Finland

August 2001

The report was prepared by	Aulikki Etelälahti & Annika Sahi, National Board of Education in Helsinki, Finland
National CCP coordinator	Ritva Jakku-Sihvonen, Counselor of Education at the National Board of Education in Helsinki, Finland

This report was prepared as part of the Country Contribution Process (CCP) conducted by the DeSeCo Project *(Definition and Selection of Competencies: Theoretical and Conceptual Foundations)*. The CCP was designed to identify and describe national initiatives regarding the measurement and relevance of competencies in different areas of society--among them, policy, business, civil society, and education.

Further information on the CCP can be found on DeSeCo's web page: http://www.deseco.admin.ch

The concept of learning-to-learn

1 Introduction

The changes in the society have given rise to discussions concerning key competencies.

When discussing the key competencies needed in the future, all parts of an individual's life should be taken into consideration. The life of an individual can be divided into four segments. These are:

1. the working life
2. the political life
3. the social life
4. the spare time

The social life can be divided into the social activities at home and the social activities outside the home. The four segments can be called *civil competencies*. It is of great importance that an individual is capable of taking care of himself/herself, has ability to reflect on his/her own actions, and has control over situations and conceptual abilities (Seminar on the 22nd of May 2001).

According to Otala (1996) civil competencies include:

- the ability to read, write, and count
- knowledge of a foreign language
- computer skills
- knowledge of natural sciences and mathematics
- basic knowledge of economical matters
- basic knowledge of environmental issues
- basic knowledge of how the society works
- general education

In this paper the focus is on competencies needed in working life. The aim is to develop the competencies needed in working life primarily through education. The four segments mentioned above are connected, and many abilities and skills needed in working life are needed in other areas of life too. Therefore key competencies are competencies needed in the life of an individual throughout his/her entire life and in every area of life.

This paper begins with a discussion concerning general competencies needed in working life due to the changes in the society. General competencies are discussed and selected. Then the main objectives of the curricula are discussed. The main objective of the curricula is to develop the students abilities and skills to support their lifelong mental growth and enhance the meaningfulness of their lives. The aim is that the students are able to manage in life and in the working life after finishing the compulsory school. In Finland about half of the pupils continue to the upper secondary school after finishing the compulsory school and the other half of the pupils continue their studies in vocational institutions.

In order to evaluate the fulfillment of the curricula, a framework for evaluating educational outcomes has been developed. In this framework learning-to-learn skills, communication competencies, and the motivation needed for lifelong learning are defined as key competencies. These competencies cannot be achieved through any subject alone. In this paper studies concerning these areas are presented. The learning achievements of the students should be considered in a broad perspective, so that, besides subject-specific competencies, key competencies and professional competence would be in focus. Besides these key competencies, many other competencies and test systems for evaluating key competencies are discussed in this paper.

2 Discussion concerning the general competencies needed in working life

2.1 Changes in the society

The changes in the society have given rise to discussions concerning key competencies. These changes are 1) the development towards a learning society, which underlines the importance of networks 2) the growing leisure time 3) the multi-occupational cross line activity and 4) the approach towards learning, which has moved from an individual constructivistic to a social constructivistic approach.

As the amount of information increases rapidly, an educational institution can only convey part of the information needed. A major concern in the development of vocational education is to intensify exchange and co-operation between educational institutes and the labour market. When the requirements for the qualifications arise from working life, it is possible to individualise the education and training leading to them by taking into account the skills and knowledge that adult students have acquired at work (or otherwise outside the formal educational system) (Haltia, 1999). EVA's report on education (2001) underlines the importance of co-operation between schools and companies. In any job the skills needed are largely developed through solving genuine problems in the working environment (Kivinen & Silvennoinen, 2000).

There is a need for multidisciplinary activity. A genuine multidisciplinary orientation requires a common conceptual understanding and a high level of collaborative learning through which a higher level of knowledge can be created. This shared knowledge is built up through negotiations, evaluation and new definitions (Eteläpelto, 2001).

There are different forms of multidisciplinarity. These are:

1. encyclopaedic multidisciplinarity (different branches of knowledge meet without actual integration)
2. contextualising multidisciplinarity (representatives of a branch of knowledge take notice of the views of other of branches of knowledge)
3. composite multidisciplinarity (multidisciplinary knowledge is needed to solve problems and to strive for a common goal)
4. cross-disciplinary speciality (methods and methodology that are applied in different branches of knowledge)

5. transdisciplinarity (crossing the borders of different branches of knowledge and integrating branches of knowledge)

(Eteläpelto, 2001)

In the learning society the task of education is to develop the working life. The focus is moving from qualifications needed in an occupation towards qualifications of experts, i.e. expertise (Eteläpelto, 2001). Tynjälä & Collin (2000) see the development of expertise as a central goal. An essential aspect of the development of expertise is the integration between theoretical, practical, and self-regulative knowledge. Earlier education and employment for an individual comprised a single occupation and a stable position in the service of only a few employers during his or her entire working career. An occupation will no longer be seen as a static role. Rather, it has to be seen as a process (Eteläpelto & Miettinen, 1993). Occupational qualifications become rapidly outdated and the employment of a person is affected by cultural, social and economic threats (Suikkanen & Viinamäki, 1993).

Important things to pay special attention to in the future, will be the individual's motivation to work and develop, and the job satisfaction. A big challenge for the vocational education, according to Kauppi (1992), is to offer the students the abilities needed in the occupational growth process.

Järvinen and Poikela (2000) underline the importance of lifelong learning. This means that the goal is not only to improve the performance of an individual worker or a team, but to develop the whole organisation and also to support the individual and professional growth of all employees and their mastery over their own lives. According to Otala (1996) the only way to succeed in the working life is to be able to learn new things continuously and to adapt to new situations. An individual's occupational skills and growth will be a complex phenomenon in the future. Miettinen (2000) and Tynjälä (1993) stress the importance of a constructivist view of learning.

In the Learning organisation, team work and project competence are needed (Otala, 1996). According to the theory of social learning the individual takes part in different communities and learns to master his/her own life. When considering key competencies, the communities in which the individual takes part should be discussed and in addition to that it is of great importance to decide on the qualifications and competencies needed in different communities. Social skills are essential in the learning society. The importance of "know who" is increasing. "Know who" includes knowledge of social relationships, social interaction skills and communication skills (Eteläpelto, 2001).

Automation, new technology and internationalisation have a strong impact on markets and companies. To be successful firms have to be innovative, flexible and future oriented. Up to the 1960s successful management rested on the mastery of specific tools and techniques. During the 1970s and 80s this began to change. Today more emphasis has been put on interpersonal skills, and management has been divided into the "traditional management" and leadership. Although leadership skills are emphasised, both types of management are essential for a successful manager. Today leadership skills and open-mindedness are needed. In addition to that managers with a vision, self-confidence and skills to manage mental resources are needed (Hämäläinen & Karlberg, 1998; Otala, 1996; Their, 1994).

People form the organisation, and they are the key resource of the firm. If the organisation has skilled employees, it is probably successful. The modern manager will work in an environment of equals. Therefore management increasingly means leading people through shared values and

shared meaning. Leadership consists of communication, interaction, collaboration, motivation, attitudes and values. To cope with change and to manage complexity in general, an open, learning-oriented stance is essential. It is important to create an positive attitude towards change. This means that managers, together with employees, have to be able to learn and change continuously (Their, 1994).

2.2 Selection of general competencies needed in working life

The concept of qualifications is used to define the potential and qualities of the company, the employees and the individuals. The qualifications are classified as follows:

- a productive qualification
- a normative qualification
- an innovative qualification

The productive qualification includes technical and social competencies. The normative qualification consists of sociocultural and motivational qualifications and in addition to that the ability to adjust to new situations. The qualifications connected with the working process, the development of the individual and the ability to solve problems and act in unexpected situations are included in the innovative qualification (Salmi, 2001).

The sociocultural and the innovative qualifications are considered to be the most important qualifications. The ability to express oneself, to come up with new ideas, to be able to co-operate and serve customers and in addition to that the experience of the individual are criteria, which are important when employers select employees. These are more important qualifications than are the general occupational skills (Salmi, 2001).

According to a study in which 709 employers participated, the following qualities were considered the most important issues when recruiting new employees:

The employee should

- take initiative
- possess good professional qualifications
- show an interest in the field
- be honest
- be conscientious
- have good working experience
- have a profession, a degree
- be motivated to serve customers
- have a willingness to be of service
- show enthusiasm
- stay in the job
- be snappy
- act with alacrity

The utilisation of new technologies, the ability to pursue studies independently, initiative, a spirit of trying, sense of responsibility and the ability to co-operate are important means in a world

where the tasks and duties in working life are constantly changing. A person has to be able to handle an enormous amount of information and differentiate between useful and useless information (Hämäläinen & Karlberg, 1998; Salmi, 2001).

