary education.

Basic / Compulsory education in Finland Compulsory education begins at the age of seven. After nine years in basic education, it is possible to continue either to general upper secondary education or to vocational upper secondary education and training, and then to a polytechnic or university. Basic education means general education provided for each age group as a whole. It is intended for children aged between seven and sixteen and completion of its syllabus at comprehensive school takes nine years. Once they have completed basic education, pupils have fulfilled their compulsory education.

Upper secondary education in Finland

Upper secondary education includes general upper secondary education and upper secondary vocational education and training. General upper secondary education is non-vocational education preparing for the matriculation examination. The main objective of upper secondary vocational education and training, in turn, is to provide vocational competence. In 2007, approximately 92% of comprehensive school leavers moved on to general or vocational upper secondary studies immediately after basic education. In 2007, 86% of the 25–34 age group had attained at least upper secondary education. Higher education is made available by universities and polytechnics. Both sectors have their own profiles; universities focus on scientific research and instruction, whereas polytechnics are professionally oriented higher education institutions adopting a more practical approach.

Upper secondary Vocational Education & Training in Finland

The quantitative regulation system of Finnish vocational education and training was reformed in the late 1990's. The new legislation is more flexible, emphasizing education providers' own responsibility and enabling them to decide on the means used to achieve the objectives of education and training independently, within the limits of the relevant legislation and the authorisation to provide education and training. In 2008, there were 169 providers of upper secondary VET in Finland. The authorization to provide upper secondary VET specifies the framework for the provider's education and training activities. The authorisations include regulations on the types and scopes of education and training that providers may organize with financing for the education and culture sector. Within the framework of its authorisation, each provider decides on the configuration, names and educational missions of their educational institutions and on the forms of provision. The authorisations specify aspects such as fields and levels of education and, in certain cases, qualifications and annual student numbers.

Education providers may independently transfer intake quotas from one institution and field to another on a yearly basis within the limits of the maximum annual student numbers authorised. Provision of some qualifications has been restricted due to modest educational needs or high costs of provision, etc. Examples of such qualifications include upper secondary vocational qualifications in the field of Culture and qualifications for forest machine operators within the field of Natural Resources. A specific educational mission may also include obligations, such as an obligation to offer certain types of education and training or to maintain certain services.

Higher education institutions in Finland

The Finnish higher education system consists of two complementary sectors, namely, universities and polytechnics (universities of applied sciences), which have different roles and profiles. The model is based on the differentiated degrees, contents and missions of the two sectors. The network of higher education institutions operating within the Ministry of Education sector consists of 20 universities and 26 polytechnics.

One of the key objectives of the Government's higher education reform is to achieve a network of higher education institutions that is stronger and more effective in regional terms. This entails a reduction in the number of higher education institutions and their units. The role of polytechnic education and research, development and innovation activities will become more pronounced in areas without an independent university in particular.

By nature, polytechnics are mostly multidisciplinary and regional higher education institutions with operational focus on links with the world of work and regional development. Their degrees are higher education degrees with a professional emphasis. The statutory mission of polytechnics is to provide higher education for professional expert assignments based on the requirements of the world of work and its development as well as on research and artistic premises. According to Government policy decisions, polytechnics focus on high-quality education relevant to the world of work and on applied research and development specifically geared towards supporting small and medium-sized business activities and the service sector. Polytechnics are also responsible for responding to regional demand for labour. All Finnish universities are state-owned and they operate under the auspices of the Ministry of Education within central government. The Ministry is responsible for preparing matters concerning universities and appropriate operations and steering of universities. A new Universities Act is due to come into force on 1st January 2010. The purpose of the university reform and the new Universities Act is to increase universities' autonomy, establish them as independent legal

entities and create better operating conditions for them in international terms. The reform would change the status of universities from state accounting offices to independent public corporations or foundations governed by the Foundations Act.

