

# Education and Research 2003-2008

Development Plan



OPETUSMINISTERIÖ

*Undervisningsministeriet*

MINISTRY OF EDUCATION

*Ministère de l'Éducation*

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[www.minedu.fi/minedu/publications/index.html](http://www.minedu.fi/minedu/publications/index.html)

Translation: Leena Möttölä  
Layout: Ahoy!  
Printed by Helsinki University Press, 2004

ISBN 952-442-693-5 (pbk.)  
ISBN 952-442-694-3 (PDF)  
ISSN 1458-8110

Publications of the Ministry of the Education, Finland 2004:8

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Development Plan

Under the Decree on a Development Plan for Education and University Research (987/1998) issued on 14 December 1998, the Government adopts a plan for the development of education and university research in the Ministry of Education sector every four years for that and the following five calendar years.

The Government adopted the following development plan for the period 2003-2008 on 4 December 2003.



*The development plan is based on the education and science policy objectives set in Prime Minister Matti Vanhanen's Government Programme and in the Government's strategy document.*

*The point of departure in the development plan is to ensure that basic security in education is realised. The aim is to prevent exclusion and to intervene at the earliest possible stage in risk factors, thereby realising basic security in education for all at all levels of education.*

*The level of education among the population is high in Finland. Research input is also high. The education system is faced with major challenges. Demographic development, the ageing of the labour force and simultaneous efforts to raise the level of employment entail a flexible education system responsive to change, well educated and trained age groups and full use of all the talent reserves, and better access to education and training for the adult labour force. Similarly, internationalisation and changes in the social and cultural environments entail renewal in the education system.*

*Specific priorities in the development plan are to enhance*

*the efficiency of the education system, children's and young people's support and guidance, and adults' opportunities for education and training.*

*The aim will be to offer vocationally/professionally oriented education for the whole age group and to upgrade and update adults' knowledge. Measures will be taken to step up the rate at which young people move on to further education and from education to the labour market. This requires developing student selection, facilitating timely graduation and reducing multiple education/training. Measures will also be taken to enhance remedial teaching, special needs education and pupil/student welfare services, to realise the education guarantee and to develop immigrant education and training with a view to preventing young people's exclusion. People with vocational qualifications and higher education degrees will be offered more opportunities for continuing in education appropriate for their situations and their prior learning.*

*Finnish research is highly valued internationally and the Finnish innovation system has been rated high in several interna-*

*tional reviews. Research and development conducted in the institutions of higher education will be further strengthened. The foremost development challenges are to continue internationalising Finnish research and its administration, to enhance researcher training and to develop the research system as a whole.*

*The development plan will be implemented within the existing funding structure. However, the demographic changes, the Government's employment targets and measures to step up education and training require internal resource transfers in the education and research sector. As recorded in the Government Programme, the training resources freed by the exit of the large age groups will be spent to enhance education and training.*

*As far as they concern basic service, the development plan actions will be taken into consideration in the programme for governmental and local basic services.*

*The implementation of the aims set in the development plan will be evaluated in 2005 and 2007.*

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Introduction

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The economic and social welfare of Finnish society is based on an egalitarian public education system and innovations generated by the production and application of new knowledge. An efficacious education and research system entails a sufficient level of public funding, which secures access to education, and research services and their international competitiveness. The production and utilisation of researched knowledge is gaining more and more importance in safeguarding sustainable economic development in all fields.

Everyone should have an equal right to participate in education according to their abilities and special needs and to develop themselves irrespectively of their financial standing. It is the responsibility of the public authorities to guarantee opportunities for all, irrespective of their age, place of residence, language and economic standing, to participate in high-standard education and training.

The Ministry of Education sector represents over 16% of the state budget and has grown by 1.3 billion euros from 1999 to 2003.

The level of education in Finland has been rising systematically over the past few decades. It begins

to be rare for young Finns to leave their education at compulsory schooling; 90% of school-leavers continue directly in upper secondary education or training. In 2000 every other Finn aged 20–24 had taken the matriculation examination and 83% of the 25–29 age bracket had either a matriculation certificate or a vocational qualification.

In the older age groups, the situation is not as good. In the 55–59 age bracket, 55% had post-compulsory certificate or qualification.

There are regional differences in the population's level of education, notably as regards higher education degrees. In 2000, the proportion of graduates was the highest (31%) in Uusimaa in the south, and the lowest (17%) in Central Ostrobothnia in the west and Kainuu in the east.

In the younger age groups, the difference in education was in women's favour, while in the older generations men are better educated than women.

The adult education participation rate in Finland is high as compared with the EU and OECD averages. Participation is, however, biased towards the highly educated, and women participate more actively than men.

Employment among the newly qualified and graduated has improved at all levels of education since the recession. On the whole, the higher a person's education, the more likely it is that he or she finds a job fairly quickly after graduation, but there are large differences between regions and fields.

Measured as a percentage of the gross domestic product, Finnish input into R&D is among the highest in the world. The increase in research funding in the late 1990s sped up the positive development of the economy, employment and business. The real growth in public research financing has, however, come to a halt, now representing less than 30% of overall R&D funding.

Changes in the  
operational environmental



## Social and cultural change

Like other countries, Finland is opening up to international influences. Migration to major growth centres diversifies local communities by bringing together people with different backgrounds and circumstances. Ties with the old local community and its set of values are breaking up and being replaced by influences from new local communities. Finland's traditional homogenous culture is dissolving and being supplanted by a spectrum of differentiating, partly detached sub-cultures and commercial mass cultures.

The fragmentation of society is accelerated by a more pronounced division of work and by specialisation. Natural, responsible interaction and the development of a communal spirit in different social environments require good interaction skills and a solid sense of one's own personal strengths and values.

At its best, this differentiation increases social capital at both the individual and the societal levels. A sense of community built on tradition and local interaction is giving way to a pluralistic communality based on cultural and social exchanges. On the other hand, as traditional values

recede, the risk is that people become marginalised and feel lonely. The evil circle of exclusion is often difficult to halt. A special risk is inter-generational exclusion, in which exclusion is passed on to the next generation as a result of social and cultural deprivation.

The information society development has progressed to a stage in which core services are increasingly offered in information networks. The situation in the near future will be that some parallel services disappear and certain services can be accessed only on technical devices. Moreover, skill demands relating to the use, content and flows of information in the net are growing.

The school has an ever growing role in equipping all children and young people with tools for a culturally rich life, whatever their social background. Excessive differentiation in education could aggravate development towards exclusion. To be able to link up with a social network, a person needs to be capable of fully participating in working life and other social activity at least in some sector. To this end, the education system will continue to offer all members of society a solid general education or vocational training. The challenge for

the education system is to promote and maintain values which favour communality and the acceptance of difference, as well as encouraging active membership of civil society. Inclusion in information society requires that all citizens have access to technical devices and skills in their use.

## Demographic and labour developments

The population of Finland is predicted to grow up to 2020 <sup>1)</sup>. Its demographic structure will change radically, however. The young age groups will decrease and growth will only be seen in the over-55 age groups. By 2010 the 55-64 age group will grow by about 200,000 and the under 55 age groups will decrease by almost the same number. This trend will continue after 2010.

The number of children of compulsory school age will fall by nearly 10% over the period 2000-2010, after which the development will start to slow down. The size of young age groups will stay approximately at the present level up to 2010, after which it will gradually take a downward turn.

1) Statistics Finland, Population forecast 2001-2030

The labour force will decrease. From 2003 onwards, the number of young entrants to the labour market will be smaller than the exit. The turning point will vary regionally, but is estimated to have taken place by 2009 in all other regions except Uusimaa in the south and Northern Ostrobothnia in the north of the country. At the present level of immigration and emigration, net immigration would be around 5,000. This means that the number of people born abroad would increase from 130,000 to some 200,000 by 2010. With the EU enlargement, net immigration is expected to rise to the extent that the number of people born abroad will be about 300,000 in 2020.

The shortage of labour will set a ceiling on economic growth, and the upshot may be that no jobs are

created or jobs are created only abroad. The foreseeable difficulties with access to labour owing to demographic developments entail that the efficacy and performance of the education system are improved, that all members of youth age groups receive post-compulsory and post-secondary vocational/professional education, that the knowledge and skills of the adult labour force are upgraded, that adult education and training services are increased and that the recruitment of immigrants is intensified.

## Developments in labour demand

It is estimated <sup>2)</sup> that the most rapid growth in labour demand will take place in business-related services, health care, social welfare services,

trade, catering, accommodation and domestic services and, to a lesser degree, in construction, the manufacturing of metal products and machinery, electrotechnical products and instruments, and culture and recreation. The most rapid decrease in labour demand is expected in agriculture, manufacturing industries other than the ones above, forest product industry, finance and insurance, telecommunications industries and organisational activities.

In terms of different occupational groups, the strongest growth up to 2015 is expected in managerial and expert jobs in production and logistics; managerial and expert jobs in business and administration; in care occupations; in teaching and cultural occupations; and in transport and security occupations. Decline is expected in agricultural and forestry occupations and clerical occupations. Modest changes are predicted in established fields, such as manufacturing, services and construction. In the period 2000–2015, the exit in agricultural, construction, transport, care and security occupations will be above average, i.e. 40%.

With the change in production structures, the content of work will change in all jobs. Knowledge de-

Table 1.

### Demographic change 2000–2020

Age	2000	2010	2020
Under 15	936,300	851,500	832,900
Working age pop.			
• 15–55	2,900,600	2,715,700	2,549,800
• 55–64	567,000	785,700	716,800
• over 64	777,200	915,100	1,217,800
Total	5,181,100	5,268,000	5,317,300

mands will grow. All jobs will require proficiency in information and communications technology. Similarly, all occupations will increasingly require language and communication skills, cooperation skills and creativity. The production of services and commodities will be increasingly underpinned by scientific research and R&D.

Measures must continue to be taken to further raise the level of education and knowledge. In the circumstances of shrinking labour supply, responding to the labour demand both in knowledge-intensive occupations and in the most rapidly receding job groups will entail the right quantification and a better matching of initial and adult education and training.

## Regional development

As a result of the changes in the demographic and labour structures, the unemployment rate is expected to fall and the employment rate rise in all regions. However, it is foreseen that the trend towards regional concentration will continue and regional disparities will grow unless means are found for counteracting it by means of knowledge and innovation in all fields.

According to demographic forecasts <sup>3)</sup>, migration will concentrate into growth centres in the Helsinki Metropolitan Area and around Turku, Tampere, Jyväskylä and Oulu and in provincial centres elsewhere. According to estimates, the extremes will be Uusimaa, where population growth is predicted to be around 16% in 2000–2020, and Kainuu,

where the population is expected to decrease by some 17%. Apart from Uusimaa, the population in continental Finland will grow in Varsinais-Suomi, Kanta-Häme, Central Finland and Northern Ostrobothnia. The differences may be fairly large even in the growth regions. Over half of immigrants will settle in the Helsinki Metropolitan Area.

The over-65 age group is expected to be 18% in Uusimaa but as high as 30% in South Savo. In the eastern provinces, the number of entrants to the labour force is estimated to come to only 60-70% of the exit after 2010. In addition to ageing, migration will have a major effect on the size and age structure of the labour force. In the period 2000–2020 the work force will grow only in Uusimaa, where the growth will be 7%. In Varsinais-Suomi, Eastern-

Table 2.

### Projected number of school-age children and young adults 2000–2020

Age	2000	2010	change % 2000–10	2020	change % 2000–20
7–15	580,800	529,400	-8.8	504,100	-13.2
16–18	202,600	199,700	-1.4	170,800	-15.7
19–21	194,200	198,600	2.2	175,200	-9.8
Total	977,600	927,700		850,100	



Uusimaa and Pirkanmaa the 2020 figure will be the same as that of 2000. In Kainuu, the labour force is estimated to fall by 24% during the same period.