The employees need the abilities to read, write and count, basic mathematical and scientific knowledge, technology skills and computer skills. Also they need to know the history and geography of their own country. In addition they need the skills of foreign languages in order to successfully interact in an international context (Leikola, 200; Purhonen, 2001; Salmi 2001; Publication of the Science and Technology Policy Council of Finland, 2000).

In the future the individual should posses the following skills:

The individual should

- have imagination and be creative
- have good communication skills
- be able to handle information
- be able to think systematically
- be able to solve problems
- have the ability to use his/her knowledge in practise
- understand the learning process
- recognise his/her own learning style
- act suitably in group situations

(Otala, 1996)

According to Haltia & Kivinen (1995) employees need social skills, some quite concrete skills such as computer skills, languages etc.; extensive cognitive skills such as learning ability, problem solving skills etc. and normative qualification such as motivation, entrepreneurship etc.

The employers expect their employees to take initiative and to posses social skills and a strong motivation to innovate, evaluate and learn new things. In addition to that, employees need working-, communication- and problem solving skills and an ability to co-operate with others and beyond that they need to be service-minded (Haltia, 2000; Antikainen 1993; Salmi, 2001). According to Otala (1996) operative skills and strategic skills are needed in the working life. The operative skills needed to conduct work assignments and strategic skills are general skills and knowledge, which help the individual to learn skills and abilities needed in the future.

Their (1994) talks about different dimensions of competence acquired. These are:

- cognitive competence (knowledge and skills)
- affective competence (the ability to deal with change and motivation)
- social competence (the ability to co-operate, solve problems and understand others)
- personal based competence
- psycho motoric competence
- creative competence (an innovative approach to things)
- pedagogic and communicative competence (ability to handle information, to inform and learn)
- administrative competence

- strategic competence (to have a future-oriented stance)
- simultaneous capacity (the ability to work many-sided and with many things at the same time)

Skills and abilities develop depending on the situation. Besides specific competence, general competencies are needed in different situations. In order to define the common competencies needed, it should be agreed on relevant contexts and issues of importance. In addition to that there is a need to look into the future in order to be able to take advantage of research results concerning key competencies.

3 The main objectives in the curricula

3.1 The comprehensive school

The comprehensive school in Finland provides general education for a whole age group, and is free of charge for all citizens. It is governed by the comprehensive school act (1999). The comprehensive school is intended for children from 7 to 16 years of age and lasts nine years. It is divided into the lower stage (years 1 to 6) and upper stage (years 7 to 9).

3.1.1 The curriculum for the comprehensive school

The latest guidelines for the curriculum in the comprehensive school were drawn up by the National Board of Education in 1994. The guidelines serve as the basis for the school curricula, which are drawn up by the local education authorities and schools. The guidelines contain the general aims of the comprehensive school, the aims and the central content of the various subjects, and the principles for pupil assessment.

The primary aims in the comprehensive school are to develop the students' learning-to learn skills in a broad sense, their motivation to learn and their communicative skills. The comprehensive school offers the students a great variety of general education in order to cope with changes, solve problems, take note of the consequences of their own actions and of taking responsibility for them. In addition the students develop good manners and become able to look after themselves and their surroundings.

The general aims of the comprehensive school are to develop the students'

- ability to think many-sided
- ability to co-operate
- ability to take responsibility for their own actions
- ability to gather information
- ability to process information
- ability to work independently

(Framework curriculum for the comprehensive school, 1994; The development of education 1994-1996, 1996.)

3.2 The upper secondary school

The upper secondary school provides three years of general education for pupils aged 16 to 19. Upper secondary education is progressing towards a highly decentralised system. The responsibility has been passed to the local level, giving upper secondary schools and vocational institutes the opportunity to co-operate.

The upper secondary school leads to the national matriculation examination. The matriculation examination comprises four compulsory subjects and optional subjects. The compulsory subjects are mother tongue (Finnish, Swedish or Saami), the second official language (Finnish or Swedish), one foreign language and either mathematics or science and humanities. The matriculation examination is set and assessed nationally, at the same time countrywide, by a committee appointed by the Ministry of Education. A certificate is given for passing the examination.

3.2.1 The curriculum for the upper secondary school

The subjects and subject groups in the upper secondary school curriculum are defined in the upper secondary school act and decree. The National Board of Education decides on the guidelines for drawing up the curriculum in individual schools.

The curriculum for the upper secondary school aims to support the growth of the students into critical thinking and self-directed study, and to develop many-sided and efficient study skills and a lifelong willingness to study. The upper secondary school is an educational institution that gives general education and eligibility for continued studies. It supports young peoples personal growth and their maturation towards adulthood.

The active role of the students in the construction of their own knowledge is emphasised. Among the key tasks of the school is to develop abilities that help the students to face changes, solve problems, take initiative, work independently and take responsibility for their own studies. Knowledge, skills, and the ability to use and manage them in a creative and innovative fashion are important. Due to increasing internationalisation, the knowledge of different cultures and many-sided language proficiency gain importance.

The purpose of the upper secondary school is:

- to give the students a broadly-based general education which comprises knowledge, skills and values that support their lifelong mental growth, increase their self-esteem, and enhance the meaningfulness of their lives.
- to give the students the ability to solve problems, cope with change and utilise the possibilities technology offers.
- to develop the students' study skills by emphasising the active role of the students in the selection of information and in the construction of their own knowledge.
- to promote the students' physical, social and mental well-being.
- to enable the students to act as critical, responsible and active members of a democratic society.

(Framework curriculum for the senior secondary school, 1994; The development of education 1994-1996, 1996.)

3.3 Vocational education

Finnish vocational education is given in educational institutions. They are well equipped for both theoretical and practical instruction and have access to up-to-date facilities, including laboratories, tools, machinery and other equipment needed for training. Periods of on-the-job training are also included in all programmes. Vocational training aims to provide a broad-ranging vocational education, which combines good professional skills and general education. Vocational education should promote the skills of the students to increase general vocational learning and civic skills required in all fields, and should enable students to follow changes in society and working life and to function in changing conditions.

The common objectives of vocational education emphasise the close connection between occupational and personal growth. In addition a key objective in the education of young people is the diverse development of their personalities and growth into active and responsible members of the society.

The aim is that students will grow into balanced and harmonious individuals, who understand their responsibilities in interaction between people and nature and understand the importance of promoting the national culture. The key value premises include democracy and equality, appreciation of home and family, responsibility towards fellow human beings, respect for work, tolerance, as well as the national cultural heritage and internationalism.

The clarification of the values guiding the operations of an educational institution and extending them into practical activities is the common task of the school community. In addition to the shared values of education, a central aspect in vocational education also comprises the values of occupational activities in different fields, as well as their contemplation and inclusion in instruction. Shared values and decisions on how to pursue them are part of the institutional curriculum.

The conception of humanity is the foundation for instruction and education. The premise of curricular work is that each human being is valuable and unique. Everyone has the right to life and work worthy of human dignity as well as to equal opportunities to study. This conception of humanity emphasises the role of students as active participants, who are willing to learn and develop. Each student is an individual, but individuality also means acceptance of and respect for difference.

Conceptions of work and vocational skills have changed. At present, vocational skills are understood to include extensive work and operating modules, and the nature of vocational skills is more and more multidisciplinary. In addition to extensive competence, strong specialised competence is required.

Studying in genuine working environments promotes efficient learning. Learning skills requires that students have the opportunity to be engrossed in the content of work and occupational activities so as to be able to internalise the phases of a work process and to learn how to work smoothly.

Good vocational skills and broad general vocational learning mean such capabilities, which enable students to manage varying assignments in their field, to develop their vocational skills and to supplement them on a continuous basis. General vocational learning combines strong vocational competence with general education. It also includes value competence and

internalised occupational ethics, which help to judge the justification for one's actions in the occupation, working life and the society.

Good vocational skills include manual skills and the ability to apply information in practical situations. In addition to the sense of responsibility, reforms to working life also require commitment to work as well as working and functional ability. To an increasing extent, work is teamwork and acting together, which requires social skills.

(Framework curriculum for vocational education, 1999; The development of education 1994–1996, 1996.)

3.3.1 The curriculum for vocational education

The curricula for vocational education are based on the national guidelines and specified separately for each sector. The National Board of Education draws up, approves and maintains the guidelines for the curricula. The guidelines are outlined in co-operation with experts representing the labour market, research and educational institutes.