The new Universities Act would include provisions on the universities' mission, administration, operational funding and steering, as well as on aspects relating to university research and education, students and staff. The key objectives of the university reform and structural development include improving the quality of education, developing study processes and raising the international standard of research. As a result of the university reform, universities' increasing powers and accountability create incentives and conditions to organize university operations more efficiently and appropriately. The operations of universities, including private institutions, will mostly be financed from government funds and the universities will also continue to discharge the public mission assigned to them by central government. The key components of the system employed by the Ministry of Education to steer higher education institutions are funding, legislation and information-based guidance. The main steering instruments include agreements between the Ministry and higher education institutions, the feedback procedure and monitoring systems. Regular negotiations between the Ministry of Education and higher education institutions play a key role in the steering process. In these negotiations, the parties – i.e. the universities and the Ministry of Education within the university sector and the polytechnics, their maintaining organisations and the Ministry within the polytechnic sector – agree on the individual institutions' mission, profile and priority fields as well as on key objectives and development measures in terms of national higher education policy to be set for their operations for a specified number of years at a time. The outline of the agreements for the 2010–2012 period consists of the common objectives of the higher education system, the missions, profiles and priority fields of individual higher education institutions, their quantitative targets, such as degree targets, as well as significant development measures and funding criteria. Starting from 2013, agreements will be negotiated for four years at a time.

Practices and organisations

Practices and organisations (universities, institutions providing teacher training, teachers' unions) dealing with key competencies in LLL, ICT in the learning process, creativity and innovation, intercultural learning skills, education policies and teacher training.

The Finnish Government decides every four years on the development plan for education and university research. The current plan covers the years 1999–2004 and, in it, the concept of lifelong learning is declared to be one of the main principles underlying the development of Finnish education. This prospect will mean that education is identified less with formal institutional activity and is seen increasingly as a process covering all ages, forms of learning, and learning environments. The contribution of lifelong learning to the enrichment of life in a more personal, less career-oriented sense is no less important. The development plan for 1999–2004 was approved by the government in December 1999. Its specific aims reflect the above-mentioned challenges and are geared to improving the following in terms of lifelong learning: the basic educational level of young people in the transition from school to working life; the basic educational level of the middle-aged; learning ability at all ages; learning opportunities available to senior citizens; formal recognition of skills and knowledge obtained outside education institutions; educational information and counselling; the criteria for funding education institutions; and the enhancement of teaching skills. The plan includes a special section on lifelong learning and, in addition, the principle of lifelong learning is a basis for several actions.

The content of the principle of lifelong learning has been defined in the plan as follows: high standard of education, learning skills, and ensuring an adequate amount of chances and implementation methods of the continuous learning of the adult population. This definition is regarded as the central educational goal for the entire population. The development of learning skills will be emphasised as one of the most important goals in all educational sectors. The new plan also encourages the appreciation and promotion of learning outside educational institutions. Experiences with the previous development plan for education and university research prove that most objectives stated in it will be realised in one form or another.

In order to achieve the lifelong learning goals in practical terms, it is necessary to obtain adequate and comprehensive info about all possibilities of studying and financing of studies.

Another important government plan which takes the principle of lifelong learning into account, is the national strategy for education, training and research in the information society. The strategy was first completed in 1995 and it outlined the information and communication policy for education, training and research well into the 21st century. The strategy contained the opinions and proposals of an expert committee set up by the Ministry of Education on how the level of education and research can be raised by applying information technology, thus promoting national competitiveness and employment, and how to promote the availability and use of information and to assess the needs and identify the means for giving citizens basic skills in using information and communication technologies (ICTs).

The aims of the strategy were implemented through the information society programme (1995-99) of the Ministry of Education. Almost FIM 1 billion (EUR 167 million) of earmarked budget funding was used to this end. A renewed national strategy for education, training and research in the information society for the years 2000–04 was launched by the Ministry of Education in December 1999. The strategy states that, by the year 2004, Finland will be one of the leading knowledge and interactive societies. Success will be based on citizens' equal opportunities to study and develop their own knowledge and extensively utilise information resources and educational services. A high-quality, ethically and economically sustainable mode of operation in network-based teaching and research will be established. New demands for knowledge require the rapid and extensive application of the principle of lifelong learning to the entire educational system in order to motivate and teach the population to manage, analyse, evaluate and refine the increasing flow of information and thus utilise the opportunities offered by technology. The growing competence requirements of the information society will be met by systematically developing the prerequisites of lifelong learning.