The backdrop of the changes is above all the concentration of production and jobs. Especially jobs in the new information fields are concentrated into a few growth and urban centres which offer favourable conditions for the development, production and application of new technologies. In other regions, it would be necessary to find new alternative strengths through specialisation and regional division of labour, on the one hand, and to network with other regions, on the other.

Field-specific labour demand varies by regions. Regional disparities in labour needs are also considerable in terms of occupational distribution. Especially important for regional development are managerial and expert jobs and professions and culture-related jobs, which require a long education and in which the income level is high, job creation rapid and unemployment low. Some 40% of the labour needs in these professional areas is estimated to be in Uusimaa.

The threats inherent in regional concentration are that remote areas become desolate and growth centres congested and that basic services deteriorate and service production becomes more difficult both in remote areas and growth centres, that education supply and labour needs do not match either in growth centres or remote areas, and that exclusion escalates.

Finland's welfare and international competitiveness is based on the vitality and innovativeness of the regions, which is promoted by means of regionally comprehensive education and research activities. This entails securing basic resources in all parts of the country, coordinating the development aims of national education and science policy and regional policy, stepping up cooperation with local working life and other stakeholders, linking education and research with regional industrial and welfare strategies, intensifying regional foresight, extending the international infrastructure in the regions, and enhancing links between immigration and education policies.

## Globalisation and internationalisation

The globalisation of the economy means an ever more pronounced division of labour at the global level, as well as growing competition. The upshot is changes in the occupational structure, occupations and knowledge needs. Labour mobility is expected to increase with globalisation. These changes will also affect the education system.

Production and services supply is less and less linked with a particular place when the major production factors, labour and capital move freely. Businesses are located in countries and areas which offer them the best or most favourable conditions for operation. This development means threats as well as opportunities for Finland. The danger is intense regional differentiation and clear polarisation into high-achievers and those threatened by marginalisation. On the other hand, it should be regarded as being in Finland's favour that her asset in competition is not low production costs but a high level of knowledge and stable social conditions.

Economic globalisation will mean ever stiffer competition in several new fields as trade barriers in services are being eliminated. Education supply across national borders can be expected to grow in Finland, too. This concerns both contact teaching and virtual education offered by foreign providers. Learning outcomes in Finnish schools are good and the provision is based on the principle of equal opportunity in education. One important consideration is free degree- and qualification-oriented education. A special challenge in the increasingly international education market is that education services come under the General Agreement on Trade in Services (GATS). The removal of all trade barriers in education and the ensuing competition would endanger the free education and training for degrees and qualifications in Finland and thereby also undermine the realisation of equality. Finland has not entered, nor intends to enter, into commitments under GATS concerning free access to markets or national treatment in education and training.

The education and research system have traditionally played a key role in the social welfare and economic competitiveness of a country.

Finland has committed herself internationally to the principles of sustainable ecological, social and economic development, and these considerations will be stressed in the development of education and research in the years to come.

The European Union has substantially intensified its action in the education and research sectors in recent years although competence in these matters is mainly vested in the member states. A coherent education and research area is emerging in Europe, where Finland has to define its own profile in its own strong knowledge areas. International competition for talented students, teachers and researchers is gaining momentum while Europe is pooling resources with a view to strengthening its impact on the global level. Finland must provide its own education and research system with conditions which enable it to operate on an equal footing with others.

The global economy will mean stronger multiculturalism in all societies. The number of foreigners living in Finland is relatively small but expected to double within the next ten years. The education system must be ready to give a better response to immigrants' special educational

needs. Internationalisation is one means available for responding to challenges stemming from globalisation. So far, internationalisation has meant arranging exchanges rather than internationalising content and procedures, but the focus is shifting.

In many fields, research is very international. International cooperation is indispensable especially in major research projects and in the diffusion and utilisation of research findings.

Nordic cooperation will have a growing role as education and research internationalise.

Development lines in  
education and research



## **Education and research as builders of welfare**

As a civilisation, Finland is built on knowledge and creativity and values such as equity, tolerance, internationalisation, gender equality and responsibility for the environment. Education is used to promote cultural rights as well as knowledge and skills for active citizenship.

The aim is a civilisation in which every individual can grow as a person according to their own abilities and aptitudes, contribute to the development of their community and living conditions as a citizen, and upgrade their vocational and professional competence in response to changes in their work all through their careers.

Everyone has an equal right to participate in education according to their abilities and in keeping with the principle of lifelong learning. With a view to preventing exclusion, action will stress children's and young people's right to a mentally and physically safe growth environment.

Equality between people and equity between regions will be enhanced. Education and research will be developed with focus on supporting the strengths and specific charac-

teristics of the regions with the aim of increasing the employment rate.

Educational development will cater for the cultural significance of Swedish-language education and training for the Swedish-speaking population. With a view to advancing the equality of the language groups, efforts will be made to promote a positive attitude to the bilingualism of the country.

### **Development of the education and research system**

The quality and effectiveness of education and the efficacy of the education system will be improved. One special aim in developing the operational structures in education and training provision will be to enhance collaboration between the different sectors and forms of education and to boost flexibility, performance and efficacy. The school starting and leaving age in compulsory schooling will remain the same.

***Possibilities to study general and vocational subjects simultaneously in post-compulsory schooling will be expanded and promoted through intensified co-operation between institutions***

***providing these forms of secondary education and through the development of funding.***

***Cooperation between polytechnics and universities will be increased and the division of work between them will be clarified. The system of postgraduate polytechnic degrees will be established on a permanent basis and the status of polytechnics Master's degrees will be strengthened in the degree system. The universities will adopt the two-cycle degree structure in autumn 2005. Prior studies will be counted towards degrees appropriately and flexibly in transition from one sector to another.***

***Adult education and training will be developed at all levels as one entity in response to the educational needs of the adult population and the labour market. The management and steering system in adult education will be revised to make adult education equitably available at all levels, in all fields and in all regions.***

***With a view to developing the research system, measures will be taken to strengthen international, national and regional cooperation networks. The aim***

*is a balance between the different parts of the system, active interaction between different players, and efficient utilisation of the knowledge produced by institutions of higher education.*

#### **Development of teaching and learning environments**

Education and the learning environments will be developed to create a solid basis for lifelong learning and personal growth. This entails attention to the development of a positive world view and motivation for learning, as well as sufficient knowledge and learning skills. Further, it requires sufficient and effective support and guidance services. In the development of learning environments, more attention will be paid to versatile and comprehensive studies. Wider use will be made of learning in non-formal environments. Cooperation with libraries will be improved. Putting in place adequate mechanisms for recognising prior learning will help the individual to capitalise on informal learning.

*Care will be taken to achieve a high quality in education. The curricula will be formed into a*

*systematically proceeding entity which accommodates individual difference.*

*Principles for recognising prior learning will be devised for all levels of education. Recognition of prior learning will also be a strong element in the training of teaching personnel and school leadership.*

*The development of educational content will take account of the growing role of international cooperation and the growing multiculturalism in Finnish society.*

A special challenge for the development of learning and teaching is at-risk pupils, who represent some 10–15% of children and young people. The aim is to prevent a trend towards inequality and to tackle observed problems. Resolving learning difficulties and social problems requires measures promoting pupils' and students' mental and physical health and social welfare.

*A special focus in education will be given to consolidating a sense of community and reducing differences between the learning outcomes of different education-*

*al institutions.*

*With a view to stepping up early intervention and pre-emptive action, measures will be taken to enhance remedial teaching, special-needs teaching and pupil/student welfare services. This entails more specific provisions in legislation, as well as multiprofessional cooperation. Sufficient resources and quality level will be secured for guidance counselling and for supportive and advisory services at all levels of education.*

*State special-needs schools will be developed as expertise and resource centres.*

Maintaining the level of welfare society services necessitates new entrepreneurship. Entrepreneurship education permeating the whole education system and a positive attitude towards entrepreneurship create a basis for business.

*With a view to promoting entrepreneurship, measures will be taken to intensify links between education and working life, improve teachers' and guidance counsellors' knowledge about entrepreneurship, and develop ed-*

***educational content and methods  
in all education and training.***

Welfare society will be built on the principle of sustainable development so that the present needs of the population will be satisfied without endangering future generations' chances of satisfying theirs.

***Sustainable development will  
be promoted in education and  
research.***

Finnish know-how in educational technology must be raised to a high international level by means of pedagogic knowledge accrued in virtual teaching, in other development projects and in research. The use of information and communications technology in teaching and learning should be further developed. Moreover, care must be taken that education provides sufficient knowledge and skills for assessing information content on the net and for managing information flows.

***Support will be given to the  
development of virtual study  
entities of a high pedagogic and  
information technology stan-  
dard, and teachers' initial and***

***continuing education will be  
enhanced.***

***Regional development and  
the accessibility of education  
and training will be supported  
by means of new cooperative ed-  
ucational arrangements and the  
production of virtual teaching  
services which take account of  
the different circumstances in  
which education providers and  
schools work.***

***With a view to preventing  
differentiation and exclusion,  
measures will be taken to ensure  
efficient, moderately priced tele-  
communications for all schools,  
which will enhance equal access  
to high-quality education serv-  
ices throughout the country.***

***Interaction between education,  
research and the world of work***

The changes taking place in society and in the organisation and content of work are a crucial starting point for the development of the education and research systems. On the other hand, education and research are an important means of influencing development in society and in the workplace. The ever accelerating changes in the operational environ-

ment entail further enhancing interaction between education, research and the world of work.

One of the foremost development trends in the world economy is networked operations and business enterprises. Associated with it are the structural change in production processes, outsourcing, as well as the accelerating change in work organisations, occupations, work procedures and knowledge needs. In order to respond to these challenges, educational institutions need to intensify their contacts with employers and the world of work. Cooperation is needed both in the anticipation of educational needs and in the planning, implementation and evaluation of education.

Knowledge plays a growing role in regional development. On-the-job learning and innovation are emerging as increasingly important forms of knowledge enhancement. Future innovations are often interdisciplinary and based on multiprofessional cooperation. The role of educational institutions as working life developers is growing. What is needed is regional, multiprofessional cooperation networks between education, research and the world of work.

***Interaction between educational institutions and working life will be strengthened and career and recruitment services improved.***

***The quality of work practice and work-based learning will be enhanced.***

***Better opportunities will be provided for a balanced alternation of work and education.***

***Those active in working life will be offered more flexible options for maintaining and improving vocational/professional skills and upgrading their level of education.***

A competent researcher force is an important resource for industry and working life in general. The relative share of research workers in Finland is among the highest in the world. Interaction between work and research promotes the diffusion of high-quality knowledge and generates new innovations. The utilisation of technological and social innovations also promotes renewal in traditional industries. The potential of the humanities and social sciences should also be used to the full in innovation.

***With a view to conditions conducive to innovation, investment will be made in research fields of major relevance to Finland, new growth areas will be safeguarded, and researcher training will be developed. The principles of inter-institutional cooperation in higher education will be clarified and the prerequisites of higher education institutions for promoting the utilisation of research findings will be improved.***

***With a view to assuring access to research work force, measures will be taken to ensure that scientific research is valued and the researcher career is attractive.***

### **Development of adults' educational opportunities**

One central goal in the development of the education system is to improve the educational opportunities open to the adult population. Finnish welfare is based on a knowledgeable and highly educated adult population. Finland's international competitiveness entails access to competent work force and a constant effort to raise the level of education, all the

while taking care of social coherence, equality and good prerequisites for civil society. Meeting the adult population's educational needs requires close cooperation between administrative sectors. In adult education, care will be taken to cater for the needs of both the major linguistic groups.

Since the exit from the labour market due to the ageing of the population is so large, the younger age groups are not large enough to fill all the vacancies. On the other hand, the lower level of education of the older work force makes it difficult to place them in new vacancies. It is up to the education system to ensure that the whole working-age population are able to gain solid vocational/professional skills and constantly enhance their competencies. Adult education has an important role in developing labour market structures and facilitating career development. Adult education and training will be used to improve the care ratio and increase the employment rate to some 75 per cent. The development of adults' learning opportunities will encourage and enable the working-age population to cope with work and stay longer in working life. At the same time, special attention will



be paid to those whose work career is at risk because of poor initial training.