In the curriculum for vocational education, vocational competence is determined as command of work and functional modules. This requires command of the core skills common to all, understanding of the objectives and significance of work, command of the knowledge that forms the foundation for work, command of working methods, tools and materials, command of work processes as well as ethical command of work.

The factors underlying the reform of the core curricula for the vocational education include conceptions of knowledge and learning. Vocational competence is an integrated whole of vocational theory and practice. Knowledge is manifested in occupational activities on many layers. It includes a theoretical foundation and practical skills built up through practice. It also includes tacit knowledge, emotions, experiences and insights, which enable people to manage different work situations in a flexible manner. Features related to competence include the ability to assess one's own competence, the ability to solve problems independently and the ability to adopt a critical approach to information and to learn new things continuously through experience.

According to the curriculum education should:

- provide students with international skills
- promote sustainable development
- promote the utilisation of technology and information technology
- promote entrepreneurship

It is important to provide students with international skills, so that students are able to manage in a multi-cultural environment, to be able to participate in student exchanges and to find placements in the internationalising labour market. In addition the international skills promote tolerance and enables students to use languages in an international environment.

The objective of the promotion of sustainable development is to teach students the principles of sustainable development. The goal is that the students become motivated to promote these principles. In addition it is important for the students to learn to value the diversity of nature and to understand the economic, social and cultural dimensions of sustainable development.

The objective for developing technology and information technology, is to teach the students the basic skills required in an information society and the capabilities to utilise information and communications technologies as well as other forms of technology in a diverse manner at work and as citizens.

The objective for promoting entrepreneurship, is to teach the students to be proactive, conscientious, self-assured and resourceful workers, i.e. self-employed people or entrepreneurs, who value their work.

The objective for the vocational education is to develop the following abilities:

- learning skills
- problem-solving skills
- interaction and communication skills
- co-operation skills
- ethical and aesthetic skills

Education should provide students with learning skills that enable lifelong learning and a desire for self-development. Students should also obtain skills to assess their own learning and competence and to plan their own studies. Furthermore students should learn to acquire, analyse and assess information and to apply their existing knowledge in changing situations.

In order to develop problem-solving skills, students should learn to function at work and in problematic situations in a flexible, innovative and creative way. In order to get functional interaction and communication skills, the students need to be able to cope in various interactive situations in working life. They have to manage in negotiation situations and to use oral and written communication as well as information technology in various interactive and communication situations.

In order to be able to co-operate, students need skills to function with different people and as team members, as well as to be flexible in human relations. The ethical and aesthetic skills of the students develop when they deal with and resolve ethical problems and become aware of their own values and of the aesthetic values based on culture.

(Framework curriculum for vocational education, 1999.; Utbildning & forskning 2000, 1995; Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö I, 1995; Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö II, 1996; Markkula, & Suurla, 1997.)

3.4 A Apprenticeship contract and the Finnish system of Competence-based Qualifications

3.4.1 An Apprenticeship Contract

The student attending this program works in a company and studies the theory at a school. The learning takes place in a learning network, i.e. the student develops his/her practical skills and his/her theoretical knowledge at the same time. The practical work as a part of the studies supports the student’s personal and social development and the skills needed in working life (Kaisaniemi & Määttä, 1997).

3.4.2 The Finnish system of Competence-Based Qualifications

The system of competence-based qualifications gives a person the possibility to get his/her professional qualifications recognised. This promotes the idea of lifelong learning by motivating the person to develop himself/herself. A new system of competence-based qualifications designed for adults has been developed in Finland in the 1990s. The purpose of the competence-based qualifications is to respond to the needs of working life. In Finland the system of competence-based qualifications offers the opportunity for an employee to have his or her non-formally learned skills accredited. The system is designed to maintain and enhance the professional skills of the employees, to equip students to engage in a profession, to develop working life and to promote employment and support lifelong learning. The qualifications and training leading up to them take in to account the particular needs of working life.

There are three kinds of competence-based qualifications:

1. the vocational qualifications
2. the further vocational qualifications
3. the specialist vocational qualifications

The vocational qualifications demonstrate the knowledge and skills required for achieving professional skills. The further vocational qualifications demonstrate the professional skills required of the professional workers and the specialist vocational qualifications demonstrate a command of the most demanding tasks in a particular field. At the moment there are over 300 competence-based qualification titles.

The system of competence-based qualifications was created by the vocational qualification act (306/1994), which came into force in 1994. The sections of this act are now, with minor changes, included in the new act on vocational adult education (631/1998). By passing the tests the adult students can achieve an officially recognised qualification. The Ministry of Education determines the number and titles of the qualifications.

The national guidelines for the qualifications, which determine the skills that candidates must demonstrate in order to obtain a certificate, are drawn up by expert groups appointed by the National Board of Education. The National Board of Education also appoints the Examination Boards. These boards are responsible for the organisation and supervision of the skill tests. They consist of employers, employees and teachers. In 1998 over 14,000 persons attended the skill tests and of these 57 percent were awarded a qualification.

The institutions organising the tests can either prepare them independently, or they can order ready-made tasks from a project called ALVAR, which specialises in developing tasks for the skill tests and maintains a test bank. The goal of the ALVAR-project is to ensure that the tests are nationally comparable.

The qualification framework requires constant development and updating. The Finnish Committee of Lifelong learning states that a system should be developed whereby citizens have the chance to improve their competence in order to get a certificate of their abilities and skills. According to the committee vocational qualifications based on the performance of tasks offer the beginning of such a system.

(Competence-based Qualifications 1st January 2000. National Board of Education; Competence-based Qualifications for adults, 1999; Haltia, 2000; Haltia, 1999; www.oph.fi/nayttotutkinnot/)

There may be somewhat differing opinions about the skills needed. Generic skills are not considered a prime issue. For instance social skills may be required, but only to the extent that they are really needed in the occupation or branch in question. No one denies the usefulness of generic skills, but their development and assessment is perceived as primarily the task of formal education. (Haltia and Hämäläinen, 1999.) The ”vocationalism” of CBQs are the basis of their value. While no formal education is required in order get the qualification, they can’t function as a screening device the way educational qualifications do; long formal education is often thought of as being in itself, regardless of subjects studied, a signal of personal qualities like learning capability, ambitiousness, reliability, self-discipline and so on.” (Haltia, 2001.)

4 Evaluating key competencies

The educational policy in Finland is founded on the principle *of equal educational opportunities for all*, irrespective of the place of residence, sex or cultural background. The goal is to develop an education system that allows flexibility, continuous and systematic self-enhancement in all age groups and at all stages of life.

Due to the fact that the official policies in Finland are founded on the principles of equal education for all, and that the system of financing education has changed due to changes in the administrative and political culture in Finland, evaluation is of great importance.

Evaluation is a means for the control and steering of the quality of education. The task of the National Board of Education in the area of evaluation is to provide information for the use of decision-makers and the individual schools. The goal of evaluation in Finland is to support the continuous development of education to facilitate improved learning.

The National Board of Education is the main source of national-level evaluation information on education in Finland. The schools and the local administration produce self-evaluation data and the external evaluation on the national-level is conducted by the National Board of Education. The National Board of Education is primarily evaluating the educational outcomes. This involves evaluating the fulfilment of the curriculum. The national evaluation system in Finland is founded on the following cornerstones: *an assessment system for learning achievements, educational indicators and evaluation projects*.

(A Framework for evaluating educational outcomes in Finland, 1999; Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö I, 1995; Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö II, 1996.)

4.1 A framework for evaluating educational outcomes in Finland

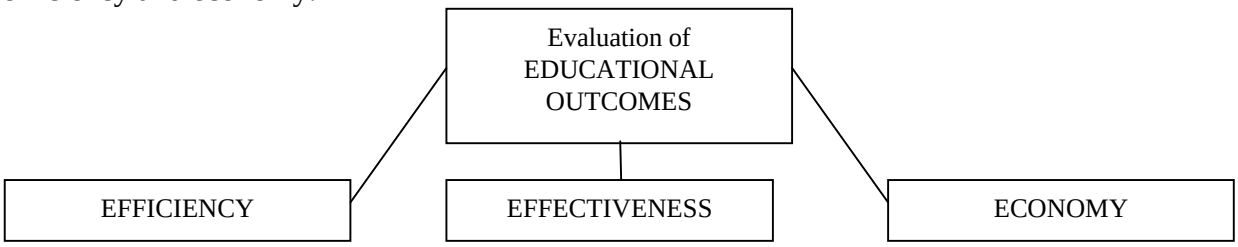
In 1994 a project on the methodological development on evaluation of educational outcomes was conducted at the National Board of Education in Finland. The aims of the project were to define fields for emphasis for education, to determine what kind of information was needed, to draw up indicator descriptions and to design strategies for the evaluation activity.