On the initiative of the government, the Ministry of Education introduced a national strategy for lifelong learning ('the joy of learning', 1997). In it, the concept of lifelong learning covers not only individuals but the communities where they live and work as well as the underlying societal parameters that determine their operational environment. This kind of approach is necessary to facilitate a broadly based and continuous process of learning.

Formal, non-formal and informal teacher training in Finland

The teaching profession is highly respected in Finland. Teaching qualifications are prescribed by law and vary for different kinds of teachers. These national requirements guarantee that the standard of teacher education remains high. All teaching has both educational and didactic objectives, although the age of pupils and the size of classes vary greatly. Nowadays a teacher's work has changed from dispensing knowledge to guiding learning. In addition to doing the teaching, teachers have to plan it and interact with colleagues, pupils and their parents, and

many different contact groups. OAJ, the Trade Union of Education in Finland, is involved in promoting teacher education by influencing decisions concerning educational policy and the development of the educational and pedagogical system. The association for students in teacher education, SOOL, the Student Teachers' Union of Finland, is part of the OAJ organization. Highly educated teachers are the guarantors of the quality of teaching. The majority of teacher education students study at universities. In Finland subject specialist teachers have traditionally been educated at universities and they generally teach in secondary schools. The education of primary school teachers was transferred to the universities in the early 1970s, and that of kindergarten teachers in the mid-1990s. All polytechnic and university teachers receive their basic and further education at universities.

Teacher training within Universities in Finland

The law on the university degree system contains a separate section on teacher education. Other laws determine what teacher education programmes individual universities are entitled to provide. Teacher education is given either in faculties/departments of education or in subject faculties such as humanities, science, or theology. First, students take a Bachelor's degree, which comprises 180 ECTS credits, and after that a 120-credit Master's degree. They take basic, intermediate and advanced studies (120 cr) in their major subject, and basic and intermediate studies (60 cr) in their minor subject. The complete 300-credit degree takes about five years. Students aiming at a career as a kindergarten teacher or a teacher of adult evening classes complete a three-year Bachelor's degree. Although this is sufficient qualification for these posts, many teachers carry on to do a Master's degree. Under certain conditions, a polytechnic degree is sufficient qualification for kindergarten teachers or teachers of adult evening classes. The degree programmes include a 60-credit professional competence element, which varies according to the type of teaching posts the students are aiming at. Depending on the teaching field, they may concentrate on early childhood and pre-school teaching, the core subjects taken by all primary school pupils (so-called multi-field studies), special education, or student counselling. Teacher education also includes pedagogical studies, which incorporate teaching practice, as well as, for subject specialists, study of the subject to be taught. The teaching practice included in the students' pedagogical studies may take place either in the training schools of the faculties/departments of education or in other approved schools. Kindergarten teacher trainees normally practise in day care centres. Teachers with a Master's degree have the option of continuing their studies at the doctoral level. Teacher education in the polytechnics

Teacher education within Polytechnics in Finland

Some polytechnics have a vocational teacher education unit. Vocational teacher education and training consists of pedagogical studies. Students in these vocational institutes of higher education may, after their pedagogical studies, take a course of study for special needs teachers or study counsellors. Both are worth 60 credits.

Early-childhood education and pre-school teaching in Finland

Kindergarten teachers

Kindergarten teachers work with children between the ages of one and six. Students complete the degree of Bachelor of Education specialising in early childhood education. The studies provide the professional proficiency required for early childhood and pre-school teaching. It is also possible to qualify as a kindergarten teacher by completing the Bachelor of Social Services degree, which must include studies focusing on early childhood education and social pedagogy

worth 60 credits. University educated kindergarten teachers may specialise in special education by completing a study programme aimed at special needs teaching.

Pre-school teachers

Kindergarten teachers who have undertaken university level kindergarten teacher education may work as pre-school teachers in day care or schools. Pre-school teaching, which precedes compulsory schooling, is provided for six-year-olds. The majority of the teachers are kindergarten teachers, but qualified primary school teachers are also involved at this level. The Bachelor of Social Services degree does not qualify graduates to work at pre-school level. Special education teachers also feature in preschool teaching. Most of them are qualified special needs kindergarten teachers who have also completed a special education study programme. Primary school teachers with special training in this field may also be involved.