A current challenge for adult education policy is to support social coherence and active citizenship. Educational and cultural services constitute a key factor for the welfare and active life of the ageing population. In adult education provision, attention will be paid to adequate opportunities for liberal education and general studies.

*In the planning period, the focus will be on increasing educational opportunities for the adult population as part of lifelong learning policy.*

*Adult education and training will be used to produce competent work force rapidly and flexibly for all job levels and for all occupations and to support the development of work communities.*

*Education provision targeted at adults will be developed both as education and training for qualifications and degrees and as continuing education in a manner most suited for each level of education.*

*The prerequisites of civil*

*society and social coherence will be built up with a diversified supply of and better access to liberal adult education and general adult education.*

## **Educational opportunities and equality**

### **Basic educational security**

Equal opportunity in education underpins Finnish welfare. Everyone should have equal right to education and training according to their abilities and special needs and to personal development irrespective of their financial means. Realising basic educational security is one element in successful prevention of exclusion.

In its 2002 report to Parliament on the effect of the new educational legislation and the implementation of the objectives set in it, the Government noted that special attention should be accorded to the realisation of basic educational security and also identified certain development needs in the implementation of pupils' rights.

*It is for the public authorities to ensure educational opportunities for every citizen, irrespec-*

*tively of their gender, place of residence, age, language and economic means.*

*Access to pre-primary and basic education services will be secured in every part of the country. Special attention will be paid to the identification of and early intervention in learning difficulties. Special needs education and remedial teaching will be increased with a view to improving the attainment of children and young people with learning difficulties.*

*Contacts will be established between comprehensive schools and vocational institutions in order to identify and solve problems encountered by school-leavers and young people applying for vocational training.*

*Securing equal opportunity requires that measures geared to support participation are targeted to less active groups.*

*Reviews will be conducted to assess the realisation of pupils' and students' rights, access and equal opportunity in education and the efficiency of the means available.*

### **Access to education services**

#### **Enhancing knowledge and raising the level of education**

The population's level of education has been rapidly rising during the past decades. The changes in the operational environment described above entail further raising the level of education and knowledge among the population and the labour force.

*The aim will be that by 2015 the relative share of people with at least secondary qualifications among the 25–29-olds will rise from the present 85% to at least 90%; and that the share of higher education graduates in the population aged 30–34 will rise from the present 40% to at least 50%.*

#### **Principles underlying education and distribution of the overall provision**

Vocationally/professionally differentiated education and training will be quantified according to the envisaged labour needs with the aim of offering it to the whole youth age group, on the one hand, and upgrading and updating adults' knowledge, on the other. Measures will be taken to safe-

guard a track from vocational qualifications to higher education. The educational needs of both language groups will be met on an equal basis.

*The whole age groups leaving the comprehensive and upper secondary schools will be offered opportunities to gain qualifications or degrees in initial vocational training, polytechnics or universities.*

*The aim for 2008 is that 25% of new polytechnic students and 2–3% new university students come through the basic education – vocational qualification track.*

*Special attention will be paid to balancing the gender distribution in vocational and general upper secondary education.*

Satisfying labour needs as the population ages and increasing the employment rate require enhancing the efficiency of the education system.

*Transition to further education and graduation will be stepped up and multiple education will be reduced. Those with previous vocational or professional qual-*

*ifications will be primarily directed to suitable adult education programmes with the aim of accelerating the entry of those with secondary qualifications to higher education, on the one hand, and to shorten study times for those studying for a second qualification of the same level, on the other.*

*A speedy completion of studies will be stressed as a factor for performance in all qualification- and degree-oriented post-compulsory education. The performance criteria must, however, also give incentive for arranging special-needs education and training.*

The target numbers for entrants in 2008 are presented in Table 3 and the entrant targets by field of study in Table 4. The appendix presents the target numbers of entrants by field of study on which the entrant numbers in Table 4 are based. The Government has only adopted the overall targets presented in Table 4.

*The education supply targets for 2008 will be reviewed on the basis of the societal, economic and*

Table 3.

**Target numbers for entrants in 2008** <sup>(4)</sup>

Targets for entrants in 2008				
Education	Education the youth age groups	Education for adults	Total	Entrants 2002 total
Upper secondary school				
The whole curriculum	36,000	5,000	41,000	41,000
Subject syllabi (5)		15,000	15,000	13,000
Initial vocational training				
Vocational qualifications (6)	45,700	13,500	59,200	60,700
Further and specialist vocational qualifications (7)		49,000	49,000	38,000
Other further training (8)		5,000	5,000	5,900
Polytechnic				
Basic (BA) degrees	25,900	6,000	31,900	31,400
Master's degrees		2,000	2,000	200
Specialisation		5,000	5,000	6,000
Open polytechnic (5)		20,000	20,000	7,600
University				
Basic (MA) degrees (9)	18,900	5,000	23,900	24,600
Postgraduate education (10)		2,000	2,000	
Postgraduate specialist degrees (11)		6,000	6,000	
Open university (5)		90,000	90,000	85,000
Liberal adult education (8)		24,000	24,000	20,500
Vocationally/professionally differentiated education and training				
	90,500	24,500	115,100	117,000

(4) In the Ministry of Education sector

(5) Number of participants

(6) Including apprenticeship training; the 2008 target does not include 20-credit home economics courses, preparatory and rehabilitative training for the disabled, or preparatory training for immigrants

(7) Including apprenticeship training

(8) Number of annual students

(9) In 2002 first-time enrollers, including 5,080 admissions in special quotas

(10) Full-time researcher training

(11) The average target set by universities for continuing professional education in the performance agreement period 2004-06 is 100,000 students annually including 6,000 students in professional specialisation.

Table 4.

**Target number for entrants by fields of study in youth education** <sup>(12)</sup>

<i>Field of study</i>	<i>Entrant target in 2008</i>	<i>of which Swedish-language education</i>
<b>Natural Resources</b>	7,200	440
Initial vocational training	2,800	190
Polytechnic	1,000	70
University	3,400	180
<b>Technology and Transport</b>	32,900	1,390
Initial vocational training	20,700	800
Polytechnic	8,400	400
University	3,800	190
<b>Business and Administration</b>	17,500	1,170
Initial vocational training	5,800	320
Polytechnic	6,900	320
University	4,800	530
<b>Tourism, Catering and Home Economics</b>	7,300	360
Initial vocational training	5,900	280
Polytechnic	1,400	80
<b>Health and Social Services</b>	15,100	760
Initial vocational training	7,600	320
Polytechnic	5,800	350
University	1,700	90
<b>Culture</b>	4,500	340
Initial vocational training	2,200	180
Polytechnic	1,800	120
University	500	40
<b>Humanities and Education</b>	6,000	540
Initial vocational training	700	80
Polytechnic	500	60
University	4,800	400
<b>Safety and Security</b>	50	
Polytechnic	50	
<b>Total</b>	90,550	5,000

(12) In the Ministry of Education sector



*labour developments in 2004 and 2005 and revised, if needed, in the Development Plan.*

#### **Education and training guarantee**

Currently 97% of comprehensive school-leavers apply for further education or training, and about 90% of them begin in an upper secondary school or in vocational training in the same year. In addition, about three per cent continue in voluntary additional education in the comprehensive school. The following measures will be taken to arrange an education and training guarantee for those leaving the comprehensive school.

*With a view to ensuring individual careers, the quality of life and working capacity and preventing exclusion, post-compulsory education or training will be provided for the whole age group. The target is that in 2008 at least 96% of comprehensive school-leavers begin in an upper secondary school, in vocational education and training or in voluntary additional basic education.*

*In support of young people's career planning and educational choices, a project will be undertaken to develop guidance counselling, with a special focus on the last year-classes. The aim is to develop guidance services by means of intensified cooperation between basic education, upper secondary education, vocational education and training, the world of work, the public employment services, the youth service and staff-development training. Procedures will be devised for securing sufficient provision and high quality of guidance counselling in the last year-classes of basic education.*

*Additional basic education for school-leavers and its financing will be developed to make it also available at vocational institutions as orientating pre-vocational education geared to prevent dropout.*

*Student selection in initial vocational training and general upper secondary education will be developed to ensure that school-leavers gain entry to education or training in the same year. In addition, measures will*

*be taken to secure untrained persons' entry to initial vocational training.*

*The monitoring and individual guidance and counselling of those who have not gained entry to post-compulsory education or training will be developed in cooperation with labour authorities.*

*A survey will be undertaken to study young people's application and entry to vocational education and training and their success in studies and dropout. Necessary measures will be initiated on the basis of the survey.*

*With a view to encouraging the completion of studies and qualifications, measures will be taken to develop guidance counselling, study modes, student financial aid and to modify the funding of education and training to give more incentive for students and enhance their performance.*

*Targets will be set for participation in upper secondary education and training and for graduation rates, which will be monitored annually.*

### **Student selection in higher education institutions**

Young Finns enter the labour market at a fairly late age owing to delays in entry to education and long study times. Young people start their post-secondary studies at an average age of 21. In 2002, 11,000 of all new matriculated students (36,200 in all) gained entry to higher education, while the total number of matriculated entrants in 2001 was 43,000. In 2002, the average age of polytechnic graduates was 25, Master's graduates 27 and new PhDs 36.

*Student selection in higher education will be developed with the aim of raising the share of the same year's matriculated students in admissions.*

### **Adult education**

The longer-term aim in adult education and training is to enable the adult population to participate in education or training for 1-2 weeks annually and in more extensive upgrading for about six months every 10-15 years.

*The provision of initial training and degree education for adults*

*in vocational institutions, polytechnics and universities will be quantified to correspond to approximately 20% of the entrants.*

*Special priorities in the expansion of secondary adult education and training will be the metal and engineering, vehicles and transportation, social and health care, and domestic, institutional and sanitation fields.*

*Special priorities in the expansion of polytechnic degree education will be the metal and engineering and construction fields. A separate programme, among others, will be launched to meet labour needs owing to the exit of technicians from the labour market. The programme will provide production-oriented polytechnic degree education and training for specialist vocational qualifications primarily for people with secondary vocational qualifications.*

*It is estimated that about 3,500 of the 5,000 entrants in university adult education will start in separate Master's programmes, 1,000 will proceed through the open university track to degree studies and*

*reservation will additionally be made for graduate-entry education for some 500 students.*

*The aim is to provide post-graduate polytechnic education for some 20% of polytechnic graduates.*

The Noste programme for upgrading adults' vocational training (2003-2007) will be expanded at the beginning of the planning period. The needs arising from the programme have not been taken into account in the quantitative targets set for degrees. The resources freed at the end of the programme will be allocated to enhance adults' opportunities to proceed from initial vocational qualifications to further and specialist qualifications and from secondary and post-secondary qualifications to higher education.

*The programme will be quantified to offer training to some 10,000 entrants each year.*

In determining the supply of liberal adult education, account will be taken of the special function of the sector in promoting social cohesion and developing learning skills, as well as to cater for the ageing population's

need for information society skills and their other educational needs.

### Regional equity

The supply of education and training must support the implementation of the regional industrial and welfare strategies. At the same time, care must be taken to safeguard equitable access to education in different parts of the country. There are large regional differences in application to post-compulsory education and training and to education after the upper secondary school.

***Measures will be taken to reduce regional differences in the supply of post-compulsory and higher education.***

***The Ministry of Education, the National Board of Education and the regional councils will continue their interaction in order to take sufficient note of the regional education and training targets for 2008, set or prepared by the regional councils, in the implementation of the Development Plan, the authorisations to provide vocational education and in the performance agreements concluded between the***

### ***Ministry and higher education institutions.***

### Qualifications and degrees

The qualification and degree targets for 2008 are presented in Table 5.