The purpose of designing the framework was to create a system that produces information concerning educational outcomes for the needs of developers, practitioners and politicians. The

framework primarily guides the evaluations on national level, but it is also suitable for self-evaluation by the schools.

Educational outcomes are evaluated in relation to three dimensions; effectiveness, efficiency and economy (see figure 1 on page 14). Education is *efficient* when the flexibility and the functionality of the educational system, administration and the arrangements are as suitable as possible. Education is *effective* when the skills produced both quantitatively and qualitatively lead to mental growth of the students and the development of the society. Education is *economical* when the resources used are appropriate and put to optimal uses (A Framework for evaluating educational outcomes in Finland, 1999).

Figure 1: Educational outcomes are evaluated in relation to three dimensions: effectiveness, efficiency and economy.



The three dimensions (efficiency, effectiveness and economy) can be outlined so that evaluation objects are defined for each of these dimensions. See figure 2 below.

Figure 2: There are particular *objects* attributable to the evaluation *dimensions*. Quantitative information can be obtained through *indicators*, which are based on follow-up information. A *criterion* provides the basis on which conclusions concerning education are drawn. See figure 3 below.

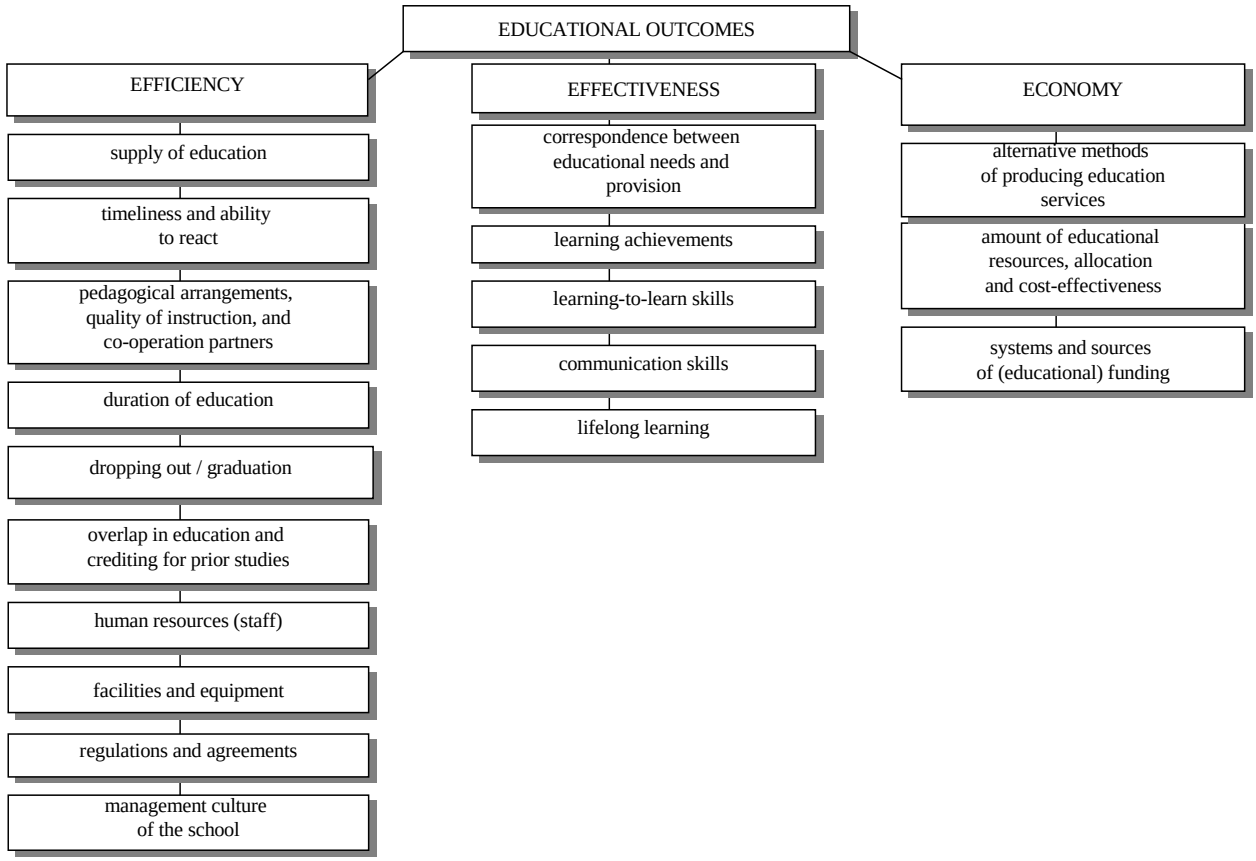


Figure 3:

EVALUATION OF EDUCATIONAL OUTCOMES			
DIMENSIONS	**EFFICIENCY**	**EFFECTIVENESS**	**ECONOMY**
	for example	for example	for example
OBJECTS	Length of education	Learning-to-learn skills	Input/output ratio
INDICATORS	Duration of education (days or years)	Self-image as a learner	Cost per credit (currency units)
CRITERIA	Reasonable length, an individual study programme	Positive image about oneself as a learner	Previous year/ 10 % off the cost

4.1.1 Conclusion about outcomes

(A Framework for evaluating educational outcomes in Finland, 1999)

The national evaluation system has been outlined so that educational outcomes are evaluated in relation to three dimensions: efficiency, effectiveness and economy. Evaluation of effectiveness focuses on skills required in working life, i.e. skills needed in facing and solving problems, skills for co-operation and social interaction, as well as self-awareness and self-respect. The effectiveness of education has been defined as the correspondence between educational needs and provision, learning achievements, learning-to-learn skills, communication skills and lifelong learning.

Learning-to-learn skills, communication skills and the skills needed for lifelong learning can be defined as key competencies. These are competencies that cannot be achieved through any particular school subject alone.

(A framework for Evaluating educational outcomes in Finland, 1999)

4.2 Learning-to-learn

4.2.1 The definition of 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 cognative 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.

(Hautamäki et. al., 2001)

4.2.2 The empirical findings

In Finland a research project in co-operation between the University of Helsinki and the National Board of Education was set up in 1996. The goal was to investigate the possibility of developing a new type of national assessment. The focus was on the performances activated in learning situations and the measurement of the guiding systems attached to them. The large scale of studies in the sixth grade in the comprehensive school (Hautamäki, Airinen, Bergholm, Hautamäki, Kupiainen, Juusela, Lehto, Niemivirta, Scheinin, 1999) and the studies in the ninth grade and in the upper secondary school as well as in vocational education (Hautamäki, Airinen, Hautamäki, Ikonen-Varila, Kupiainen, Lindholm, Niemivirta, Rantanen, Ruuth, Scheinin, 2000) show that focusing on the students' believes and attitudes yields valuable information about the role the affective and emotional factors play in the learning situation.

The national study of the sixth graders (N=2891) was conducted in fall 1996. The results from this study have since acted as a national norm against which later testing results from individual schools and school districts have been measured and related. The report of this study was published in 1999.

The national study of the ninth graders (N=2826) was executed in 1997. The study was published in 2000. In fall 2000 the testing was extended to both upper secondary schools and to the vocational education (N=3000). The report was published in fall 2001.

The concept of learning-to-learn has been defined by the research group lead by Jarkko Hautamäki at the University of Helsinki (see attachment 1).

(Hautamäki et.al., 2001)

Jorma Kuusela studied the development of thinking towards a scientific paradigm in the comprehensive school. It was a comparative study of two intervention programmes for sixth grade students. The size of the intervention groups were 19–25 students. The group of students, all together 271 children, were randomised so that children from the same class were assigned to either the intervention group or the comparison group.

A pre test was conducted to evaluate the results. Science reasoning task-series were used as a main criteria variable. The results were evaluated in a post test in 1998 as well as in a delayed post test after one year. In the end of the sixth grade the students were on the national level of ninth grade students and at the end of the seventh grade significantly above it.

(Kuusela, 2000)

4.3 Communication competencies

This chapter includes the definition of the concept "communication competencies" and studies concerning the evaluation of communication skills at different school levels.

4.3.1 The definition of communication competencies

Communication skills are a very important part of modern education at all school levels. The development of these skills can be monitored in all school subjects. Communication skills comprise visual, oral and written aspects and interaction. These skills also include negotiation, co-operation skills, social skills and the ability to use new technology. Communication skills are an important aspect of mastery of mother tongue and foreign languages.

When evaluating communication skills, the point of interest is how instruction improves the students' ability to respond critically to information conveyed by different media and how to influence through different forms of communication and how to utilise different models of communication in learning, working, and social life.