Compulsory and Further education teachers in Finland

Primary school teachers

Primary school teachers teach children in years 1–6 of compulsory schooling. At lower levels they have their own class or group, for which they may provide the teaching in all subjects on the curriculum. In order to qualify they take a Master's degree (majoring in education sciences) at the teacher education unit of the faculty/department of education. The degree comprises the pedagogical study programme for teachers, together with all the subjects covered in years 1–6 and cross-curricular themes. It may also include basic and intermediate studies of a subject on the comprehensive school curriculum, which serves as qualification to teach that subject to pupils in years 7–9. Primary school teachers who complete a study programme for special education teachers are entitled to teach groups of pupils transferred to special needs teaching.

Secondary school teachers

Subject specialists are qualified to teach years 7–9 in compulsory schooling and in upper secondary schools and, depending on their education, also in vocational schools and adult education. There are two ways of becoming a secondary school teacher. The majority of students completes an MA in their chosen subject and applies separately for teacher education, while some choose to apply directly for teacher education when applying to study their subject. This direct selection procedure is the more recommendable alternative in terms of teacher identity development, as the students know when applying for the right to study that they are heading for the teaching profession. In the faculties, students often focus on two subjects they intend to teach, completing advanced studies in a major subject and basic and intermediate studies in a minor subject. Those studying to become teachers of the mother tongue and literature in most cases concentrate solely on these subjects. Unlike other secondary school teachers, teachers of home economics and crafts study at the faculty/ department of education, majoring in education, home economics or crafts. It is possible to complete the pedagogical education as a post-graduate.

Special education teachers/ special education primary school teachers

Most teachers in special education work in years 1–9 and, alongside the regular teaching, give extensive special education to pupils in need of it. They work either separately from or in the same room with the primary or secondary school teachers. Special needs primary school teachers teach small groups of learners transferred to special education. Special education

teachers need a Master's degree, majoring in special education, at a faculty/ department of education. Their education includes studies giving them the professional competence needed to be a special needs teacher, and the pedagogical study programme. Those aiming to become special education primary school teachers also take a course in the subjects taught in primary school. They often do their studies in special education after having completed their degree in primary teaching. It is also possible to have any Master's degree and then qualify as a special education teacher after completing the required study programme in special education. Teachers working with retarded pupils need an appropriate university or polytechnic degree, complemented with studies conferring professional competence for the tasks of a special education teacher.

Guidance counsellors

The term student counsellor is used in compulsory schooling (years 1–9), and guidance counsellor in upper secondary schools, vocational schools and polytechnics. They assist pupils and students with their course planning, applications for further studies, study techniques and entering the labour market. The qualifications include a Master of Arts (Education) degree as well as pedagogical studies. Guidance counsellors may also qualify by completing any Master's degree and the guidance counsellor study programme.

Vocational education and training teachers in Finland

Teachers of vocational subjects

Teachers of vocational subjects have a suitable Master's degree (university or polytechnic), or another appropriate degree, determined by the education provider. The educational qualifications required vary in different fields of vocational training. Teachers in business and administration as well as the social services and health care sectors must always have a university Master's degree. Teachers of vocational subjects must have at least three years' work experience in a field compatible with the teaching post before they begin their pedagogical studies, which they complete either before they take up teaching or as a distance learning programme while teaching.

Core subject teachers

Core subjects in vocational education include Finnish or Swedish, foreign languages, mathematics and natural sciences. Core subject teacher trainees require a Master's degree, having undertaken basic, intermediate and advanced studies in one subject and basic and intermediate studies in the other subjects to be taught. The pedagogical studies are undertaken either at a university or at a vocational teacher education department.

Special education teachers

Core subject and other teachers at the vocational level completing a 60-credit study programme for teachers in special education qualify as special education teachers.

Guidance counsellors

Core subject and vocational teachers completing a 60-credit study programme for polytechnic teachers qualify as guidance counsellors in vocational training, compulsory education, or upper secondary schools.

Policy environment

Taking a lifelong learning perspective of the education, training and learning that are available and facilitated within the Finnish national context is important both for understanding the learn-to-learn orientation/focus that are characteristic for Finland as well as for getting a better understanding of the educational achievements made in Finland, such as the PISA results and developments in the area of learning-to learn competencies.