### Teachers and other personnel

The viability and quality of the Finnish education system is guaranteed by high-standard teacher education. The policy lines concerning student admissions, pedagogic studies, teachers' continuing professional education and the status of teacher education have been determined in the teacher education development pro-

gramme for 2001-2005. The execution of the development programme will be evaluated in 2005.

### Initial teacher education

The teacher needs committee has forecast developments in teacher needs – in basic, vocational and liberal adult education – up to 2020. It estimated that in 2020 the need for full-time teachers will be over 62,300, which is nearly 5,000 less than in 2002. With a view to determining the provision of teacher education, the committee examined such factors influencing the teacher reserve as exit from the labour market due to career changes and retirement and developments in student numbers.

Table 5.

### Qualification and degree targets for 2008

Matriculation examinations	37,000
Vocational qualifications	37,000
Further qualifications	22,000
Specialist qualifications	8,000
Polytechnic degrees	26,000
Polytechnic postgraduate degrees	2,000
BA degrees	8,000
MA degrees	15,000
Doctorates	1,600

The age groups taught by subject and vocational teachers will be at their largest at the end of the current decade and a few years beyond. At the same time, the teacher reserve will decrease sharply owing to retirement. This is why the number of entrants in teacher education must be raised as high as possible during the first half of the planning period. The number of entrants must also accommodate the need for guidance counselling, possible special-needs education in the upper secondary school and the inadequate situation in certain teacher groups as regards formal qualifications.

Content development in the training of general education teachers

will highlight transition to unified basic education and the curriculum reform in basic and upper secondary education.

***In order to fulfil future teachers needs, the admission to teacher education in 2003–2008 should be 25,400 students overall.***

***The admissions will also be increased in the training of foreign-language and mathematics teachers, special-needs teachers and guidance counsellors and in teacher education for vocational teachers. In Swedish-speaking teacher education, the increases will be targeted to the training of class teachers, special-needs***

***teachers, guidance counsellors and vocational teachers.***

***In the development of teacher education, special attention will be paid to knowledge and skills needed in guidance counselling and in the teaching of different learners, pupils with special educational needs and immigrants, and to the use of information and communications technology in teaching.***

***The requirements in teacher education, especially supplementary teacher training, will accommodate the recognition of prior studies and teaching experience.***

Table 6.

**The target number of entrants in teacher education in 2008:**

	<i>Basic and upper secondary education</i>	<i>Vocational education</i>	<i>Liberal adult education</i>	<i>Total</i>
Class teachers	900			900
Special-needs ed.	430	70		500
Guidance/careers counselling	120	70		190
Subject /core subject teachers	1,120	300	90	1,510
Vocational teachers		1,200		1,200
Total	2,570	1,640	90	4,300

## **Continuing professional education for teachers**

The responsibility for teachers' pedagogical studies and other qualifying training lies with the government. Similarly, the government also finances supplementary training in areas of major relevance to education policy. Other continuing professional education is mainly the employers' responsibility. The costs incurring from teachers' in-service training are co-financed by the government as part of statutory state aid for education.

As regards vocational training, the changes in the nature and content of teaching necessitate a special development project.

***The education policy priorities in teachers' continuing education are management, evaluation and the development of the work community in educational institutions; management of social problems; health education; the use of information and communications technology in teaching; on-the-job learning and school-industry contacts; and education relating to multiculturalism. The goal is that about 22,000 teachers take part in education***

***relating to these education policy priorities.***

***A project will be undertaken to develop teacher education and school communities in vocational training with the aim of assuring the quality of training and its adequate response to labour market needs and enhancing the appreciation vocational teachers' work.***

## **Immigrant education and training**

Immigration to Finland will keep growing. The largest immigrant groups will come from areas adjacent to Finland. It is estimated that the need for foreign labour will grow during the planning period. In response to the growing immigration, the public education and research system will be developed to cater for immigrants' special needs. The participation of immigrant girls and women in education and training will be encouraged.

Education will particularly stress immigrant pupils' and students' proficiency in Finnish or Swedish, which provides a basis for further education and training and facilitates their assimilation into Finnish society.

Immigrant pupils will be supported in maintaining and developing their native language with a view to a functional bilingualism.

Tolerance and a positive attitude to different cultures will be stressed in all education and training. Questions relating to minorities and human rights will be systematically integrated into teachers' initial and further training. Research and development projects promoting good ethnic relations will be supported. Textbooks and teaching materials will be developed with a view to promoting knowledge about minorities.

Successful immigration policy entails close cooperation between different administrative sectors. The key players in terms of immigrants' flexible and efficient assimilation are the education and labour authorities. Cooperation between them will be stepped up and their division of work clarified.

***The legislative and financial basis of immigrants' basic education will be studied with a view to specifying immigrants' entitlements. Preparatory vocational education and training intended for immigrants will be expanded to one school year.***



*Measures will be taken to facilitate young immigrants' entry to upper secondary education. The aim is to achieve a substantial increase in the relative number of pupils with an immigrant background by 2008.*

*Measures will be taken to enhance immigrant school-leavers' placement in initial vocational training. Especially opportunities for apprenticeship training will be improved. Remedial teaching and remedial teaching mentors and teaching by the medium of pupils native languages will be made available with a view to reducing immigrant students' dropout.*

*The relative share of immigrant students in higher education will be raised through the development of student selection, language instruction and information targeted to immigrants and through access courses preparing for polytechnic studies.*

*Measures will be taken to make better use of the education and training completed by immigrants abroad through more flexible recognition of prior learning and by means of necessary supplementary education.*

*Language teaching and cultural education intended for immigrants will be increased and the division of labour between administrative sectors will be clarified.*

## **Steering system and financing**

### **Administration and the steering system**

A well-functioning education and research system entails good administration and effective financing and other steering mechanisms. An appropriate division of labour between decision-making levels and effective steering will ensure the implementation of education and science policy aims. Amendments in legislation, the dissolution of norm guidance, the devolution of decision powers and the reform of the financing systems have increased the need to develop educational administration and especially evaluation and performance management in support of objective-setting and the monitoring of their achievement.

*The steering of education and research will be developed in a*

*coordinated manner so that the steering systems will support the achievement of education and science policy aims in the long term. The results-based steering will be developed towards more coordinated targets and resources. Steering by targets and results will be piloted in vocational education and training.*

*Regional cooperation between educational institutions will be strengthened with emphasis on the needs of both the Finnish and the Swedish speakers.*

*University steering will be developed to strengthen university autonomy.*

*The tools for steering adult education and training will be reinforced to enable operations to be planned and monitored both as a whole and by sectors and to enable education to be targeted to groups currently underrepresented in adult education and training. Supply and access will also be secured in sparsely populated areas.*

## Financing of education and research

Long-term economic growth entails stable financial policy, open markets, a higher employment rate and readiness to modify structures. A smoothly running education and research system entails a sufficient level of public financing which ensures access to and the competitiveness of education and research services.

A high quality of education, a modern science and technology environment and an information and communications technology infrastructure underpin welfare. In the planning period, development is needed to improve requisites for lifelong learning, prevent exclusion, secure access to labour force, enhance the quality of education, shorten study times and improve the prerequisites for R&D.

*The aim will be to ensure that the public financing of education and research is of a high international level. The present extent of free education will be secured. The resources freed by the decreasing age groups will be used for educational development.*

*A sufficient level of university core funding will be secured*

*by legislative means to accommodate the increasing tasks of the universities.*

*The structure of statutory state funding will be developed. The criteria for its allocation will take account of immigrants and other special groups.*

*In initial vocational education, performance will be taken into account in the financing of operational expenditure with a view to a financing system which encourages performance and provides better incentive. Performance-based funding must also encourage education providers to educate young people with special educational needs.*

*The financing of polytechnic education will be revised to provide more incentive and to take more account of the operation of a polytechnic in its entirety. The criteria for core funding will be the number of degrees awarded and R&D which supports regional development, as well as the number of students. Core funding will enable polytechnics of different sizes to provide high-standard basic services to their students. In this connection, the financing of vo-*

*cational teacher education will also be reformed. The polytechnics' new and expanding tasks will be taken into account in the amount of funding.*

*Providers of adult education and training will be ensured stable and sufficient financial prerequisites which are proportional to their sizes. Funding will be targeted according to the educational needs of the adult population. The financing criteria will be modified to encourage upper secondary schools to offer subject studies in response to adults' education and cultural needs. In vocational education and training, a stable resource development will be secured in response to the adult population's and employers' knowledge needs, with a view to responding to the demand for training preparing for further and specialist qualifications and improving the quality of training. The provision of further vocational education will be made more predictable. The criteria of resource allocation will be reviewed.*

*Student financial support will be developed to give incentive for studies.*

### **Research financing**

Finland has successfully invested in R&D. A sufficient level of public research funding must be ensured in relation to the overall R&D financing.

Public research financing will ensure extensive long-term basic research and researcher training capable of renewal, as well as promoting innovation. The maintenance and development of an infrastructure in support of R&D entail sufficient direct budget funding.

The Academy of Finland is the most important source of external financing for university research. The status and role of the Academy in competitive research funding and as the central funding agency for basic research will be further strengthened on the basis of the international evaluation of the Academy.

***Public research funding will secure basic research and researcher training in universities, as well as the research infrastructure.***

***R&D conducted by higher education institutions will be developed to promote national and regional innovation and to respond to the development needs of business enterprises and wel-***

***fare service producers.***

***R&D will be promoted through an increase in the Academy's competitive research funding and operational expenditure and in university core funding. Input will be made into promising research fields of major importance to Finland, and efforts will be made to secure the launching of new research areas. Support will especially be given to the development and internationalisation of centres of excellence. Researcher training and the research infrastructure will be supported.***

***The co-financing of research will be developed with a view to enlarging the financing base and enhancing the impact of research.***

### **Evaluation of education and research**

Evaluation will be developed to ensure the implementation of the purpose of educational legislation, to support educational development and to improve prerequisites for learning. The aim is to acquire and analyse information in support of national education policy decision-

making and local development of education and training. Evaluation data will be produced to meet the needs of the learner and his/her parents and carers, educational institutions, education and training providers and national decision-makers. It is also important to evaluate evaluation activities.

Education and training providers must evaluate their provision and its impact and take part in external evaluations of their provision. There is a new Educational Evaluation Council attached to the Ministry of Education. For the evaluation of universities and polytechnics there is a Higher Education Evaluation Council, also attached to the Ministry.

Regular international evaluation of research will ensure a high quality of research and researcher training and create conditions for the renewal of the research system. The Academy of Finland is responsible for evaluating different fields of research and research overall. The universities are responsible for evaluating the quality of their own research and researcher training. Cooperation between different universities and other partners will be encouraged in evaluation.



*The programme of the Educational Evaluation Council must take account of international and national evaluation projects and regional and local evaluation needs. Evaluation findings must be applicable to practical teaching and education policy decision-making and to new objective-setting. Information and cooperation between different players in evaluation will be intensified.*

*The evaluation of general, vocational and adult education will be developed to cover the whole learning environment. Information will be produced by means of learning outcome assessment, audits, reviews and thematic evaluations. The prerequisites for local evaluations will be improved. The utilisation and impact of evaluations will be monitored and analysed.*

*University and polytechnic evaluations will stress the link between education, development and research. Apart from reviews of degree programmes and thematic evaluations, measures will be taken to monitor the impact of evaluations more extensively.*

*During the planning period, statutes concerning the Higher Education Evaluation Council will be amended to guarantee the independence of evaluations.*

*Information systems which support educational evaluation will be developed and education and research relating to evaluation methods, quality and impact will be promoted. Educational indicators will be developed in view of local, national and international needs.*

*Evaluation and the financing system will be developed to enhance the quality and impact of research. The Academy of Finland will evaluate the state and level of research.*

Development of  
the education system



## Basic education

The task of pre-primary and basic education is to educate pupils into humane, ethically responsible members of society and to give them the knowledge and skills they need in life. Important aims in educational development are to strengthen basic educational security, to develop educational content and methods, to improve the quality of learning environments, to prevent exclusion and to strengthen the steering system in education.