According to Valkonen (2001) the student's communication competence refers to the his/her communicative skills, i.e. both verbal and non verbal expression and perception and the interaction skills of the student. The competence to communicate comprises three parts, which overlap each other: communication knowledge and meta cognitive communication skills, efficient and appropriate communicative behaviour as well as communicative motivation and positive attitudes towards communication. Media literacy, which presumes that the student gives meaning, assesses and appraises the signal of words, pictures and sounds, is a vital part of communication competence as well. Media literacy consists of visual, traditional graphic and net literacy.

4.3.2 The empirical findings

Despite a long tradition of developing students' competence in giving speeches, relatively few attempts have been made to study the speech communication instruction or how well the students achieve educational goals.

Below the empirical findings of Finnish studies on evaluation of communication skills nationally and internationally in the comprehensive school, the upper secondary school, and the vocational education are discussed.

4.3.2.1 The national evaluation on the students' communication skills in the upper secondary school (Valkonen, 2001)

The National Board of Education conducted an evaluation on the communication skills of upper secondary school students in autumn 2000. The purpose of the project was to produce information on students' attitudes towards communication and their meta cognitive and interactive skills needed when acting in groups. The objects of the evaluation were to find out how the students acquire information and how they reflect on their own behaviour. The evaluation was sample-based. More than 3108 second grade students completed the questionnaire, which measured attitudes toward communication. About 1000 second grade students participated in two different kinds of communication tests as well.

The evaluation seeks to answer the following questions:

What kind of attitudes towards communication do the students have?

- Do the students have courage and motivation to communicate?

- Do the students feel that the school has supported them in developing functional communication skills?
- How do the students feel about working in groups?

How do the students manage the meta cognitive skills of communication?

- Are the students able to assess their own communicative behaviour?
- Are the students able to evaluate the efficiency (outcomes) and the appropriateness (atmosphere) of the interaction in a group?
- Are the students able to perceive, analyse and interpret the components of interaction in a group?

What kind of interaction skills do students have?

- How do the students manage task-oriented interactive skills?
- How do the students mange relationship-oriented interactive skills?

What kind of skills do students have in acquiring information?

- What kind of attitudes towards utilising networks do the students have?
- What kind of strategies for acquiring information do the students have?
- What kind of skills for acquiring and assessing the information offered on the net do students have?

4.3.2.2 The learning performance in mother tongue at the end of the comprehensive school (Lappalainen, 2000)

In March 1999, the National Board of Education evaluated the learning achievements of students in mother tongue (Finnish) at the end of their comprehensive education. The data was collected using stratified sampling at 125 comprehensive schools. 5,050 students participated in the test.

The students' achievements were evaluated using a three-part achievement test which incorporated a variety of individual tests in reading skills, language competence and writing, as well as a verbal communication test carried out by a smaller sample. Teaching arrangements and resources were analysed in school-specific surveys.

When evaluating the goal-directed behaviour of the students the following aspects were taken into account:

- Did the student reach the goal in his/her statements?
- Did the student analyse the content of the discussion?
- Did the student make questions, draw conclusions and offer solutions?
- Did the student have the courage to express his/ her opinions even if the others did not agree?

When evaluating the content of the statements the following aspects were taken into account:

- Was the message understandable?
- Were the statements presented sufficiently and credibly?
- Did the speaker bring central views into the discussion?

When evaluating the interactive skills the following aspects were paid attention to:

- Was the speech and the expression clear?

- Were the statements directed to the other person?
- Were the statements measured and timed appropriately?
- Did the speaker encourage the others to participate in the conversation?

The teacher and the students themselves assessed the communication skills in groups. The students' goal-orientation, the content of the statements and the interaction were regarded as good or satisfactory. The results of the communication test were similar in different part of the country.

The girls performed better than the boys. The students' assessments did not differ from those of the teachers. The technical standard of the tapes as well as the students' unfamiliarity with public presentation, recording and the use of microphone, indicate that there should be more opportunities for the students to practise their communication skills in the school.

4.3.2.3 The learning achievements in mother tongue in vocational education (Väyrynen, 2000)

In April 1999 a national evaluation of the students' learning achievements in mother tongue (Finnish or Swedish) was implemented for students in vocational education. The purpose of the evaluation were the writing and oral skills of the students. 2,931 Finnish-speaking and 215 Swedish-speaking students participated in the test.

The evaluation was based on the national core curriculum, from which the key areas were selected. The test was divided into a written and an oral part. For each area, evaluation criteria for levels 1 to 5 were set up.

The students got 51 per cent of the maximum score (female students 61% and 49% male students). Converted into grades the distribution of the results was as follows: 8% excellent, 54% good, 29% satisfactory and 9% failed.

The results of the female students were statistically significantly better than those of the male students. 13 percent of the male students failed the oral test. In addition the oral skills of the upper secondary school graduates were determined to be statistically very significantly better (71%) than those of the students with only a comprehensive school education.

4.3.2.4 The Second International Adult Literacy Survey (SIALS) in Finland (Linnakylä, Malin, Blomqvist & Sulkunen, 2000)

Finland took part in the Second International Adult Literacy Survey (SIALS), which was implemented during 1997–2000. The Finnish data for the survey was collected in the spring of 1998. The results are based on a representative sample of the Finnish adult population ranging in age from 16 to 65. According to the survey, literacy is an adult skill of "using printed and written information to function in society, to achieve goals, and to develop knowledge and potential".

To construct a more detailed literacy profile, the respondents' reading performances were rated on a scale with five performance levels, reflecting the cognitive requirements of the reading tasks and defined in terms of the demands of the knowledge society. Adults whose performances were at the lowest level (level 1) have difficulties in coping with the reading tasks of the knowledge society. Their skills are sufficient only for identifying pieces of information in the text as well as for a literal understanding of easy texts and for dealing with simple arithmetic operations. The highest levels (levels 4 and 5) are reached by readers who can interpret, select and critically

evaluate different types of textual information as well as perform arithmetic operations to solve various problems.

The distributions of literacy skills show that there are great variations among adults. There are very good readers, as well as those whose literacy level is inadequate for the purposes of lifelong learning. The majority of the Finnish adult populations, about two thirds, are proficient readers across the different domains, meeting the literacy requirements of the knowledge society. However, a third of the adults belong to the group who are literate in the traditional sense but whose performance level remains rather low, failing to meet the requirements of the knowledge society.

Two thirds of adults meet the literacy requirements of the knowledge society for work and learning. One third of the adults, however, would need better literacy skills for the purposes of lifelong learning, especially for self-regulated studies. Furthermore, about 15 percent of the adult population, about half a million people, have severely limited literacy skills in one domain at least. The results also indicated that poor readers face a higher risk of unemployment than do other adults.
Among the various background factors, the extent of initial formal education proved to be the most important predictor of the level of adults' literacy skills. Besides educational background, the respondents' age explained much of the variation in performance levels. Gender-based differences in literacy levels proved fairly small.

4.3.2.5 The information technology in school – The result of the international evaluation (Kankaanranta, Puhakka, & Linnakylä, 2000)

The purpose of the study was to evaluate the utilisation of information technology in schools. The research was implemented in the comprehensive schools (185 lower stage + 197 upper stage schools) in 1998–1999. The interest of the study was directed to

- the opportunities of using information technology
- the amount of computers
- Internet connections
- software
- supplementary instruments
- utilising computers and the Internet in the instruction
- teacher training in technology
- the experienced importance of using technology in teaching

In Finland over 95% of the comprehensive schools used the Internet and in over 80% of the schools half of the pupils used e-mail in 1998–1999.

4.3.2.6 Assessing Presentation and Small Group Communication Skills among Finnish Upper Secondary School Students (Valkonen, 1998)

This evaluation describes the self-assessment of the students and the assessment of the teachers concerning the students' presentation and small group communication skills in Finnish upper secondary schools. 188 students (ages ranging from 16 to 20 years) participated in the test.

The purpose of the study was to discover the level of the students' presentation and group communication skills and to determine how students and teachers assess these skills. Analytic-criterion-based scales were developed to assess presentation and group communication skills.

The data was collected in the form of direct, performance-based tests. Both presentation and small group communication skills were assessed immediately after the students' performances separately by the students themselves and by a teacher. The presentation-skill scale and the group communication-skill scale consisted of four items, which formed the basis for a grade in presentation and group communication skills.

The following skills were included in the presentation-skills scale: creating and maintaining contact with the audience, arranging and outlining the speech, content and delivery, and visualising the content verbally and non verbally. The group communication-skills scale consisted of task- and group-related skills: goal-orientation, functions of participation, content and delivery, and listening and responding.