The starting point for such insight generation will be firstly initiated with an overview of the Finnish education system, followed with a more in-depth explanation of some of the educational services (such as pre-school education/care) and different form of learning opportunities for professionals (such as the informal education/learning services).

Finland's objectives for lifelong learning are set in the development plan for education and research 2007–2012 adopted by the Government in 2007 and in the strategic policy lines set out in the Government Programme. The whole education system, including vocational education and training and self-motivated adult education, belongs to the Ministry of Education sector. The Ministry of Employment and the Economy is responsible for labour market training. The Government prepares for the whole electoral period a Government programme that deals with the development of education issues also for the parts beyond the Ministry of Education's sector. In addition the Government adopts a development plan for the whole education system every four years. It has not been seen necessary to devise a separate lifelong learning strategy. According to the development plan, special priorities between 2007 and 2012 will be to effect equal access to education and training, to assure a high quality of education and training and the availability of competent work force, to develop higher education institutions and to invest in teachers' competencies. The aims of the development programme support the implementation of the Government's policy programmes for the well-being of children, youth and families, for health promotion and for employment, entrepreneurship and working life; and the Child and Youth Policy Programme.

Development of Key competencies in Finland

Key competencies for lifelong learning are included in the national core curricula governing basic and upper secondary education. Lifelong learning is defined as a point of view guiding education policy and other policies relating to learning. The aim is to guarantee basic educational rights for every pupil and student according to their abilities and special needs. During the last government term, the Ministry of Education was carrying out a "better basic education programme" (known as the POP programme), thereby allocating resources to quality enhancement. The priorities in POP are to reduce the size of teaching groups, to increase guidance counselling, to develop teaching and guidance of pupils with special educational needs, to promote school club activities and home-school cooperation, and to diversify the selection of foreign languages. The focus in the development of special-needs teaching is on teaching methods, on unified administrative practices at the local level, and on closer cooperation between different school districts. Intensified guidance counselling would be given at transition points in young people's educational pathways, with special emphasis on careers counselling. In 2009 quality criteria would be devised for basic education with a view to quality enhancement. These support the implementation of statutes governing basic education, quality enhancement in teaching and the improvement of pupils' learning capacity. The Ministry of Education did also set up a committee to prepare proposals for the development of general upper secondary education, which was submitted in October 2010.

The aim is to assure the supply and accessibility of upper secondary education and to develop financing and support services, and to promote the internationalisation of education.

Existing teacher competence & L2L frameworks in Finland

The national objectives for basic and upper secondary education are set in a Government Decree. They emphasise all the eight key competencies. The basic education (2004) and upper secondary core curriculum (2003) determine how these objectives are translated into practice in school. The core curricula also set out the aims and core content of subjects and cross-curricular themes. The key competencies have been taken into account in the aims and content of both subjects and cross-curricular themes, which in basic education are growth as a person, cultural identity and internationalisation, media skills and communications, participatory citizenship and entrepreneurship, responsibility for the environment, well-being and a sustainable future, safety and traffic, and technology and the individual; and in general upper secondary education: active citizenship and entrepreneurship, well-being and safety, sustainable development, cultural identity and knowledge of cultures, technology and society, and media skills and communication.

These themes are addressed both in connection with subjects and in other school activities, such as study visits, excursions and school camps, school fetes and other joint events, pupil/student association activities and school clubs.

In basic and upper secondary education, the key competencies relating to Communication in the mother tongue, Communication in foreign languages and Mathematical competence and basic competence in science are included in the aims and content of mother tongue and literature, foreign languages, and mathematics, environmental and natural science, biology, geography, physics, chemistry, respectively.

Key competencies relating to technology are included in mathematics, natural sciences and, in basic education, in crafts (technical and textile work) and home economics. Social and civic competencies are primarily included in history, social science and health education and, in basic education, home economics.