### Pre-primary education

The duty to provide pre-primary education and the child's right to free preschool became effective on 1 August 2001, when the new core curriculum was also adopted. Pre-primary education has got off to a good start in the whole country. Pre-primary education can be provided in schools, day-care facilities or other suitable places. Wherever it is provided, it comes under the same legislation. Pre-primary education forms part of the continuum of early childhood education, which in turn helps to level off differences in social background and learning abilities. Children in pre-primary education will

be covered by the free transportation scheme in autumn 2004.

Large teaching groups may endanger the achievement of the aims set in the pre-primary curriculum and the pupil's right to a healthy and safe learning environment. The report requested by Parliament concerning the impact and the achievement of the set aims will be submitted in 2004.

***The quality of pre-primary education will be evaluated and the report requested by Parliament will be prepared.***

### Basic education

The performance of the steering system is a question of how legislation and the aims set in it carry over to the level of pupils. The changes in the steering system have devolved decisions and responsibility on the education provider. The provider has independent discretion in teaching arrangements, the organisation of education and cross-sectoral measures within the legislative framework and according to the special needs of its service structures. The priority in development is to support and enhance the performance, effectiveness

and cost-effectiveness of the steering system with a view to guaranteeing the realisation of basic educational security and pupils' rights.

***The realisation and effectiveness of the pupil's rights, access to education and equal opportunity determined in the Constitution and the Basic Education Act will be evaluated.***

***The need for changing working times will be explored and efforts will be made to promote solutions concerning teachers' overall working time.***

***Legislation and financing will be modified to support regional education provision and cooperation between schools, with emphasis on the needs of both linguistic groups.***

### Implementation of core curricula

The new division of lesson hours and core curriculum in basic education will be gradually adopted by 1 August 2006. The new curriculum stresses the development of the pupil's life management skills and learning skills. The new curriculum further strengthens basic educational securi-

ty and provides a better basis for evaluation. Intrinsic to the development of education is the conception of the human being, knowledge and learning. It is important that the curriculum reform is implemented at the local level and carries over to the quality and performance of education. Realising the aim of linguistic equality entails that the production of small-circulation learning materials is supported from public funds.

***The core curriculum will be revised to constitute a systematic and uniform entity, to support more pupils' learning and growth and to provide a clear basis for diverse evaluation.***

***The implementation of the curriculum reform will be supported and evaluated.***

#### **Achievement of basic education objectives**

The OECD Pisa review (2002) assessed how pupils aged 15 have mastered knowledge and skills of major relevance to future society, work tasks and good quality life. Finnish pupils were found to have a very high level of reading, mathematics and science literacy in comparison

to other countries. These findings show that the Finnish education system has achieved good learning outcomes equitably in the age group as a whole.

The Pisa findings show, however, that there are differences both between and within schools in Finland, even though the differences are smaller than in OECD countries on average. The future challenge is to look into the interaction of school environments and how this affects pupils' learning and growth. In addition, it is necessary to study differences in girls' and boys' learning. The aim is to develop good pedagogic practices, support the development of teaching and improve prerequisites for learning by means of quality recommendations for learning and, relating to this, a description of good learning. This will ensure the high quality of the Finnish education system and support the competitiveness of education throughout Finland.

***Quality recommendations will be prepared for good teaching and good school performance.***

***The principle of neighbourhood schools will be strengthened. Resources will be allocated to low performing schools. Sup-***

***port will be given to the development of measures for preventing a vicious circle of inherited disadvantage and to promote relevant support action. The aim is to prevent the differentiation of schools.***

***Procedures relating to pupil selection will be clarified.***

***With a view to early intervention and more effective proactive measures, the statutes concerning pupil welfare services and guidance counselling will be revised. Multiprofessional cooperation and interaction between the school, pupils' families and the surrounding society will be developed.***

***Private schools providing basic education and schools providing Finnish basic education abroad will be evaluated.***

#### **Development of teaching**

Flexible and creative pedagogic procedures and culture will be developed in teaching. This means evaluating the achievement of educational aims and the content of teaching, diversifying teaching methods, developing learning skills and creating healthy and safe learning environ-

ments. It also entails that teachers' initial, continuing and staff-development training is developed and that guidance counselling and pupil welfare services are enhanced.

Education providers will be encouraged to enter into regional cooperation in the development of education and associated support services and in tasks requiring specialist or multiprofessional expertise. Intensified cooperation is especially important in the prevention of exclusion, in pupil welfare services and in special-needs education.

Measures must also be taken to increase pupils' and students' opportunities to contribute to and influence planning and action concerning them and the school community. The aim is to enhance pupils' and students' inclusion, which will support their growth into members of society.

The abolition of the boundary between the lower and upper stage in the comprehensive school has made for unified basic education. Despite positive experiences, there have been few projects and solutions concerning unified comprehensive schools.

Pupils in the first and second year-classes of basic education will be offered morning and afternoon

activities from autumn 2004 onwards. Activities geared to promote children's and young people's growth and development must be developed as part of the entity of early childhood and basic education. The school can be developed as an activity centre, where morning and afternoon activities form a natural part of children's and young people's school day.

***Flexible educational solutions will be supported and developed to promote unified basic education from the first to the ninth year-class. Teacher education must develop knowledge and skills needed to this end.***

***Necessary amendments will be made in legislation to provide for a project for improving the quality of and support services in pre-primary and basic education and supporting the creation of a network of educational resource centres.***

***Methods will be developed for promoting learning skills and implementing lifelong learning. Education providers will be encouraged to develop flexible local and regional education structures. Pupils' inclusion and the***

***interaction between the school and parents will be promoted through the development and diffusion of good practices.***

***Teaching content and methods and learning materials will be developed to better cater for different ways of learning and to take account of the learning environment. Special attention will be accorded to differences in the ways girls and boys learn.***

***The development of before- and after-school activities and the implementation of legislation will be supported.***

### **Special-needs education and remedial teaching**

The number of pupils admitted and transferred to special-needs education has grown and pupils are increasingly integrated into mainstream education. One third of pupils with special educational needs were taught totally or partly in normal education. Part-time special-needs education was provided for 20% of boys and 10% of girls. Remedial teaching must be available to pupils who have temporarily fallen behind and others who need special support. The pupil's right to special-needs education



and remedial teaching is realised to a varying extent in the country.

*The implementation of special-needs education and remedial teaching will be evaluated and an action programme will be devised to support early detection of learning and adjustment difficulties and to develop teaching arrangements.*

*The need for amending statutes governing hospital schools will be studied.*

### Internationalisation of education

International cooperation in general education is gaining importance in educational development. In the European Union, questions relating to education are mainly in the national competence. However, Finland must influence decision-making which has indirect effect on objective-setting in Finnish education policy. These include EU action to improve the quality and impact of education systems, to expand access to education and to create closer links between the education systems and the surrounding society.

*A strategy will be devised concerning priorities in international educational cooperation.*

*Finland will take part in the OECD Pisa project to the extent that it yields additional value in terms of national information needs.*

*The development of educational content will take account of the growing importance of international cooperation and increasing multiculturalism in Finnish society. Special attention in educational development will be paid to language and communication skills, tolerance, and knowledge about foreign cultures and mores. New learning materials will be produced for international education.*

### Basic art education

Finland has a comprehensive and diverse network of institutions of high-quality basic art education. Syllabi of advanced education will be adopted in music, dance, theatre and visual arts (architecture, pictorial arts and arts and crafts). Core syllabi for general education will be devised for the art forms mentioned plus literature, circus and film and video arts.

Basic music education provided by music institutes was evaluated in 1998. Other fields of art will be evaluated after some experience has been gained from the implementation of the new core syllabi.

*The financing of basic art education and legislation will be revised with a view to the needs of and access to different art forms. Basic art education can also be arranged as morning and afternoon activity.*

## Upper secondary education

### Development of upper secondary education and training

Upper secondary education and training comprises general upper secondary schools and initial and further vocational education and training. The point of departure in development is the needs of the population, employers and regions and the objective is to provide upper secondary education or training to the whole school-leaving age group. The aim is to promote both general and vocational education and to provide students with the knowledge and skills

they need for varied personal development, further studies and work.

Changes in the demographic structure and migration cause changes in demand for upper secondary education and training. Future educational needs must be anticipated. The aim is to offer diversified educational services of the highest quality possible throughout the country. Cooperation between providers of secondary education and training will be encouraged with a view to improving the quality of and access to education and increasing individual choice for students and to expanding and deepening vocational knowledge and skills or improving the institutions' capabilities for further education. The possibility for vocational students to supplement their studies with upper secondary school syllabi or to take the matriculation examination lays a good ground for further education and enhances knowledge needed in working life.

***Cooperation between general upper secondary schools and vocational institutions will be increased especially in the planning and realisation of joint provision, joint study programmes and regional education and***

***training supply.***

***Measures will be taken to encourage vocational students to study upper secondary school syllabi and take the matriculation examination alongside their studies for vocational qualifications. The aim is to raise the number of matriculated students to 10% of those studying for vocational qualifications.***

Upper secondary training will be developed with a view to a clear qualification system which is understandable and suitable for both the student and employers. The vocational qualifications have been reformed and the further and specialist qualifications developed in response to field-specific needs. Qualifications created at different times differ in terms of their focus and extent. For the most part, further and specialist qualifications are based on initial training in the field, while some are almost the same as vocational qualifications. Some further and specialist qualifications are the only qualifications available in their fields.

***Principles will be determined for developing vocational, further and specialist qualifications and***

***for clarifying their status in the education system.***

### **Upper secondary schools**

The new division of lesson hours and the new core curriculum for upper secondary schools will be adopted by 1 August 2005. The core curricula determine the essential content of compulsory and advanced courses on which the matriculation examination is based. This will strengthen students' equality and legal rights. A new matriculation examination structure is being piloted from 2003 to 2007.

***The core curriculum will be revised to give better support to students' learning and growth and to provide a clear basis for different evaluations of education.***

***The implementation of the curriculum will be promoted by means of services which support practical work, the development of procedures and the diffusion of good practices.***

***The matriculation examination will be developed according to the new core curriculum. The modern sciences and mother***

*tongue tests will be revised and the need for revising the language tests will be studied. The impact of the structural pilot will be analysed and the necessary decisions will be made during 2004.*

*Measures will be taken to increase the use of matriculation examination grades, school grades and upper secondary school diplomas in university and polytechnic admissions in collaboration with higher education institutions.*

Annually some 54% of school-leavers continue in upper secondary schools. Some of them find it difficult to cope with studies. It is vital to support students to find work methods which suit them, to strengthen their self-confidence and help them over obstacles. There are students in upper secondary schools who cannot cope with studies without special support and therefore run the risk of discontinuing their studies. Unlike basic education and vocational training, upper secondary schools have no statutory special-needs education.

*The quality and availability of guidance counselling will be improved.*

*The need for special-needs education will be studied and legislative measures will be taken, if necessary.*

*Student welfare services in upper secondary schools will be enhanced with a view to promoting students' mental and physical health.*

Changes in regional demographic structures also cause changes in the network of upper secondary schools.

In order to ensure future access to upper secondary schools in the regions, the education providers should anticipate the future situation at this stage. The statutory duty for education providers to cooperate amongst themselves has not effected any significant increases in joint action. The learning environment and teaching methods in the upper secondary schools can be developed by means of the new technologies. Similarly the student's right to transfer credits from other institutes has not been realised in the desired way.