Students and teachers were asked to write comments on the assessments. These written comments and explanations were analysed qualitatively in order to determine the type of verbal and non-verbal behaviour, which may create impressions of competent communication.

The results of the first pilot test indicated that both teachers and students rated the students' performance, especially in small groups, as very high. However, qualitative analysis of the students' written comments revealed students' uncertainty about their competence and dissatisfaction with their communicative behaviour. The result supports earlier findings that self-assessment tends to reveal situation-specific affective reactions (for example apprehension or anxiety) or self-efficacy. Both students and their teachers assessed their average level of group communication skills as better than their presentation skills. The students tended to underrate their presentation skills.

The fact that the students rated their arranging and outlining skills lowest, are consistent with the previously reported communicative characteristics of Finnish speech culture. The presentation test itself might have been a demanding, even frightening, situation for the students. As noted in earlier studies, public speaking is generally considered as a highly esteemed and formal situation in Finland. The outcome expectations are high and therefore the speakers tend to be specifically concerned about their oral performance. On the other hand, small group communication encounters are not seen as particularly demanding. For example physiological arousal has been found to be relatively higher in public speaking situations than in group situations.

The students self-assessed their group communication skills at a surprisingly high level: more than two thirds rated their group communication skills as good or excellent. The results suggest that the students' analytic, skill-oriented self-assessments of their group communication skills were probably not accurate. In particular, the assessment of listening and responding seems to have been unsuccessful.

It may even be more difficult to assess group communication skills than presentation or public speaking skills, because of the difficulty of isolating an individual performance as a part of a group performance. Although the co-operative nature of group communication is taken better into account, each of the students also need information about how well they, as a member of the group, mastered effective and appropriate group communication behaviour.

4.3.2.7 Swedish Oral Proficiency of Finnish-speaking Students at the end of the Upper Secondary School (Hildén, 2000)

The purpose of the study was to investigate the construct validity of an oral proficiency interview in Swedish, and to evaluate the outcomes of the curriculum in the Finnish upper secondary school. The research question dealt with 1) how the traits mentioned in the assessment criteria manifested themselves in the actual speech performance at different grade levels, 2) the consistency of the initial test score and the results of the analysis of language performance based on videotapes, and finally 3) the construct validity oral proficiency and practicality of the specific tests used.

Theoretically, oral proficiency was seen as strategic use of the students' competencies in communicative oral language activities. The data consisted of 29 videotaped test sessions conducted in 1994–1996. The most frequently mentioned assessment criteria were interaction, intelligibility, fluency, range of language and correctness. Extroverted and lively students scored better than shy and silent persons, and initiating speakers scored higher than passive speakers. The test task performance was a combination of Swedish language specific competencies, proficiency in the other foreign languages and general competencies, especially existential competence and declarative knowledge.

4.3.2.8 Testing Oral Proficiency in a Language Laboratory (Saleva, 1997)

In order to develop a valid test the nature of oral proficiency was analysed. As the criteria of proficiency the following features were used: pronunciation, fluency, coherence, amount of information provided and appropriateness of the language. The test has a contextual communicative frame and consists of six part: warming up, reading a letter aloud, interpreting a Finnish part of
a dialogue into English, conveying a Finnish newspaper story in English, reporting on the Finnish school system, and coping with everyday situations and expressing opinions. In addition the students' attitudes towards speaking and testing English were investigated, as well as the effect of spending time abroad on oral proficiency. 60 students from two school were tested. The students' attitude towards speaking and testing the foreign language were positive. Spending time abroad had not had significant influence on the students' oral proficiency.

4.3.3 The Finnish test systems for evaluating key competencies

4.3.3.1 The National Certificate of Language Proficiency

The National Certificate of Language Proficiency is a test system planned for adults. The tasks measure language skills in practical situations, where an adult could be required to speak, listen to, write or read a foreign language at home or abroad. The test can be taken in English, Swedish, Finnish, German, French, Russian, Saami, Spanish and Italian.

The National Certificate of Language Proficiency is a joint project between the National Board of Education and the University of Jyväskylä. The project started in 1992. Language proficiency is assessed on a nine-level scale in line with European models. Language proficiency is divided into nine skill levels, from elementary stages to complete mastery. The test system became operational in November 1994.

The language proficiency test consists of five parts. These are:

1. reading comprehension
2. writing
3. structures and vocabulary
4. listening comprehension
5. speaking

The test has three levels:

1) the basic level
2) the intermediate level
3) the advanced level

The basic level test is aimed at skill levels 1–3, the intermediate level test is suited for skill levels 3–5, and the advanced level test is aimed at skill levels 5–9. The test at the basic level is suited for beginners, the test at the intermediate level is best suited for persons who have completed the language curriculum at an upper secondary school, and the advanced level test is for persons who are able to use the language in various and demanding situations. For the skill level descriptions see the figure on page 33.

The tests are arranged twice a year in test centres all around Finland. Language teachers have been trained to assess the test performances. The prices of the National Certificate of language proficiency are 300, 400, and 700 Fmk, depending on the level of the language test. Additional information on these tests is given by the Centre of Applied Language Studies at the University of Jyväskylä or by the National Board of Education in Helsinki, Finland.

THE NATIONAL CERTIFICATE OF LANGUAGE PROFICIENCY: The skill level descriptions
Level 1 Knowledge of the language is sufficient for coping with the simplest oral and written tasks and situations. Can understand the topic in newspaper articles and conversations that deal with familiar subjects. Knows some of the basic structures of the language
Level 2 Manages to communicate in simple and routine tasks and situations. With the help of a dictionary can understand simple written messages and without one can get the gist. Limited language proficiency causes frequent breakdowns and misunderstandings in non-routine situations.
Level 3 Manages to communicate in most familiar oral and written tasks and situations but new situations cause communication problems. Understands slow and careful speech and can normally understand the gist of an easy text, such as a short newspaper article.
Level 4 Manages familiar oral and written tasks and situations related to work and free time adequately. Interference from other languages can be intrusive. Vocabulary, grammar and fluency generally adequate but variable. A dictionary may sometimes be needed for understanding main points of ordinary text, for instance, a newspaper article.
Level 5 Manages familiar oral and written tasks and situations related to work and free time rather well. Knows the basic structures and vocabulary and only occasionally needs to resort to requesting repetition or using a dictionary. Inaccuracies or interference from other languages only occasionally hinder communication.
Level 6 Communicates appropriately in familiar oral and written tasks and situations and manages adequately even in socially and lexically demanding situations. Occasional inaccuracies and inadequacies, which nevertheless seldom lead to misunderstandings. On demanding subjects may occasionally need repetition or consulting a dictionary.
Level 7 Communicates rather effectively and appropriately even in many demanding oral and written tasks and situations. Usage is quite versatile and fluent. Slight inaccuracies and influence from other languages are not intrusive. Understands with ease both writing and speech even on demanding subjects.
Level 8 Communicates naturally, effectively and appropriately even in demanding oral and written tasks and situations. Fluent and in many ways native-like. Occasional problems with stylistic distinctions and idioms.
Level 9 Has a full command of language: communication is fluent, appropriate and well organised. An exceptional level of language proficiency, which normally attained by well-educated language professionals in situations specific to their profession.

(www. oph.fi/kielitutkinnot/)

4.3.3.2 DIALANG – a diagnostic language test

DIALANG is a European project for the development of diagnostic language tests in 14 European languages. The test is available on the Internet free of charge. The project is financially supported by the European Commission. The test is a coherent multilingual system: the tests for each language are anchored in the same scales of proficiency levels and test specifications. The levels are based on the Council of Europe's scales, which are part of the Council's Common European Framework of reference. An interim system officially launched at the beginning of 2001. The fully operational system, featuring all 14 languages, will be up and running by the end of 2001.

DIALANG covers all levels from beginner to advanced and it is useful for all European citizens who want to obtain reliable information about their proficiency in any of the 14 languages. It is particularly useful for people who have learnt language outside formal education. The self-assessment includes as a major element in the system: it gives users feedback on their performance and tell them how they can improve their proficiency. It is the first testing system that diagnoses rather than merely certifies users' language ability. DIALANG plays also a major role in language teaching institutions – as an instrument for placement purposes and for diagnosis of learning needs. It is particularly relevant to institutions running independent language learning schemes.

(www.dialang.org.)

4.3.3.3 The Certificate of Computer Skills

The certificate is an Finnish innovation. It is a proof of a person's computer skills. There are three different examinations:

1) The citizen card examination
2) The A-card examination
3) The AB-card examination

A new certificate, the wireless communication card, is being developed at the moment. The examinations can be completed in Finnish, Swedish and English (www.tieke.fi/ajokortti).