Cultural awareness and expression is particularly included in mother tongue and literature, art, music, sports, crafts and home economics. Digital competence, learning to learn, sense of initiative and entrepreneurship belong to the aims of all subjects and cross-curricular themes. Learning-to-learn is understood in Finland to be a readiness formed through good educational practices and accompanying all achievement. Learning-to-learn as an indicator in assessment is meant to provide essential information for teachers, administration, and decision makers responsible for the developing of education. Developing tools for the assessment of learning-to-learn was understood to be a very demanding process.

In 1995, the National Board of Education, responsible for developing methods used in assessment and evaluation, started co-operation with the University of Helsinki. Since that, a research group lead by Professor Jarkko Hautamäki has been carrying out a project "Oppimaan oppimisen arviointi" (Assessing learning to learn) under the support of the National Board of Education. Learning-to-learn has been understood to be a key competence for lifelong learning.

The results of these Finnish efforts have been used to further develop both the concept of learning-to-learn, as well as means and approaches to measure learning-to-learn, and this in international co-operation with teachers, researchers and other partners responsible for

developing learning-to-learn quality of education. (adapted from introduction by Ritva Jakku-Sihvonen, in “Assessing Learning to Learn”)

Due to the rapid changes in the working environment and in the nature of work, and because of knowledge becoming obsolete quickly, the cornerstone for success is continuous learning. The modern understanding of learning and the development of skills supports the notion that learning-to-learn skills play a central role in the development of the individual.

The evaluation of the learning-to-learn skills should be future-oriented. Education should prepare students for lifelong learning, and the students' skills should be evaluated on the basis of their personal needs and goals. The evaluation of learning-to-learn skills directs attention especially to the core competencies, or the meta-cognitive abilities. These abilities cannot be achieved through any particular school subject or course as such.

Learning-to-learn skills are important at all levels of the education system. These skills show as an ability to acquire, process and adapt new information. The motivation to study, self-reliance and the self-image of the student as a learner are of great importance. In addition the student needs the capability for independent and self-initiated learning and problem-solving, as well as the ability to evaluate his or her own learning strategies. At all the levels of the education system the self-image of the student, the motivation to study, information processing skills and self-initiative are emphasised. (A Framework for evaluating educational outcomes in Finland, 1999).

Learning-to-learn refers to the adaptation to change and unanticipated tasks in maintaining the cognitive and affective self-regulation in and of learning action as reflecting on the reason and moral capacity and activating the commitment to thinking and the perspective of hope in the life processes (Hautamäki et.al., 2001).

The learning-to-learn assessment is an attempt to respond to the new needs of educational evaluation and to complement the more traditional subject based assessment. The framework needs to analyse the different factors that are a product of or affected by the educational process and can be seen to be imbedded in the daily work at school as common factors crossing and permeating the different school subjects guiding the student's performance in them. These factors, i.e. learning-to-learn competencies, get reflected in the results students reach in different subjects in school. The factors that lie behind the performance of students, comprise of two theoretically independent but functionally closely interacting areas: cognitive competencies and cognitive and affective beliefs.

The learning-to-learn skills and abilities, generally competencies, form a general ability complex, which is formed through the learning and application of specific strategies. One major component is how to describe and analyse the competencies in relation to new situations and tasks. The rationale for the learning-to-learn concept is to assess how new tasks are being solved with the skills, abilities, beliefs and motivations people acquire at school, e.g. what their capacity to transfer skills and abilities to fit the new situation are. School goals are linked to learning tasks given by the teacher and which the student is expected to accept as his or her own. In this process the outer social context is replaced by the inner context of the self. In school students are given tasks that they are invited to accept as their own with all the motivational, goal related, and ability conditions attached to them.

The processes of learning-to-learn are set in motion in this acceptance of the given task. The acceptance of the task activates the processes that either enhance or hinder intellectual work.

Theoretically the link of the concept of learning-to-learn and the will can be built through the construct of the relatively autonomous fields of personal control.

The concept learning orientation is used as a central term for controlling conceptions. The concept of learning function is used to make distinctions between knowledge, skill, hope and exploration. Knowledge refers to the knowing of facts. Skills refer to knowing how. But the knowing of facts or how to proceed does not lead to the undertaking of a problem. What is needed is a willingness to explore, to assess the situation, to set goals and to act. But what is needed in addition to this is the component of hope, i.e. the willingness and readiness to direct oneself towards the task, to form goals, to get motivated, to have the courage to face challenges and possible defeat.