*Providers of general education will be encouraged to increase joint provision with other schools, to plan regional education and training provision with vocational and other schools and to expand virtual teaching.*

*The measures taken to facilitate credit transfer will be evaluated from the viewpoint of the equal treatment and legal rights of students.*

*Measures will be taken to utilise new innovative pedagogic solutions and network services. Teaching content will be developed to respond better to changes in society.*

*The number of specialised upper secondary schools will be kept at the present level. Teaching methods will be diversified and learning environments developed by means of the new technologies.*

### **Vocational education and training**

The aim in the development of vocational education and training is to raise the level of vocational skills and support industry-driven innovation and thereby promote the competi-



tiveness of Finnish working life and vocational training in the internationalising environment. The key aims in vocational education and training are to improve its quality, its response to working life and its overall impact.

Enhancing the appreciation of vocational knowledge and skills and the attractiveness of vocational training is a precondition for ensuring both quantitatively and qualitatively sufficient labour force in Finland. An important means of enhancing the attraction of vocational education and training is to develop its quality and its relevance to working life.

#### **Development of qualifications and teaching**

Vocational qualifications have been revised, the duration of the training has been three years since autumn 2001. The implementation of the three-year qualification programmes is an important task during the planning period.

***The performance of the vocational education structure will be evaluated. Attention will be paid to vocational competence and the relevance of the qualifications to working life; entrepreneurial***

***skills; flexibility and individual choices; the attraction of the qualifications; and the training of matriculated students.***

***The qualifications will be developed with a view to more flexible training tracks. Opportunities for studying separate training modules will be enhanced with a view to a planned and flexible alternation of training and work.***

***The eligibility provided by vocational qualifications for further education will be improved.***

***Measures will be taken to secure sufficient teaching and guidance for students in order to enable them to achieve their goals.***

The development of vocational education and training is changing the role and duties of teachers and makes demands on teachers' professional and pedagogic competence. Teacher education helps the teacher to operate in a changing environment. Teachers' field-specific in-service training and secondment and the joint training of teachers and on-the-job instructors are geared to maintain their professional skills.

***The pedagogical training of vocational teachers will stress special-needs education and guidance counselling. Vocational teachers' qualification requirements will be reviewed and attention will be paid to ensuring that teacher recruits have the required qualifications.***

The qualifications awarded in initial vocational training will include a transcript of the achievement of the aims of vocational study modules and vocational skills based on skills demonstration. The introduction of skills demonstrations will improve the quality of vocational education and training. The demonstrations will be arranged in cooperation with working life partners. The aim is to make the demonstrations part of on-the-job learning so that all fields will have procedures for arranging them as part of work placement.

***The system of skills demonstrations will be made a permanent element of all fields of vocational education and training. Measures will be taken to develop guidance and support systems needed by students. A national system for assessing learning***

***outcomes will be developed in connection with the implementation of skills demonstrations.***

***An action programme will be undertaken to support the adoption of skills demonstrations. The programme will include the development of information, the training of teachers and on-the-job instructors, and procedures for planning and implementing skills demonstrations.***

A major challenge in the development of vocational education and training is to create learning environments for developing vocational skills needed in working life and to promote the learning of students with different aims, motivation, abilities and cultural backgrounds. The new technologies will be used to diversify teaching methods and learning environments, to support and guide learning processes and to simulate work environments.

***Pilots will be undertaken to develop and introduce the diagnostics of learning ability and methods in vocational schools.***

***Sufficient guidance and sufficient study time will be secured***

***for different learners. Special focus will be on the development of work- and training-oriented learning methods.***

***Every student in initial vocational training must have an opportunity to study part of the programme virtually and every young entrant to the labour market must have a sufficient basis for lifelong, self-directed and communal learning.***

Special-needs education in initial vocational training aims to make employment-promoting vocational training accessible to all students. Vocational education and training will be developed to make special-needs education a natural part of the overall training supply and practical work in the institutions.

***An action programme will be undertaken to secure the implementation of vocational special-needs training in vocational schools and specialised vocational institutes.***

Apprenticeship training for vocational and further and specialist qualifications will be provided for both young people and adults. Measures will be

taken to enhance apprenticeship training as a work-based track to vocational qualifications and as a form of further training. Apprenticeship training is a means of passing tacit knowledge to new employees. Different forms of apprenticeship will be especially used to develop small and medium-sized enterprises and to facilitate generation changes.

***The provision of apprenticeship training will be secured as an alternative track to vocational qualifications for young people and its supply for adults will be expanded. The provision of apprenticeship training for further and specialist qualifications will be increased.***

***With a view to improving the quality and impact of apprenticeship training, measures will be taken to develop on-the-job training and the theoretical training linked to it, solutions based on telecommunications technology, and student and information management.***

## Internationalisation

The aim of internationalisation is to improve the quality of vocational training and to make Finnish training and working life known abroad. The internationalisation of Finnish vocational education enhances the competitiveness of qualifications and business and industry, ensuring that all those with vocational qualifications are equipped with knowledge and skills needed in the increasingly international working life and multicultural society.

*The internationalisation of vocational education and training will be supported through curriculum and teaching development and through the promotion of international cooperation. Teachers' international capabilities, especially language skills, will be improved.*

*The prerequisites for the mobility of vocational students and trained work force will be improved. Periods of study and on-the-job learning abroad will be increased and procedures for credit transfer will be enhanced. With a view to reciprocal mobility, the supply of foreign-language teaching will be pro-*

*moted. Measures will be taken to make Finnish qualifications known abroad.*

*Finland will take actively part in the EU project for promoting European cooperation in the field of vocational training.*

*Its aim is to enhance the quality and attractiveness of vocational education and training and to promote vocational students' and vocational graduates' international mobility. The project will be utilised at the national level in support of the development of vocational education and training and its internationalisation.*

## Development of educational tracks and transition to further education and employment

A viable vocational track entails not only improving the efficiency and performance of training, but also special attention to transition points in education.

An important aim in the development of vocational training is to decrease dropout rates. Key means to this end are to improve the quality of vocational education and training and its relevance to working life, to diversify teaching methods, to take

the skills demonstrations in use and to develop student financial aid. Student guidance gains more importance with increased individual choices and more demanding training.

*Dropout rates will be decreased by means of counselling, remedial and special-needs education and work-based learning methods, provided especially for students at risk of discontinuing their studies. Performance-based financing will be developed as an incentive for training providers to prevent dropout.*

*Student guidance will be intensified especially at the early stages of studies. The training of guidance counsellors and teachers' in-service training and continuing professional training relating to guidance will be increased.*

## **Regional development**

Vocational skills and vocational training make an important contribution to regional development and competitiveness and working life development. On-the-job learning and innovation are emerging as ever more crucial forms of skills development, which can be supported by means of vocational training. In addition skills enhancement, vocational training has a role in developing working life.

The capacity of vocational training for serving regional development will be strengthened. This entails cooperation between training providers and a training provider network which has sufficient resources and varied, effective contacts with working life.

*Vocational training providers will be encouraged to form sufficiently large and versatile or otherwise strong entities capable of developing working life and responding to its skills needs. The aim is to promote the formation of regionally based training organisations, district or regional vocational institutes which cater for both linguistic groups.*

*The capacity of training providers to serve regional business and other working life needs will be improved through the development of services and training forms catering for regional needs. The capacity of training providers to anticipate training needs will be improved.*

*Contacts between vocational training and local working life will be expanded and deepened through support to and an increase in regional networks comprising training providers and employers. Cooperation between vocational training and working life will help to develop training foresights, planning and evaluation, improve the implementation of initial and further vocational training, and facilitate students' placement in the labour market.*

Periods of on-the-job learning will be made a permanent part of initial vocational training. The content and quality of work-based learning will be developed in cooperation with employers.

*On-the-job learning and quality enhancement require that the current support measures are*

*continued (the support programme for on-the-job learning). Sufficient resources will be reserved for information, teachers' and on-the-job instructors' training, and development projects. Teachers will be given more opportunities for secondment.*

*The aim is that a total of 6,000 teachers participate in staff-development training relating to on-the-job learning (four Finnish credits on average) between 2004 and 2006 and at least 1,000 teachers annually between 2007 and 2008. A 15-credit module of working life knowledge will be developed with a view to improving the quality of teachers' continuity education.*

*A permanent system will be created for the training of on-the-job instructors. It will comprise two credits on average and provide training for some 4,000 instructors annually from 2003 to 2006 and for 2,000 annually from 2007 to 2008.*



## Higher education

### Development of higher education

The higher education system forms a basis for a regionally comprehensive innovation system. The higher education system is developed as an entity which is internationally competitive and flexibly responds to regional needs. The mission of higher education institutions encompasses education, research and development and different societal services, e.g. contributing to regional development and developing adult education in response to social changes. During the planning period, there is a need for a holistic examination of the challenges facing the higher education system, notably the feasibility of its structures, the quality of its performance, its financing, and its international competitiveness.

The performance of the higher education system will be improved by a clearer division of work between polytechnics and universities and transparent cooperation procedures. The aim is a system which is understandable for both students and employers and in which the two sectors are developed on an equal basis according to their strengths.

The aims of polytechnic degrees highlight the knowledge and development needs of working life.

In connection with the university degree reform, all degrees will be more closely linked with scientific and art research and proficiency in scientific methods.

The university degree system and the postgraduate polytechnic degrees will be developed to enhance their international comparability and to facilitate students' national and international mobility.

***Practices relating to credit transfer will be harmonised in the different fields by the Ministry of Education, polytechnics and universities in collaboration. The extent of degree studies will be modified to correspond to European practices from the academic year 2005-06 onwards.***

***The polytechnic degree and the BA degree in universities provide the same level of qualification for further education. Owing to differences in the objectives and contents of the degrees, a student who wants to transfer from one sector to another to pursue postgraduate studies can be required to com-***

***plete supplementary studies corresponding to a maximum of one year.***

***The Government will submit a proposal to Parliament concerning the development of the postgraduate polytechnic degree system based on the findings of an evaluation in time for the new statutes to come into force before the end of the pilot phase in 2005.***

One major aim in the planning period is to strengthen the international activities of higher education institutions. It is important to improve the international capabilities of Finnish higher education institutions in order to consolidate their position in the international education market. Internationalisation also responds to new knowledge requirements in research and in the labour market. This entails that sufficient resources are allocated to international activities and that the statutes governing higher education institutions are up-to-date. Finland must be an active player in the European higher education and research area, and the opportunities available in the EU for developing the quality of higher education must be used to the full.

***The aim is that by the end of the present decade 8,000 polytechnic students and 6,000 university students annually study a part of their degrees abroad and that a corresponding number of exchange students study in Finland.***

***Polytechnics and universities will increase the number of foreign students to the extent that in 2008 there will be a total of 12,000 foreign degree students in Finland. To this end, the higher education institutions will arrange foreign-language programmes and courses according to their own specific profiles.***

***The higher education institutions will increase international teacher exchanges and facilitate the recruitment of foreign teaching personnel.***

In the expansion of international activities, special attention must be paid to areas of relevance to Finnish society. The emerging European higher education and research area is the primary sphere of influence for Finland. Russia is one of the foremost partners for Finland. Russia-related expertise must be further strengthened in Finland and higher education

institutions need to increase their cooperation with Russian higher education institutions. Nordic cooperation will be built on the existing strong basis. The agreements on higher education will be reviewed and updated.

The aim is to strengthen cooperation with Northern America and expand interaction with countries in Asia, Latin America and Africa. The prerequisites of higher education institutions to participate in development cooperation projects will be strengthened.

### **Polytechnics**

The new Polytechnics Act provides a good basis for developing polytechnics as higher education institutions with specific profiles. Their mission is to provide and develop professional higher education closely connected with working life and development and to conduct R&D which serves working life and regional development, as well as teaching.

Polytechnics have successfully established their place in the higher education system. Their further development as an innovative network entails that attention is paid to their level of knowledge and their capacity

to develop it further.

During the planning period, special focus needs to be given to the development of study processes, to polytechnic graduates' opportunities for further education, to regional development and, relating to this, the enhancement of contacts with working life, and to the development of polytechnic funding and the polytechnic network.