4.4 Motivation for lifelong learning

The significance of *lifelong learning* has grown in the recent decades. The aim is to make lifelong learning a reality and to ensure that individuals have the knowledge, skills and competencies to participate in a knowledge-based society (Lifelong learning for all, 2001).

The ethic of *lifelong learning* is one of the cornerstones of Finnish education policy. The strategy for lifelong learning should be based on the perspectives of learning rather than teaching. Continuous learning should form an integral part of the way of life, the education of young people should prepare them for studies later in life and new technology should be utilised to organise education.

At all levels of the Finnish education system the goal is to found teaching on a concept of learning involving lifelong learning. This means that education strives to help students acquire

skills that enable lifelong learning and above all to acquire the attitudes that activate them to develop themselves.

The current conception of learning emphasises the active role of students in analysing their own skills and knowledge, as well as in the acquisition, processing and assessment of new information. Learning means reorganising and supplementing previous thought and operating models. Students will have to be able to combine new information with their own previous knowledge.

From the viewpoint of culture, educational outcomes of great importance are the development of creativity, and intrinsic values, as well as attitudes towards internationalisation. The motivation to learn includes the desire for continuous personal development and a desire for further studies. In a changing world the students, encouraged by education, need to develop positive attitudes towards learning and its significance. In working life this shows as a willingness towards continuing education an in-service training. (Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö I, 1995.; Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö II, 1996.)

On the initiative of the Finnish Government, the Ministry of Education has introduced a national strategy for lifelong learning ("The Joy of Learning", 1997). This strategy of lifelong learning covers not only the individual but also the communities where he/she lives and works as well as the underlying societal parameters that determine his/her operational environment. This kind of approach is necessary in order to facilitate a broadly based and continuous process of learning.

The rapid development of the information society requires and facilitates an increase in the knowledge level of the nation as a whole. Because of the rapid development, lifelong learning is an essential element of the new strategy. The development of ICTs is rapidly changing occupational structures and job descriptions. At the same time, previously separate learning environments, the home, the school, and the workplace, are merging into lifelong learning that covers the entire life-span of an individual and various fields of life. Media literacy, information and communications technology skills and the utilisation of opportunities will be included in the lifelong learning programmes. (Nyyssölä & Hämäläinen, 2000)

Desire and motivation for personal development is a central object when evaluating the effectiveness of education. Motivation to learn is governed by various needs and social norms, and by the necessities of life: what do I need and want; how do people generally go about in the world; and how do they succeed in life? Motivation to learn reflects the student's personal aspirations, which direct his/her thinking and behaviour. (A Framework for evaluating educational outcomes in Finland, 1999.)

It is important to develop skills that enable lifelong learning. In the future students have to

- be able to form an overall view of things
- be able to take responsibility for their own actions and to solve problems
- be able to think creatively and be flexible
- be future-oriented
- have good social skills
- to be an expert in a particular field

(Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö I, 1995.; Elinikäinen oppiminen tietoyhteiskunnassa, osamietintö II, 1996.)

In a Memorandum for Lifelong Learning (working paper) the concept of lifelong learning is defined as all purposeful learning activity, undertaken on an ongoing basis with the aim of improving knowledge, skills, and competence. (Comission of the European Communities 30.10.2000, SEC(2000)1832).

Lifelong learning means that a person is able to learn during his/her whole lifetime. Learning is understood to be a life-wide process, meaning that one can learn in different circumstances in different ways and for different purposes.

Learning can be formal, non-formal and informal. *Formal learning* means a goal oriented process conducted within the formal education system. *Non-formal* education means education conducted outside the education system such as private in-service-training for a special job or voluntary training for hobbies. *Informal* education means education that takes place out in everyday life without a special intention of learning for instance via certain experiences or by using Internet.

(Ritva Jakku-Sihvonen NBE 11.4. 2001)

4.4.1 Reaching the aims of lifelong learning

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

1) Taking all age groups into account. Educational differences between different age groups are relatively high in Finland. Young people are well taken care of, but there is still much work to be done to raise the educational level of older age groups.

2) 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.

3) Enlargement of learning environments. Development of opportunities for distance-learning and virtual environments has been emphasised in the Finnish educational system. Distance learning is being developed in the form of net pedagogy and virtual schools.

4) 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.

5) Financing systems are being reorganised in order to promote result-oriented education.

6) Improvement of teaching skills. It is important to develop the professional skills of the teachers, particularly for teachers in vocational institutions. Teachers are expected to contribute to planning on-the-job training periods, the marketing efforts of the institution and the assessments of on-the-job training periods.

7) Aiming at high-quality education. High-quality education is being pursued through national and international evaluations and development projects.

8) Development of learning skills. Learning skills are the basis for lifelong learning. The development of learning skills is a cornerstone for all curricula.

9) 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.

10) 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.

(Nyyssölä & Hämäläinen, 2000)

4.4.2 The evaluation objects of motivation for lifelong learning

The evaluation of the students' motivation to learn includes, apart from the students' ability to adapt themselves to changes, the desire for continuous personal development. This set of evaluation objects consist of various orientation patterns representing both the motivational aspects and the aspects related to learning styles and habits. In addition, motivation to learn is indicated by the desire for further studies even after graduation. (A Framework for evaluating educational outcomes in Finland, 1999.)

Motivation for lifelong learning is an important goal already in the preschool. In the curriculum of a preschool Kuperkeikka-Esikoulut Oy the following is emphasised:

- the ability to take responsibility for one's own actions
- the ability to make decisions
- the ability to work independently
- the ability to interact and communicate with others

In addition to these goals, the aim is to develop the self-confidence of the children, to promote learning-to- learn skills, acceptance of differences, and respect for others.

The following aspects are important, when the students' motivation to learn is evaluated:

- How does the student experience learning and education?
- Does the student get interested in new things?
- Does student get interested in learning tasks?
- Does the student behave objective-oriented?
- How does the student experience requirements and expectations of learning?
- Does the student take responsibility for his/her learning?

(Jakku-Sihvonen & Etelälahti, 1997)

5 References

A Framework for evaluating educational outcomes in Finland. 1999. National Board of Education.

Antikainen, A. 1993. Kasvatus, koulutus ja yhteiskunta. WSOY, Porvoo.

Competence-based Qualifications 1st January 2000. National Board of Education.

Competence-based Qualifications for adults, 1999. National Board of Education.

Elinikäinen oppiminen tietoyhteiskunnassa, I osamietintö, 1995. Opetusministeriö.

Elinikäinen oppiminen tietoyhteiskunnassa, II osamietintö, 1996. Opetusministeriö.

Elämä on yrittämistä-esimerkki esikoulu opetuksen opetussuunnitelmasta. Kuperkeikka-Esikoulut Oy, Porvoo.

Evaluating Education in Finland. 1995. Edited by Yrjö Yrjönsuuri. National Board of Education.

Framework curriculum for the comprehensive school 1994. 1994. National Board of Education.

Framework curriculum for the secondary school 1994. 1994. National Board of Education.

Framework curriculum for vocational education 1999. 1999. National Board of Education.

Haltia, P. & Kivinen, K. 1995. Ammattien tutkiminen ja ammattitutkinnot. Helsinki. Opetushallitus.

Haltia, P. & Hämäläinen, V. 1999. Näyttötutkinnoissa vaadittava pätevyys. Helsinki: Opetushallitus.

Haltia, P. 1999. Certifying competencies. In: Kivinen, O., Silvennoinen, H. & Puustelli, P. (eds.) Work based-learning. Ministry of Education.

Haltia, P. 2000. The Finnish Competence-Based Qualifications. Organization, assessment and legitimacy. In publication of Agora V-seminar (Thessaloniki 15-16.3.1999). Thessaloniki. CEDEFOP. Unpublished.

Hautamäki, J., Arinen, P., Eronen, S., Hautamäki, A., Kupiainen, S., Lindholm, B., Niemivirta, M., Pakaslahti, L., Rantanen, P., Scheinin, P. 2001. Measuring Learning-to Learn: Competencies and Beliefs- a Framework for Educational Assessments. Helsinki University, Centre for Educational Assessment.

Hildén, R. 2000. Att tala bra, bättre och bäst. Swedish Oral Proficiency of Finnish-speaking Students at the end of the Upper Secondary School in the Light of Test Performance. Department of Teacher Education. Research Report 217. University of Helsinki.

Hämäläinen, K. & Jakku-Sihvonen, R. 2000. More quality to the quality policy education. National Board of Education, Publication 12/2000.