Learning-to-learn consist of learning competencies, self-related beliefs and content related beliefs. The learning competencies are divided into four divisions: learning domain, reasoning domain, management domain and affective self-regulation.

The self-related beliefs include learning motivation, academic selves at school, task acceptance, self-evaluation and future orientation. Context related beliefs deal with the supporting and mediating social contexts, and the perceptions of the dominant values and interpretations for different phenomena.

Methods of implementation of its LLL/L2L aims in Finland

The officially defined aims of lifelong learning can be divided into ten themes groups. The themes are presented below, followed by a brief evaluation of how the aims have been attained.

- Taking into account all age groups

Educational differences between different age groups are relatively high in Finland. The educational level of young people, in particular, is good. About 83% of 30 to 34 year-olds have at least upper secondary education (80% of men and 86% of women), while about 40% of the baby boom generation (50 to 54 year-olds) have no vocational training. Women are more highly educated than men in all age groups. Young people are thus well taken care of, but there is still much work to be done to raise the educational level of older age groups. Older age groups actively participate in adult education schemes, but the problem is that training activity seems to accumulate: the most active adult students are those who already have a good basic education. Those with a less satisfactory basic education are not so keen to take part in adult education. Senior citizens are also at risk of being excluded from lifelong learning, although their activity in the sphere of adult education is clearly growing.

- Formal recognition of skills and knowledge obtained outside educational institutions

In addition to formal adult education, opportunities for the recognition of non-formal learning on the basis of competence-based qualifications have emerged. The non-formal nature of competence-based qualifications is obscured by the fact that the competence-based qualification is only obtained after a formal training period in most cases. Furthermore, skills and knowledge obtained in leisure-time activities or at home are not usually accredited in the sphere of formal education. The vocational education of young people has traditionally been school-based. However, extended on-the-job training periods have brought greater non-formality to vocational education.

- Enlargement of learning environments

Development of opportunities for distance-learning and virtual environments has been emphasised in the Finnish educational system. The main aim has been to improve the learning opportunities of adults and to safeguard regional equality in terms of learning opportunities. Distance-learning has been developed particularly within adult education (distance general upper secondary schools). In vocational education, distance learning is being developed in the form of net pedagogy and virtual schools. Those involved in vocational education can also benefit from courses at distance general upper secondary schools. Generally, the significance of new learning environments has increased and they are an essential part of educational development. However, it is too early to evaluate the importance of the new learning environments in the sphere of education.

- Development of guidance and counselling

According to curricula, pupils and students should be sufficiently guided and counselled in terms of education at all educational levels. According to evaluation reports, this aim has been attained quite well. The problems lie in differences concerning the availability of counselling services at different educational institutions and the lack of time reserved for counselling. Additionally, counsellors working at comprehensive schools and upper secondary schools should be better informed about the opportunities offered by vocational education. In order to facilitate entry into working life and further education, recruitment and career services have been established at educational institutions. Due to insufficient resources, these services have not yet taken off satisfactorily. Guidance and counselling measures are supported by centralised, net-based student selection systems, which facilitate the collection of information on available educational schemes.

- On-the-job learning

On-the-job learning has become an important target for educational development. In the 1990s, the capability of the vocational education system to meet the needs of a changing workplace was brought into question in Finland. Among the problems encountered were the lack of correspondence between qualifications obtained through training and the expectations of the workplace, the lack of cooperation between education and the working life, the poor tradition of entrepreneurship, and the complication of the transition from education to the work. Indeed, in the 1990s, the Finnish educational system enhanced its on-the-job learning strategy, whose core manifestations are the development of a competence-based qualification system, reinforcement of the position of on-the-job learning periods in vocational education and the expansion of apprenticeship training. For example, the number of persons participating in apprenticeships multiplied in Finland during the 1990s, even though the percentage of apprenticeships among all persons participating in a vocational education is still quite low. The problem is also that much of the increase in apprenticeships is due to additional vocational training in the form of apprenticeships, where participants are usually adults, whereas the increase in initial apprenticeship training for young people has not been as strong. Another critical point is the readiness of small and medium-sized enterprises (SMEs) to participate in arranging on-the-job training. In general, Finland is in transition towards a less institute-based instruction. The role of educational institutions will, however, remain important.