### **Development of teaching**

According to an OECD review, the Finnish polytechnic degree programmes are innovative and indispensable for working life. Polytechnic degrees cater for knowledge and development needs existing in the labour market. With a view to raising the standard of education, special attention will be paid to curricula, credit transfer practices, guidance and advisory services, and measures for reducing dropout.

***Polytechnics will enhance individual choices for students in teaching content. Personal study plans will be confirmed for students, more teaching will be provided during summer and all***



***degree programmes will enable students to study at least 20 credits as virtual studies.***

The structure and educational level of the teaching staff has developed favourably in recent years. Special attention will be paid to teachers' opportunities to gain up-to-date information about changes in working life and about developments in professional practices.

***Contacts between teachers and the world of work will be increased through opportunities to take part in joint R&D projects between the polytechnic and external working life partners.***

#### **Development of the degree structure**

It is estimated that some 26,000 polytechnic degrees will be awarded annually in the future. The constantly changing knowledge needs in working life generate totally new areas of professional knowledge and a need for more in-depth multi-field knowledge.

The Act on the Piloting of Postgraduate Polytechnic Degrees will be in force until 31 July 2005. The Finn-

ish Higher Education Evaluation Council is evaluating the pilot (2003 - 2004). To enable polytechnic graduates to study work-oriented degrees which deepen and upgrade their knowledge and are necessary for professional activities, the postgraduate degrees must be enacted on a permanent basis.

***The Government proposal for a permanent system of postgraduate polytechnic degrees will be submitted to Parliament so as to enable the Act to come into force immediately after the pilot phase. In this connection, a degree title will be determined which will describe the nature of the degree better than 'postgraduate' and describe its status vis-à-vis other higher education degrees in the right way. In addition, the extent of work experience to be required will be determined.***

***The postgraduate polytechnic degree will be offered in different fields and different polytechnics in a way which will ensure genuine access to work-oriented postgraduate degrees in response to needs in different working life sectors and which***

***will not categorise polytechnics into institutions of different level.***

#### **Regional development and R&D**

Polytechnics have become an essential player in the regional innovation system. Their contacts with the world of work have developed significantly and evolved into mutually benefiting development and exchange of knowledge. Polytechnics have integrated into regional stakeholder networks to a substantial degree. Their R&D has gained momentum and is rapidly expanding. A special responsibility for polytechnics in regional development is to support small and medium-sized enterprises and to develop welfare services.

***With a view to further enhancing polytechnics' regional impact, measures will be taken to develop the structure of education provision, to combine polytechnics' regional development projects into larger entities which interlink different sectors and to boost networking with different stakeholders, higher education institutions and schools.***

***The networked regional***

***higher education institutions composed of polytechnics and universities will be developed in response to regional needs.***

***Polytechnics will enhance their business incubator activities and undertake projects to facilitate generation changes and women's entrepreneurship.***

#### **Polytechnic network**

The aim in the development of the polytechnic network and education is to achieve a balanced provision in terms of both the regions and the linguistic groups, to target provision according to the needs of working life, and to achieve effective units. The aim is a network in which each unit offering degree education is large enough to be able to provide education of a sufficiently high standard and to conduct R&D which serves the region.

***The restructuring aims at enabling each polytechnic unit to develop into an entity which provides degree education and conducts regionally relevant R&D of a high European and international standard.***

***Polytechnics' structure and***

***education provision will be developed to enable them, as key players in the innovation system, to provide adult education and services which cater for the development aspirations of the local authorities in the region, local businesses and work communities, and local residents.***

***The status of Swedish-language polytechnics will be strengthened with reference to the special needs of the regions.***

#### **Universities**

An important aim in the planning period is to develop internationalisation and the prerequisites of innovation. The universities will have a growing role as part of the national and regional innovation systems. From the universities, this requires that the quality and efficiency of undergraduate education is improved, national and international networking is promoted, researcher training is expanded and the general prerequisites of research are improved.

The universities' societal mission and especially their contribution to regional development are gaining more importance in their overall mission. More efficient utilisation of uni-

versity research findings is an essential part of the growing interaction between the universities and society.

The reform of the university degree structure will be carried out in the planning period and the general principles of the reform must be recorded in the Universities Act.

***The Universities Act will be amended to provide for the new degree structure. A provision will also be added to the effect that the universities operate in interaction with society and enhance the impact of their research findings.***

#### **New degree structure and the development of teaching**

The universities have substantially intensified their operations and rapidly increased the number of degrees awarded. However, special attention needs to be paid to the quality and efficiency of the study process both in academic and art universities because dropout and long study times are still a problem in many study fields. It is necessary to continue separate funding of projects for the planning of teaching and studies and progress in studies.

***With a view to greater flexibility and international comparability, the new two-cycle degree structure will be adopted in all fields of study at the beginning of the academic year 2005–06. In the same context, the extent of studies will be re-determined to correspond to European practices.***

***In this connection, the degree requirements will be reviewed and quantified to correspond to the actual student workload.***

***The aim is that at least 75% of the entrants in all fields will take the MA degree in the normative time. Measures will be taken to shorten study times and reduce dropout especially in mathematics and sciences, the humanities and technology.***

***All fields will adopt personal study plans, to which both the student and the university commit themselves.***

***The universities will step up their teaching arrangements so that students are able to study throughout the academic year.***

***The universities' prerequisites for assuring a high quality of operations will be strengthened, and the universities will***

***develop methods of systematic quality assurance. The management of educational development will be enhanced.***

Student selection is an important part of a successful study process, and the universities should clarify the aims and procedures in admissions to make them clearly understandable for the students and to ensure that selection measures the right qualities. The Ministry of Education and the universities will together prepare an action programme based on an evaluation of student admissions with a view to developing selection as part of the study process. This development is intended to expedite transition from secondary to university education.

***The aim will be to develop student selection so that in 2008 at least 55% of entrants will be the same year's matriculated students.***

The Finnish universities interact closely with working life, especially in research. A key challenge for all universities is to provide students with skills to use scientific methods and the ability to produce and use

knowledge independently. Different fields need to increase links between degree studies and working life. One means to enhance work relevance is to include internships in degree studies. The new degree structure will also provide a more flexible basis for universities to develop education leading to degrees in response to working life needs. Focus will be given to the role of art universities in developing Finland into a creative knowledge society.

***The universities will develop Master's programmes which respond to new demands arising from research and working life and boost up linkages with working life in all degree studies. The academic nature of degrees will be strengthened by means of close linkages with scientific research from the outset. Education in science universities will be linked with research and professional practices in the field to ensure the student's development in independent scientific work.***

### **Scientific and artistic postgraduate education and research**

The cornerstone of the innovation system is a high quality of education and research. The universities are responsible for scientific and artistic university education and research. Closer interaction between researcher training and undergraduate education will enhance the quality of university education and make the research career known among students. The aim is to ensure that Finland continues to have a sufficient and competent researcher reserve.

*The researcher career will be made a more attractive career option. The universities and the Academy of Finland will together enhance prerequisites for researcher careers and pay special attention to effecting equality in the scientific community. Researchers' work opportunities and conditions at different stages of their careers will be systematically developed. The internationalisation of researcher training will be promoted.*

*Graduate schools are the most important track to a doctorate. The graduate school system will be developed to ensure*

*that researcher training creates a solid basis for a professional research career, on the one hand, and provides versatile knowledge and skills for other lines of work, on the other. The graduate schools will continue to work on a temporary basis and the competitive entry to them will be retained. The annual target number of doctorates will be raised to 1,600.*

*The prerequisites of university research will be enhanced. University networking and distinct profiles in research will be supported. Universities' capacity for commercialising research findings will be improved by legislative means.*

### **Regional impact**

Knowledge is gaining more and more importance in regional development and this should also be reflected in university operations. Knowledge enhancement increasingly rests on the development of human capital and technology. The aim is to derive long-term positive effects from knowledge for regional economy and welfare. Important assets are success in international competition, high-

quality operations and the structural development of business and employment in the region. This trend highlights the importance of higher education institutions.

Alongside degree education, expectations are particularly directed at university research and adult education. Cooperation and networking between different stakeholders is crucial for regional impact. The regional strategies jointly devised by universities and polytechnics at the end of 2002 contribute to this development. Securing the operations of the regional university centres will enhance the regional impact. The Ministry of Education and higher education institutions will strengthen research on and the analysis of regional impact.

*The Universities Act will be amended to include cooperation with the surrounding society in the universities' mission.*

*The universities will boost their regional impact within the existing operations by developing cooperation and division of labour with polytechnics and other players in the region. Regional impact will be further enhanced with the development of*



*the six university centres in Finland (Kajaani, Kokkola, Lahti, Mikkeli, Pori and Seinäjoki).*

*Further regional university centres will not be established but the present ones will be compiled into entities of sufficient size to achieve a high standard in their activities.*

*Activities based on the universities' regional strategies will be supported from the resources for operational expenditure and with external financing. Preference will be given to action based on co-financing.*

## **Adult education and training**

### **Development of the adult education and training system**

During the planning period, adult education and training will be developed as proposed by the Adult Education Committee. The point of departure in adult education and training is to concretise lifelong learning policy, to secure access to a competent labour force, to promote the mobility of labour and the dynamism of the labour market, to improve Finland's competitiveness, to promote

equal opportunity in and the access to adult education and training, to ensure sufficient and stable financing, to expand the financial base, and to strengthen adult education steering as a whole and in its different sectors.

Differences in the level of education among the population are still large. In terms of social cohesion and overall social development, it is essential that citizens are able to use adult education and training services as equitably as possible. At the moment those with the least education and training are the least active in adult education. It is for adult education policy to target adult education and training to the least active participant groups. The comprehensive institutional network safeguards regional access to adult education and training. The needs of the growing retired population will be especially taken into account in the supply and the emphasis of the provision.

*The steering of adult education and training will be developed to enable the provision to be planned, monitored and qualified as an entity and to be targeted according to the age and educational structure of the population and in response to*

*working life needs. The steering will be developed to enable provision to be better targeted to the underrepresented groups.*

*Special attention will be paid to flexible transition from one level to another in adult education. It is important to continue making adult education and training available as comprehensively as possible at all levels. Guidance and advisory services are vital for the planning of individual learning careers.*

*In content development, the focus will especially be on effective qualification training and degree education and on flexible teaching arrangements geared to adults' life situations, with emphasis on raising the level of education among the population.*

*The provision of institutions providing adult vocational training and liberal adult education will be targeted to offer opportunities for the adult population to gain adequate information society skills.*

*The funding criteria in adult education will be developed to promote the use of information and communications technologies.*

***Finland will take part in reviews conducted by the OECD and the EU concerning adults' skills level and participation in education.***

The differences in the level of education among the population are still large. In 2001, a little over 10% of the labour force aged between 25 and 34 did not have post-compulsory qualifications. The supply of adult education and training is not the only factor for accessibility. Course fees or problems with income during studies may put off especially those who would most benefit from training.

***Poorly trained adults will be offered opportunities to study at least for a secondary qualification. Efforts will be made to encourage and activate this population group in order to lower the threshold to studies. The programme for raising the level of education (Noste) will be expanded to enable at least 10,000 adults to start training annually. Different forms of study and support will be developed for adults with reading, writing and learning difficulties.***

***Measures will be taken to improve financial schemes geared to mature students in order to prevent inadequate support, problems with income during studies and course fees from becoming an obstacle to participation. Based on the study voucher pilot, decisions on the adoption of the voucher as a form of adult education financing will be taken during 2004.***

#### **Development by level of education Secondary level**

During the planning period, secondary education and training will be developed with special emphasis on a consistent qualification structure, performance, efficiency, and flexibility and a strong steering system. The aim is to offer adults adequate opportunities to study according to their needs, to create sufficiently strong provider structures and to raise the level of education and training among poorly trained adults.