Hämäläinen, M. & Karlberg, A. 1998. Development and challenges of small and medium-sized enterprises. Edited by Martinsuo, M & Järvenpää, E. Helsinki University of Technology. Department of Industrial Management, Otaniemi.

Jakku-Sihvonen, R. 2001. National Board of Education. 11.4. 2001.

Jakku-Sihvonen, R. & Etelälahti, A. 1997. Miten arvioida oppimismotivaatiota. In: Jakku-Sihvonen, R. Onnistuuko oppiminen - oppimistuloksien ja opetuksen laadun arviointiperusteita peruskoulussa ja lukiossa. Arviointi 3 / 1997. Helsinki: Opetushallitus.

Kaila-Sayeed, M. 2001. Premises for Elaboration of the Core Curriculum for Initial Vocational Education. Common emphases and core competence common to all fields. Unpublished.

Kaisaniemi, A. & Määttä, V. 1997. Opas oppisopimuskoulutukseen. Opetushallitus.

Kankaanranta, M., Puhakka, E. & Linnakylä, P. 2000. Tietotekniikka koulussa. Kansainvälisen arvioinnin tuloksia. IEA / The Second Information Technology in Education Study. Koulutuksen tutkimuslaitos. Jyväskylän yliopisto.

Kauppi, A. 1992. Aikuiskoulutuksen suunnittelun kehityslinjoja. Valtiohallinnon kehittämiskeskus, Helsinki.

Kuusela, J. 2000. Tieteelisen paradigman mukaisen ajattelun kehittyminen peruskoulussa (The development of thinking towards a scientific paradigm in the comprehensive school). Helsingin yliopisto (The University of Helsinki).

Leikola, A. 2001. Opetushallituksen juhlaseminaari 26.4.2001.

Lifelong Learning Committee (1997). The Joy of Learning: a national strategy for lifelong learning. Ministry of Education. Lifelong learning for all: taking stock. (2001). OECD 2001.

Lappalainen, H.-P. 2000. Peruskoulun äidinkielen oppimistulosten kansallinen arviointi 9. vuosiluokalla 1999. Oppimistulosten arviointi 1/2000. Opetushallitus.

Linnakylä, P. 1995. Lukutaidolla maailmankartalle. Kansainvälinen lukutaitotutkimus Suomessa.

(The IEA Study of reading literacy in Finland.) Kasvatustieteiden tutkimuslaitoksen julkaisuja. Jyväskylän yliopisto.

Linnakylä, P., Malin, A., Blomqvist, I. & Sulkunen, S. 2000. Literacy in Work and Everyday Life. The Second International Adult Literacy Survey (SIALS) in Finland. Lukutaito työssä ja arjessa. Aikuisten kansainvälinen lukutaitotutkimus Suomessa. Koulutuksen tutkimuslaitos, Tilastokeskus, Opetusministeriö ja Opetushallitus.

Markkula, M.& Suurla, R. (1997). Elinikäisen oppimisen hyvät käytännöt (Good practises of lifelong learning). Cosmoprint Oy, Helsinki.

Nurmela, J. & al. 2000. Matkapuhelin ja tietokone suomalaisessa arjessa. Tilastokeskuksen katsauksia 2000/2.

Nyfors, R. 1995. Puheviestintää ja ilmaisutaitoa kehittämään! Opas äidinkielen suullisen ilmaisun testin ja arvioinnin järjestämiseen peruskoulun päättöluokilla. Studia Paedagogica 6. Helsingin yliopisto.

Nyyssölä, K. & Hämäläinen, K. 2001. The Extent to which Vocational Education and Training (VET) Policies and Actions Nurture Lifelong Learning in Finland. Draft.

Otala, L.1996. Oppimisen etu - kilpailukykyä muutoksessa. WSOY.

Purhonen, K. 2001. Tiedote 23.3. 2001. Teollisuus ja Työnantajat.

Pörhölä, M. 1995. Yksin yleisön edessä. Esiintymisjännitykseen ja esiintymishalukkuuteen liittyvät kokemukset, käyttäytymispiirteet ja vireytyminen yleisöpuhetilanteessa. Jyväskylä Studies in Communication 2. Jyväskylän yliopisto.

Pörhölä, M. 1996. A cultural perspective on public speaking anxiety. Perceptions of Finnish speakers' cognitive, behavioral and physiological responses in the public speaking context. Paper presented at the Speech Communication Association Convention. San Diego, november 1996.

Rauhala, P. Ammattitaito ja ammatillinen kasvu. In: Eteläpelto, A & Miettinen, R. (Eds.). Kasvatustieteiden tutkimuslaitos, Helsinki.

Räsänen, A. 1998. (toim.) Hallitaanko ammatti? Pätevyyden määrittelyä arvioinnin perustaksi. Helsinki: Opetushallitus.

Saleva, M. 1997. Now They´re Talking. Testing Oral Profiency in a Language Laboratory. Studia Philologica Jyväskyläensia 43.

Sallinen–Kuparinen, A. 1986a. Finnish communication reticence. Perceptions and self-reported behavior. Studia Philologica Jyväskyläensia 19. Jyväskylän yliopisto.

Salmi, E. 2001. Kvalifikaatiovaatimusten muutoksesta. Unpublished.

Science and Technology Policy Council of Finland: Review 2000.

Suikkanen, A. & Viinamäki, L. 1993. Jatkuvan opiskelun välttämättömyys (Is Regular Retraining Inevitable?).Työministeriö (Ministry of Labour).

Taalas, M. 1995. Ammattitutkinto ammattitaidon näyttönä. Ammatillisten aikuistutkintojen kehittäminen. Kasvatustieteiden tutkimuslaitoksen julkaisusarja A. tutkimuksia 62. Jyväskylän yliopisto.

The development of education 1994–1996. 1996. National report of Finland. National Board of Education.

Their, S. 1997. Det pedagogiska ledarskapet. Mermerus, Mariehamn.

Tynjälä, P. 1993. Konstruktivistinen oppimiskäsitys ja asiantuntijuuden edellytysten rakentaminen koulutuksesa. In: Oppiminen ja asiantuntijuus. Edited by Eteläpelto, A.& Tynjälä, P. 1993.WSOY, Porvoo.

Valkonen, T. 1997. Puheviestintätaitojen arviointi lukion päättökokeessa. Lisensiaatintutkimus puheviestinnän alalta. Jyväskylän yliopisto.

Valkonen, T. 1998. Assessing Presentation ands Small Group Communication Skills among Finnish Upper Secondary School Students. Paper presented at the National Communication Association Convention, New York, November 21–24, 1998.

Valkonen, T. Lukiolaisten kommunikaatiotaitojen valtakunnallinen arviointi

The research plan. The report will be completed in autumn 2001.

Väyrynen, P. 2000. Äidinkielen oppimistulokset ammatillisessa peruskoulutuksessa. Oppimistulosten arviointi 6/2000. Opetushallitus.

Utbildning & forskning 2000 (Education & research 2000), 1995. Utbildningsministeriet (Ministry of Education).

5.1 Articles

Eteläpelto, A.2001. Ammattikasvatuksen tutkimuksen ajankohtaiset haasteet. In Ammattikasvatuksen aikakauskirja 2 /2001.

Haltia, P. 2000. Näyttötutkintojen vaatimusten määräytyminen. Mitä työssäopitusta tunnustetaan? (How criteria for competence-based qualification exams are determined?) In: Aikuiskasvatus 4/2000 (journal of adult education).

Järvinen, A. & Pikela, E. 2000. Työssä oppimisen reflektiivisyys ja kontekstuaalisuus (Reflectivity and contextuality in learning at work. In: Aikuiskasvatus 4/2000 (journal of adult education).

Kivinen, O. & Silvennoinen, H. 2000. Koulussa ja työssä oppimisen ehdot ja mahdollisuudet (The conditions and possibilities of learning at school and work). In: Aikuiskasvatus 4/2000 (journal of adult education).

Miettinen, R. 2000. Konstruktivistinen oppimisnäkemys ja esineellinen toininta (Constructivist view of learning and concrete activity). In: Aikuiskasvatus 4/2000 (journal of adult education)

Tynjälä, P. & Collin, K. 2000. Koulutuksen ja työelämän yhteistyö-pedagogisia näkökulmia. (Cooperation between education and working life- pedagogical viewpoints). In : Aikuiskasvatus 4/2000 (journal of adult education).

5.2 Web pages

www.oph.fi/nayttotutkinnot/

www. oph.fi/kielitutkinnot/

www.dialang.org.

www.tiekle.fi/ajokortti

5.3 Seminars

Experts from all over Finland participated in a seminar concerning key competencies at the National Board of Education in Helsinki on the 22 th of May 2001.