- Financing systems were reorganized in order to promote results-oriented education

The Finnish educational system follows the Nordic welfare society model, where education is public and financed with public funds. According to OECD statistics, Finland is among the leading countries in terms of expenditure on education, although cuts in public spending in the 1990s meant that we fell a few positions in the ranking list. Upper secondary level educational institutions, polytechnics and universities compete for clients of further education and supplementary training. The client usually has to pay for further education, whether the client is a company, organisation or individual. There are several private institutions operating in the commercial training market. From an economic point of view, it is problematic that the public financial support allocated (by the State or, to some extent, by the municipalities) to further education and supplementary training on different grounds and in different amounts, distorts competition between education providers. The reform of the funding of further education aims to alleviate this problem. In general, the structural, institutional and financial basis of the Finnish education system and adult education is versatile and strong and provides a good foundation for lifelong learning.

- Improvement of teaching skills

The Opepro project, which charted the qualitative and quantitative needs of teachers in basic and further education, has been important in terms of the development of teachers' professional skills, particularly for teachers in vocational institutions, because they are facing new challenges: teachers are expected to be actively involved in cooperation between education and working life. Companies' attitudes to initiatives and contacts made by school representatives are usually quite positive and companies value these contacts.

Teachers are also expected to contribute to planning on-the-job training periods, the institution's marketing efforts and the assessments of on-the-job training periods. These expectations are justified because, according to several studies, educational institutions and teachers often have inadequate knowledge about working life and businesses operating in the surrounding area (Luukkainen, 2000). The competence level of teachers in comprehensive and upper secondary schools is quite good, although about 1 500 teachers paid by the hour do not have the appropriate degree for their job (Luukkainen, 2000). Although the role of the teacher is increasingly becoming a role as a student counsellor or a planner of educational environments (so-called 'renewal of teaching profession'), there have been no dramatic changes in the role of the teacher so far. The role is changing, but the process takes time and requires support.

- Aiming at high-quality education

High-quality education is being pursued through national and international evaluations/development projects. A fairly comprehensive evaluation system has been developed in Finland.

- Development of learning skills

Learning skills are basic prerequisites for lifelong learning. The development of learning skills is a cornerstone for all curricula. However, according to different evaluations, there are significant regional, gender-related and school-related differences in learning skills.

- Ensuring flexibility and optionality

Flexible studying opportunities, accreditation of previous studies and the opportunity to select subjects according to personal interests increase the motivation for and the commitment to lifelong learning. Flexibility and options are applied at all grades. The size of educational institutions and regional differences set some limits to the variety of options, however.

- Responding to the challenges of the information society

The objective of the Finnish information society is that all citizens should have equal opportunities to obtain the skills they need in the information society. In general, the technical resources (network connections, etc.) are good at workplaces and schools. Lately, however, a fear has been voiced that some parts of the population (particularly those with a low education and from older age groups) will become the 'have-nots' in terms of IT services.

Competence-based learning services as part of Finnish Lifelong Learning

The Finnish system of competence-based examinations was implemented in the 1990s. The reasons behind developing this system included the need to raise the professional skills of the labour force and to bring education and working life closer together by including working life in the assessment of professional skills. The implementation of the system has resulted in vocational institutions changing their curricula to meet better the needs of working life. Today, vocational qualification guidelines are at a satisfactory level, but their complicated wording continues to be a problem. In addition, qualification guidelines do not always correspond to the rapidly changing knowledge and skills required in working life.

The competence-based examination system has proved that there are very few people in Finland able to take examinations without the qualifying training. According to statistics collected in 1999, just 434 of the 12 815 people who took the examination did it with work experience as their only background. On the other hand, information on the share of vocational competence acquired in training versus that acquired earlier in working life is not available for individual examinees. Additionally, institutions mainly concentrate on advertising available training, provision of information about opportunities to take examinations is exceptional, and students have also preferred to concentrate specifically on training. All in all, development of the competence-based examination system requires more responsibility from employers and closer cooperation between working life and institutions.