***All adults will be offered opportunities to study for at least secondary qualifications.***

***Distance education will be developed in the upper second-***

***ary school. A programme will be devised for the development of upper secondary schools for adults.***

***The authorisations to provide vocational training will determine a quantitative framework for training for competence-based qualifications in order to boost qualifications and relevant training and to shorten study times in adult vocational education and training. The aim is that about one fifth of training for vocational qualifications (incl. apprenticeship training) will be geared to the needs of the working-age population. Measures will be taken to safeguard a regionally comprehensive supply and accessibility of initial adult vocational training.***

***The procedures for recognising prior learning and experiential knowledge, the relative share of competence-based qualifications and other forms suited for adults and responding to working life needs will be increased in cooperation with training providers.***

***With a view to strengthening the prerequisites of vocational adult education centres and***



*national specialised institutes, measures will be taken to determine their status and tasks in the existing legislation and to ensure adequate resources and stable conditions for them to provide adult education and training and serve working life. The authorisations to provide vocational adult education and training will be renewed to take effect on 1 January 2006 at the latest.*

*Institutions providing adult vocational training will be developed as a nationally and regionally operating network. Special emphasis in provision will be to serve the needs of small enterprises and their staff-development and to provide services in response to regional and local needs. The authorisations will also determine the national tasks of national specialised institutes and other adult education and training institutes.*

*The role of apprenticeship training will be strengthened as a form of secondary adult vocational training.*

*Measures will be taken to secure the prerequisites of the field-specific education and training committees.*

### **Higher education**

At the higher education level, measures will be taken to diversify educational arrangements especially geared to adults, to further enhance the quality of continuing education and to improve field-specific availability of and regional access to open higher education.

*The accessibility and regional impact of higher education will be promoted through increased co-operation between higher education institutions and other adult education providers.*

*Polytechnics will increase arrangements which facilitate studies alongside work. The use of virtual teaching will be expanded. Undergraduate education for adults will continue to be targeted to adults with college and higher vocational qualifications. Postgraduate polytechnic education will be developed as work-based degree programmes geared to adults. The provision of open polytechnic education will be expanded and primarily targeted to people outside polytechnics. Development measures will be taken to improve regional access to polytechnic education*

*and equal opportunity. An action programme for open polytechnic development policy will be launched.*

*Adults' opportunities to take university degrees will be improved by means of educational arrangements especially geared to working adults. With a view to stepping up the use of study places, students with tertiary degrees will be primarily guided to Master's programmes, and students' personal study plans will be based on prior learning and other competencies. Open university will be developed as a track to degree-oriented education. The two-cycle degree structure will be used the implementation of lifelong learning policy. At the same time, provision will be made to respond to need for graduate-entry education.*

*University extension education will be primarily targeted to the graduate population and developed according to the basic mission of each university. Access to open university instruction will be improved by a more efficient use of the network of liberal adult education institutions.*

### **Liberal adult education**

Liberal adult education will be developed as part of the overall adult education and training system. The learning aims of adults taking part in liberal education vary greatly. The object of studies may be professional, educational and cultural or recreation. Liberal adult education also develops social networks and offers a natural environment for social interaction. Cooperation between liberal education and other adult education and training will be strengthened for instance by means of innovations generated in the Noste programme for raising the level of education.

*The nature of liberal adult education as an institutional network responding to citizens' needs and its status in promoting social cohesion, democratic values and active citizenship will be strengthened. Future priorities will be to promote civic empowerment and strengthen civil society, to provide education enhancing the retired population's quality of life, to improve information society skills, to arrange language and cultural education for immigrants, and to prevent exclusion. The supply will be in-*

*creased in response to growing demand due to the ageing of the population and the expanding mission of liberal adult education.*

*The steering and financing of liberal adult education will be developed to enable tasks and resources to be retargeted into priority areas determined in cooperation with liberal education stakeholders without endangering core funding. The monitoring systems in liberal adult education will be developed.*

### **Development of student financial aid**

Apart from securing income, student financial aid must promote the stated education policy aims. A special challenge in development is to determine the relative shares of monetary aid and the student loan in overall student financial aid.

The development of the financial aid system will be based on the current structure. The aim is that student financial aid secures income during full-time studies, promotes efficient studying and ensures that studies are completed in a reasonable time.

Effecting a more efficacious aid scheme for the secondary level entails a study to find out how the aid could be used to encourage participation and reduce dropout in vocational education and training. As regards higher education, the challenge is to develop student financial aid to give incentive for efficient studying and speedy graduation.

*An action programme will be devised to develop the student financial aid system towards more incentive.*



# Development of the research system

## Research system

Science, scholarship and research create a knowledge base for the operation of the different social sectors and for economic, technological and social innovation. The national innovation system is based on an active interaction between different players, on knowledge produced by higher education institutions and on efficient utilisation of knowledge. Internationalisation and the creation of distinctive profiles in its areas of strength constitute major challenges to Finland.

The quality of the research system and research will be monitored

through systematic evaluation. The evaluation practices will be unified and developed to serve the anticipation of future challenges better and to explore future development options.

Measures will be taken to enhance the strategic planning of knowledge management and sectoral research, on which it rests, and foresight. Cooperation between different administrative sectors will be stepped up.

Measures will be taken to make science, scholarship and research better known and to promote discussion and the exchange of information be-

tween the research community and citizens.

***The research system will be developed with a view to a balance and interaction between its different sectors. International, national and regional research networks will be strengthened.***

***Cooperation with international research organisations will be intensified. Finland will actively contribute to the creation of the Nordic and the European research areas, developing a distinct profile in its strength areas.***

***The Ministry of Education, higher education institutions, the Academy of Finland and other financing bodies will cooperate to create favourable conditions for creative research environments and the development of the centres of excellence.***

***Impact analysis and evaluations of the situation and operations in the research system as a whole and evaluation methods will be further developed. The knowledge-base for science policy will be strengthened and foresight methods suited for science policy developed.***

## **Research conducted by higher education institutions**

The division of work between universities and polytechnics must be further developed and their cooperation amongst themselves and with other players in the research system must be deepened. The basis for this is created by the higher education institutions' joint regional strategies and plans for the development of international research cooperation and the utilisation of research findings.

Universities and polytechnics will boost their relations with working life by developing their business know-how and innovation services and by stepping up the commercialisation of research findings. Universities and polytechnics will actively seek to promote the social and cultural utilisation of their research and knowledge.

***Prerequisites for university research and polytechnic R&D will be strengthened. Research development will stress internationally competitive and ethically sustainable high-quality research.***

***The focus in university research will be on basic research.***

***Polytechnic R&D will especially promote regional innovation.***

***The procedures for the commercialisation of research findings will be clarified.***

## **Research infrastructure**

Important requisites for research are high-quality and dynamic research environments, well functioning information management, good equipment and advanced information and communications technology.

The research libraries in Finland will cooperate with other library networks to improve access to and to effect comprehensive collections of printed and digital information materials. As part of international scientific communication, libraries will enhance the visibility of Finnish research and promote the use of new publication mediums in their scientific communities. Libraries will contribute to the development of teaching and study methods and on their part ensure that university and polytechnic graduates have good information literacy. The development of virtual and other learning environments will increase students' capabilities for embarking on research careers.

***Research will be supported with high-standard library and information services, modern equipment, advanced telecommunications and computing services.***

***Finland will capitalise on the international research infrastructures by participating in international science organisations and large international research projects.***

# Appendix

Field-specific target numbers of entrants on which the entrant numbers by fields of education in Table 4 are based.

<b>FIELD OF EDUCATION</b>					
<b>Field of study</b>					
<b>Level of education</b>		<b>Target 2008</b>			
<b>Natural Resources</b>		<b>7,230</b>			
Agriculture					
Vocational education and training		1,700	Wood processing		
Polytechnics		450	Vocational education and training	1,100	
Horticulture			Polytechnics	240	
Vocational education and training		430	Surface treatment technology		
Polytechnics		80	Vocational education and training	410	
Fishery			Polytechnics	20	
Vocational education and training		40	Paper and chemical industries		
Polytechnics		30	Vocational education and training	1,200	
Other natural resources			Polytechnics	400	
Vocational education and training		40	Seafaring		
Polytechnics		100	Vocational education and training	170	
Forestry			Polytechnics	120	
Vocational education and training		630	Other technology and transportation		
Polytechnics		340	Vocational education and training	460	
Natural sciences (universities)		2,950	Polytechnics	220	
Agriculture and forestry (universities)		440	Technology (universities)	3,800	
<b>Technology and Transport</b>		<b>32,870</b>	<b>Business and Administration</b>	<b>17,450</b>	
Graphics technology			Business and Administration		
Vocational education and training		360	Vocational education and training	5,800	
Polytechnics		60	Polytechnics	6,900	
Heating and ventilation technology			Social sciences (universities)	1,850	
Vocational education and training		900	Law (universities)	750	
Polytechnics		200	Economics and business admin.		
Machinery and metal technology			(universities)	2,150	
Vocational education and training		3,700			
Polytechnics		1,250	<b>Tourism, Catering and</b>		
Vehicles and transportation			<b>Domestic Services</b>	<b>7,330</b>	
Vocational education and training		4,230	Hotel, restaurant and institutional meal services		
Polytechnics		600	Vocational education and training	5,000	
Textiles and clothing			Polytechnics	940	
Vocational education and training		600	Household, institutional and		
Polytechnics		110	sanitation services		
Food industry			Vocational education and training	890	
Vocational education and training		590	Polytechnics	500	
Polytechnics		180			
Electrical engineering			<b>Health and Social Services</b>	<b>15,010</b>	
Vocational education and training		4,770	Social and health care		
Polytechnics		3,760	Vocational education and training	6,500	
Land surveying			Polytechnics	5,750	
Vocational education and training		110	Beauty care		
Polytechnics		110	Vocational education and training	1,050	
Construction			Polytechnics	50	
Vocational education and training		2,100	Sport and health sciences (universities)	100	
Polytechnics		1,100	Health care (universities)	310	
			Medicine (universities)	700	
			Dentistry (universities)	150	
			Veterinary medicine (universities)	60	
			Pharmacy (universities)	340	
			<b>Culture</b>	<b>4,520</b>	
			Crafts and design		
			Vocational education and training	1,300	
			Polytechnics	640	
			Media and visual art		
			Vocational education and training	700	
			Polytechnics	780	
			Music		
			Vocational education and training	180	
			Polytechnics	320	
			Theatre and dance		
			Vocational education and training	10	
			Polytechnics	80	
			Art and design (universities)	280	
			Music (universities)	150	
			Theatre and dance (universities)	50	
			Fine arts (universities)	30	
			<b>Humanities and Education</b>	<b>5,960</b>	
			Leisure instruction		
			Vocational education and training	480	
			Polytechnics	390	
			Sport and physical education		
			Vocational education and training	180	
			Polytechnics	120	
			Theology (universities)	220	
			The humanities (universities)	2,350	
			Educational sciences (universities)	2,000	
			Psychology (universities)	220	
			<b>Rescue and Security</b>	<b>50</b>	
			Rescue services		
			Polytechnics	30	
			Correctional services		
			Polytechnics	20	
			<b>Total</b>	<b>90,420</b>	
			<b>The figures presented above by sectors</b>		
			Vocational education and training	45,630	
			Polytechnics	25,890	
			Universities	18,900	
			<b>Total</b>	<b>90,420</b>	





OPETUSMINISTERIÖ

*Undervisningsministeriet*

MINISTRY OF EDUCATION

*Ministère de l'Éducation*

Publications of the Ministry of Education, Finland 2004:8

**Bookstore:**

Helsinki University Press

P.O. Box 4 (Vuorikatu 3)

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tel. +358 9 7010 2363

fax. +358 9 7010 2374

books@yopaino.helsinki.fi

www.yliopistopaino.helsinki.fi

ISBN 952-442-693-5 (pbk.)

ISBN 952-442-694-3 (PDF)

ISSN 1458-8110

Helsinki 2004